ISSN 1957-2968

CENTRAL BANK OF NIGERIA

PROCEEDINGS OF THE SEMINAR ON "Global Capital Flows, Financial Markets and Macroeconomic Stability", FOR CBN EXECUTIVE STAFF AT GOLDEN TULIP HOTEL, FESTAC TOWN, LAGOS STATE, DECEMBER 2 - 5, 2013

Economic and Financial Review
Volume 51, Number 4
December 2013

Central Bank of Nigeria
Economic and Financial Review
Volume 51, Number 4, December 2013

Aims and Scope
The *Economic and Financial Review* is published four times a year in March, June, September and December by the Research Department of the Central Bank of Nigeria. The Review contains articles on research undertaken at the Bank, in particular, and Nigeria, in general, mainly on policy issues both at the macroeconomic and sectoral levels in the hope that the research would improve and enhance policy choices. Its main thrust is to promote studies and disseminate research findings, which could facilitate achievement of these objectives. Comments on or objective critiques of published articles are also featured in the review.

Correspondence
Correspondence regarding the Economic and Financial Review and published articles should be addressed to:

Director of Research/Editor-in-Chief
CBN Economic and Financial Review
Central Bank of Nigeria
33 Tafawa Balewa Way
Central Business District
P. M. B. 0187 Garki
Abuja
Nigeria

Email: info@cbn.gov.ng
Website: www.cbn.gov.ng

Subscription
Subscription to the Central Bank of Nigeria Economic and Financial Review is available without charge to institutions, corporations, embassies, and development agencies. Individuals can send written request for any particular edition of interest, also without charge. Articles may be reprinted, reproduced, published, abstracted, and distributed in their entirety on condition that the author and the source—Central Bank of Nigeria Economic and Financial Review—are duly credited.

Disclaimer
Any opinions expressed in the Economic and Financial Review are those of the individual authors and should not be interpreted to represent the views or policies of the Central Bank of Nigeria, its Board of Directors or its Management.

ISSN 1957-2968

Notes to Contributors
Information on manuscript submission is provided on the last and inside back cover of the Review.

Contents

Keynote Address

Sanusi L. Sanusi, CON

Deputy Governors,
CBN Departmental Directors,
Branch Controllers,
Eminent Resource Persons,
Distinguished Executives,
Ladies and Gentlemen.

It is my pleasure to be here to deliver the Keynote Address at this year's CBN In-house Annual Executive Seminar jointly organised by the Research and Human Resources Departments of the Bank. The seminar is a unique forum for the executive staff to brainstorm on contemporary economic and financial issues in order to keep abreast of developments in the global arena, and as well strengthen their policy making capacity towards resolving the numerous seemingly intractable problems besetting the banking/financial system in particular, and the whole economy at large.

The theme of this year's seminar "Global Capital Flows, Financial Markets and Macroeconomic Stability" is quite appropriate given Nigeria's recent unpleasant experience during the 2007/9 global economic and financial crises, and the need for an appraisal of the policy responses in the aftermath of the crisis. You will recall that the Nigerian economy suffered severe blow from the effects of the capital flows reversal triggered by the collapse of the Lehman Brothers in the US, which precipitated spontaneous capital recall within the global financial system. Consequently, the Nigerian stock market collapsed and the banking system experienced immense liquidity crunch with adverse impact on credit for productive activities in the economy. The adverse effects would have been more devastating, if not for the timely intervention of the government, particularly the banking sector reforms and the CBN's initiatives in easing the financial conditions to moderate the catastrophic impact of the massive capital outflows.

Let me state categorically that the stability of the financial markets is central to the overall macroeconomic stability in any economy. This is based on the premise that the financial market is the hub on which intermediation processes within an economy revolves. The financial markets do not only facilitate the mobilisation of funds; they also guarantee the utilisation and transfers of funds both within and

outside the shores of an economy. Thus, the financial markets obviously are important platform; which links the domestic economy and the rest of the world. It would therefore not be out of place to state that the long-term sustainable economic growth of any economy depends on robust and stable financial markets capable of raising the rates of accumulation of financial resources as well as intermediate such resources for effective productive usage.

As we all know, globalisation has fostered economic and financial integrations of developing and advanced economies. This has continued to manifest in capital flows from the developed to emerging developing and transition economies, and also in the reversal of flows from these countries to the developed economies. Along with its numerous benefits, capital flows have brought with it considerable challenges, making it difficult for policy makers to manage their financial and economic impacts. Globalisation has thus exposed the less developed financial markets to the vagaries of capital flows volatility.

Furthermore, it is worthwhile to note that capital inflows either through foreign direct investments, portfolio (equity) investments or external loans confer benefits on the recipient economies. This is most often revealed in foreign resources complementing domestic savings for investment, thereby deepening the domestic financial markets. However, the magnitude and speed of inflows could pose significant risks to the economy, particularly in developing and emerging countries. It is a known fact that huge capital inflows may raise concern about excessive appreciation in the exchange rate with the attendant adverse impact on exports and growth. It may also contribute to unsustainable expansion of credit, resulting in asset price bubbles and financial fragility. Indeed, capital flows have been identified to be responsible for the changes in liquidity levels and the accumulation of financial vulnerabilities that precipitated serious crisis in many countries. In particular, the boom and bust pattern that characterise the financial markets reflected the volatility and reversals associated with capital flows and the possibility of triggering considerable macroeconomic instability.

Ladies and Gentlemen, the trends in global effort to address the problem of slow growth, particularly in the developed economies have resulted in expansionary macroeconomic policies at such scales that remain unprecedented in recent history. The aftermath has been the improvement in public confidence in countries that implemented fiscal stimulus and unconventional monetary policy to rescue their financial systems. This has also led to the resumption of capital inflows in many developing, transition and emerging economies. Nigeria is not left out of this new trend of capital movements as the economy in recent times has

been experiencing significant increase in capital inflows, particularly, through portfolio investment. It is in this context that we must be mindful of the volatile nature of such flows and the likely capital reversal if economic fundamentals are not right as well as the implications for financial and macroeconomic stability. This is pertinent to avoid a repeat of the horrid experience of the recent past.

Managing the fallout of the quantitative easing in advanced economies may require a system-wide prudential supervision (micro and macro) to stabilise the financial markets and maintain macroeconomic stability. The core principles of effective supervision must, therefore, be applied within the context of the changing global environment to guarantee financial stability. The slow recovery of the global financial markets requires the right judgment, if the benefits from the lessons learnt to avoid the risk of spillover into the economy are to be achieved. The lessons learnt from the global economic and financial crises deem it necessary for us to understand the ramifications of the above issues, towards building strong institutions to enthrone proactive regulatory and supervisory frameworks that allow for the optimisation of the benefits derivable from substantial capital inflows.

There is no gainsaying that the monetary authorities need to develop more effective mechanisms to identify and take into account the risks associated with global capital flows in an effort to develop the financial markets and enthrone a more stable macroeconomic environment. Therefore, in line with this development, the Bank has since adopted the risk-based supervision paradigm and implemented the Basel Capital Accord initiatives. The new macro-prudential guidelines based on forward-looking capital provisioning and driven by stress tests are also being implemented. The Bank places high premium on transparency and accountability supported by good corporate governance ethics. The gradual integration of the Nigeria's domestic financial markets makes it imperative for the CBN to ensure a robust financial system supported by effective/efficient regulation and supervision of the financial institutions and markets.

Permit me to reassure you that the Bank remains committed to strengthening its internal capacities so as to be able to initiate policies that would ensure smooth and orderly development of the financial markets. It is my sincere hope that this seminar would, among others, identify superior mechanisms for effective management of capital flows in such a way that would deepen the financial markets and engender overall macroeconomic stability.

Let me reiterate that as global financial markets are fast becoming borderless and highly integrated, policy makers need to devote adequate attention and resources to financial system supervisory and regulatory processes. This is very crucial for Nigeria, given its quest of becoming one of the top 20 economies in the world by 2020.

Ladies and gentlemen, I am aware that experienced resource persons have been assembled to lead discussions at this seminar to elucidate on the vexed and complex issues of the theme. On this note, I implore all participants to take full advantage of this seminar by participating in every aspect of the discussions. It is my fervent believe that your deliberations would reveal series of policy options that would help to effectively and efficiently manage capital flows, strengthen the financial system and ensure the attainment of the objective of macroeconomic stability.

I wish you all a successful and fruitful deliberation.
Thank you for listening.

Special Remarks

Sarah O. Alade, Ph.D, OON

It is my honour and pleasure to make this Special Remark at the opening ceremony of the annual Executive Seminar jointly organised by the Research and Human Resources Departments. The theme of this year's Seminar "Global Capital Flows, Financial Markets and Macroeconomic Stability" could not have come at a more appropriate time, as Nigeria witnesses huge capital inflows. The Seminar will therefore provide the opportunity for Executives of the Bank, to engage in productive exchange of views and ideas on the subject, and to reflect on both the positive impacts and the inherent risks.

Let me observe that globalisation driven largely by deregulation, liberalisation and advancement in information and communication technology has led to integrated financial markets and high capital mobility. Recently, the development has manifested in surge of private capital flows from advanced economies to developing, emerging markets and transition countries. Indeed, the major challenge is that of understanding the drivers of capital flows and the effects of its sudden surge or reversal on the financial markets and the macro-economy. A key issue is whether or not capital flows are mainly driven by a country's strong economic fundamental and, thus are likely to remain stable over time or are primarily driven by rent-seeking in the form of arbitrage.

Distinguished ladies and gentlemen, although the philosophy behind global capital flows is a desirable one, they can also pose serious risks. They could be volatile and large, relative to the size of a country's financial markets or economy. This can lead to booms and busts in credit or asset prices and make countries more vulnerable to contagion from global instability. Volatile capital flows can also affect the liquidity in the domestic financial system. Given that capital inflows normally lead to an appreciation in both nominal and real exchange rates, attempts by monetary authorities to intervene and resist appreciation entail accumulation of foreign reserves. Domestic liquidity may also increase if the intervention is not fully sterilized. This then causes an increase in liquidity flows into asset markets and, hence, asset prices may surge and exert inflationary pressure in the domestic economy.

Distinguished participants, free flow of capital contributes to the growth prospects by moving capital from where it is to where it is most efficient through the activities of the financial markets. An important element in the development of

the financial market is macroeconomic stability. Sustainable growth, low inflation, steady employment growth, low levels of unemployment and a balanced public finance are indicators of macroeconomic stability. Excessive volatility in these variables might impair the distribution of income and assets, and reduce societal welfare.

Excessive capital inflows may also produce undesirable macroeconomic effects, particularly short-term capital such as portfolio funds, which are easily reversed and tend to follow the boom-bust cycles. Large volatility and substantial exchange rate movements constitute an important channel through which portfolio flows can potentially have an adverse impact on the domestic economy. During a boom cycle, surging inflows often lead to significant

Capital Flows and Macroeconomic Stability: Theoretical and Conceptual Considerations

Ndubisi. I. Nwokoma, PhD*

I. Introduction

Foreign capital flows are generally desirable as they have played major roles in the development of the industrialised countries (Obadan, 2004) and in the developing countries where domestic resources tend to be in short supply. Capital flows can make significant contributions to the host country's economic growth and development in terms of easing the constraints of low levels of domestic savings and investment (Iyoha, 2004). According to Chatterjee and Turnosky (2005), foreign capital flows in different forms represent an important channel through which wealth is transferred from the rich-developed nations to the poor- underdeveloped nations. The justification for some forms of foreign capital flows were identified in Asher (1966) as rehabilitation and reconstruction of the economies of war-devastated nations, strengthening and subsidising the military defense of the free world, and promotion of economic growth as well as political and economic stability of the underdeveloped countries.

The theoretical foundation for the proposition that capital flows can promote macroeconomic performance and stability of emerging economies was entrenched in the 2-gap model, which posits that development may be hampered by the existence of both the savings and foreign exchange gaps in the developing countries. The savings gap as espoused, arises from the fact that domestic savings tend to be low and as a result fall short of required investment, while foreign exchange gap arises from the fact that most developing countries run import surpluses or balance of payment deficit due to extreme dependence on primary commodity exports, exports instability and internationally transmitted shocks (Iyoha, 2001). Thus, these gaps can be filled by the complementary role of foreign capital flows. However, the practical impact of these flows to augment these gaps in achieving the growth and development of developing countries have not materialised into desired results, thus, questioning the place of capital

* *Professor Ndubisi I. Nwokoma, an economist and Fellow of the Chartered Institute of Stockbrokers. He is also a Professor and Head, Department of Economics, University of Lagos, Akoka, Lagos, Nigeria. He was, until recently, the Chief of Financing, Industry and Investment in the Economic Development and NEPAD Division of the United Nations Economic Commission for Africa, in Addis Ababa, Ethiopia.* *The research assistance of Dr. Perekunah Eregha of the Department of Economics of the University on this paper is hereby acknowledged. The usual disclaimer applies.*

flows in most emerging economies by some scholars. This paper discusses both conceptual and theoretical perspectives of capital flows and their macroeconomic stabilisation strands.

II. Capital Flows: A Review of Concepts, Types and Constraints

Capital Flows refer to the inflow and outflow of capital from one country to another country. It is important to state that capital flows do not relate to movement of goods or payment for exports and imports between countries. It is basically the borrowing and lending between countries (Iyoha, 2004).

II.1 Types of Capital Flows

According to Obadan (2004) and other scholars, the several classifications of capital flows are foreign private investment, official development finance, private and government capital and workers' remittances.

II.1.1 Foreign Private Investment

These are classified into long-term international investment or capital movement. Foreign private investment is a significant aspect of foreign capital flow as it has the ability to stimulate new investment in developing countries (Obadan, 2004). It is basically the transfer of capital, mainly, from the developed countries to the developing countries in the form of portfolio and direct investment to argument the two gap models vis-à-vis: the savings gap and the foreign exchange gap thereby making these countries to achieve their economic potentials (Iyoha, 2004; Obadan, 2004). These flows in the form of portfolio and direct investments can either be inflows or outflows.

a. Foreign Portfolio Investment

This is the acquisition of assets by a foreign national or company in a domestic stock or money market. This is the holding of transferable securities that is either issued or guaranteed by the government of the importing country. These include: equity shares; debentures; bonds; promissory notes and money market instruments issued in a domestic market. The money market instruments include: treasury bills; commercial papers; bankers' acceptances; and negotiable deposits. One prominent feature of foreign portfolio investors is that they seek a share of profits, but do not exercise management control over the companies in which such assets or securities are acquired. The holdings are generally restricted to a small percentage of the total equity so as not to infringe on the management of the enterprise (Obadan 2004). On money and capital market instruments holding, portfolio investors are entitled to only dividends or interest and they can also gain from assets appreciation,

b. Foreign Direct Investment

This is basically a form of lending or finance in the form of equity participation. It is generally the transfer of resources such as capital, technology and management. The International Monetary Fund (IMF) conceptualised foreign direct investment(FDI) as investment that is made to acquire a lasting interest in an enterprise operating in an economy other than that of the investor whose aim is to have an effective voice in the management of the enterprise (Obadan, 2004). For the Organization for Economic Cooperation and Development (OECD), FDI is conceptualised as having at least 10.0 per cent control of the ordinary shares or voting power of an incorporated enterprise or controls less than 10.0 per cent or more of the ordinary shares or voting power of the enterprise, but with an effective voice in the management of the enterprise. FDI could come to the capital importing country as a subsidiary of a foreign firm or as a means of the formation of a company in which a firm in the investing country has equity holdings. It could also be the creation of fixed capital assets in the other country by nationals of the investing country. Basically, it is to exercise *de facto* and *de jure* control over the assets they have created (Obadan, 2004; UNCTAD, 2009).

II.1.2 Official Development Finance

Official Development Finance is basically divided into two aspects, namely: Official Development Assistance (ODA) and Official Development Flows. These two official development finances can be provided on bilateral or multilateral basis. By bilateral flows it implies intergovernmental loans or assistance made on country-to-country basis without involvement of any other country or third party in the negotiation, while multilateral flows come from foreign governments through global institutions and agencies such as the World Bank, International Finance Corporation (IFC), International Monetary Fund (IMF) and their corresponding regional or continental counterparts such as the African Development Bank (AfDB) (Iyoha, 2001; Obadan, 2004; UNCTAD, 2009).

a. Official Development Assistance (ODA)

It refers to public foreign capital on hard or soft terms, in cash or in kind and inter- government grants. Foreign aid may be tied or untied. It may be tied to project and commodities. Untied Aid is a general purpose aid and is known as non-project loan. ODA is defined as those flows originating from official agencies, used to put up infrastructure critical for the development of other sectors of the economy. By characterisation, ODA includes: capital projects; food aid; emergency relief; peace keeping efforts and technical cooperation (Ali, et al., 1999). ODA consists

of official grants or loans with acceptable grant elements from agencies of government or multilateral organisations. A grant, which is also known as a transfer, is an exchange of goods, services or financial instruments that gives nothing in return. However, military assistance or official export credit are excluded from ODA. The grants have no requirement for repayment. They finance net imports without adding to the country's external debt. However, financial flows that are not grants, but qualify as ODA must be concessional and the grant elements must be at least 25 per cent of the flow. It is the grant element that measures the degree of a loan concessionality.The grant element is the difference between the face value of the loan and the sum of the discounted future debt service payments to be made by the borrower expressed as a percentage of the face value of the loan (Iyoha, 2001; Obadan, 2004; Hou et al. 2013).

b. Official Development Flows (ODF)

These are financial flows from official lenders such as government or multilateral agencies which have little or no concessionality and they are geared towards financing development. Official development flows lending is mainly non-commercial, which invariably implies that the providers are not profit maximiSers. The main focus is on economic reconstruction and development. Examples are loans from the World Bank or AfDB

II.1.3 Private and Government Capital

Private capital movement means lending or borrowing from abroad by private individuals and institutions. Private capital is generally guaranteed by the government or the central bank of the borrowing country. The profit motive is the principal factor behind such investments. On the other hand, government capital movements imply lending and borrowing between governments. Such capital movements are under the direct control of government. In fact, governments, as important international lenders, make stability loans, loans to finance exports and imports as well as finance particular projects.

II.1.4 Workers' Remittances

Workers' remittances are transfer of money by a foreign worker to his or her home country or simply sending an amount of money from one country to another. They are closely associated with migration. Remittances are playing an increasingly large role in the economies of many countries, contributing to economic growth and to the livelihood of less prosperous people. They have formed significant part of capital flows to developing countries in recent times.

II.2 Limitations and Causes of Capital Inflows and Outflows

The capital flow literature has identified some factors that might affect capital movement among countries. These are:

(i) Interest Rates

The most important factor which affects international capital movement is the difference among current interest rates in various countries. Rates of interest show the rate of return over capital or the user cost of capital. Capital flows from the country in which the interest rates are low to those where interest rates are high.

(ii) Speculation

Speculation relating to expected variations in foreign exchange rates or interest rates affect short-term capital movements. When speculators feel that the domestic interest rates will increase in future, they will invest in short-term foreign securities to earn profit. This will lead to outflow of capital.

(iii) Expectation of Profits

A foreign investor operates with the profit motive at the time of making capital investment in the other country. Where the possibility of earning profit is more, capital flows into that country.

(iv) Bank Rate

A stable bank rate of the central bank of the country also influences capital movements because market interest rates depend on it. If bank rate is low, there will be an outflow of capital and vice versa.

(v) Production Costs

Capital movements depend on production costs in other countries. In countries where labour and raw materials, among others, are cheap and easily available, more private foreign capital flows there. The main reasons of huge capital investments in countries such as South Korea, Singapore, Hong Kong, Malaysia and other developing countries by Multi-national Corporations, (MNCs) is the low production cost.

(vi) Economic Condition

The economic condition of a country, especially size of the market, availability of infrastructural facilities like transportation and communications, power and other resources encourage the inflow of capital.

(vii) Political Stability

Factors such as political stability, security of life and property and friendly relations with other countries, among others, encourage inflow of capital into a country.

(viii) Taxation Policy

The taxation policy of a country also affects the inflow or outflow of capital. To encourage the inflow of capital, progressive taxation policy should be followed such as the giving of tax relief to new industries with foreign collaborations.

(ix) Foreign Capital Policy

The government policy relating to foreign capital affects capital movements. The provision of different facilities relating to transferring profits, dividend, interest, etc to foreign investors will attract foreign capital. Similarly, fiscal and monetary policies of a country also affect capital inflow and outflow.

II.3 Causes of Capital Outflows in Developing Countries

There has been concern recently over illicit capital outflow in most developing countries, particularly Africa. Capital outflow is a key concern to virtually all developing regions of the world. This is because it is not only having destabilising effects on domestic macroeconomic variables, but also results in loss of productive resources to the home country. A number of factors have been identified as responsible for such illicit capital outflow.

(i) Inappropriate Economic Policies

Poor and inappropriate policies have been identified as one of the causes of capital outflows in most developing countries. Such policies include expansionary maroeconomic policies characterised by large budget deficits and accommodating monetary policy, a repressive interest rate regime and overvaluation of the domestic currency. A widening fiscal deficit could trigger capital outflows (Obadan, 2004; Iyoha, 2004).

(ii) Problem of Governance and Weak Institutions

Governance problems reflected in lack of transperancy and accountability in the polity are important factors facilitating capital outflows. Other governance issues affecting capital outflows include lack of political will to fight corruption as well as weak institutional frameworks.

(iii) Financial Sector Constraints

Distorted incentives, excess controls of interest rates and other aspects of the financial markets, and weak support systems impose hidden costs, reduce yields and introduce uncertainties as well as risks that tend to encourage capital outflow.

(iv) Financial Sector Distress

Protracted deterioration in bank asset quality and forced closures, which raises fear of capital loss, also encourages capital outflow. Such distress is caused by other adverse domestic or external conditions.

(v) Risk Factors

It has been entrenched that a number of characteristics such as absence of well-established political and institutional arrangements conducive for savings and investments are drivers of capital outflows. Such institutional arrangements include: inadequate institutional and legal arrangements for private property protections; coupled with rampant political instability; improper monitoring and tax collection system, among others.

III. Capital Flows in sub-Saharan Africa: Stylised Facts

III.1 The Trend of Foreign Direct Investment

The important sources of FDI for Africa in the 1980s and early 1990s were the European Union, Japan and the United States, the so-called "Triad". During the 1982 to 1996 period, France, Germany and the United States accounted for 80.0 per cent of FDI inflows to the continent. Other countries gaining importance thereafter, were Canada, Italy, and the Netherlands. Together with Norway, Portugal, and Spain, these countries helped to reduce the rate of decline of Africa's share of FDI. Between 1988 and 1997, these six countries increased their share in African FDI inflows from 8.0 per cent to more than 22.0 per cent (UNCTAD, 1998).

Over the past decade, a noticeable foreign direct investment has come from the developing countries themselves who are emerging as outward investors – the so called "South-South FDI" UNCTAD (2004) reported that the South-South flows were growing faster than North-South flows. Africa is part of this broad trend, with investors from other developing countries, particularly South-East Asia, having emerged as new sources of FDI. A recent World Bank report indicated a massive increase in investment from China into SSA through the later half of the 1990s. Between 1990 and 1997, Chinese investment into Africa

amounted to about $20 million, but from 1998 to 2002 that increased six-fold to $120 million (World Bank, 2004). The report indicates that there were 450 Chinese-owned investment projects in Africa, of which 46.0 per cent were in manufacturing, 40.0 per cent in services and only 9.0 per cent in resource-related industries.

In addition, Taiwan has been a major source of FDI into Africa. Taiwanese investment into South Africa increased substantially during the 1980s, but more recently, in response to the African Growth and Opportunities Act (AGOA), Taiwanese investment has entered several other Southern and Eastern African countries. Currently, as many as 700 Taiwanese investment projects are present throughout sub-Saharan Africa (Gelb, 2005). The third Asian country that is rapidly growing as an important investment source in Africa is India. India is the largest investor in Ghana since 1994 with more than 225 projects (GIPC, 2006). An estimated 35 Indian companies are present in South Africa, but the figure is higher in terms of projects (Gelb, 2005).

Much less investment is coming into Africa from Latin America, although Brazilian firms are now starting to invest in other Lusophone countries in Africa, - i.e. Angola and Mozambique in particular. Other significant investors in the region include Lebanon and Portugal, albeit for select countries. For instance, Lebanese firms in Ghana are responsible for more than 175 projects since 1994 (GIPC, 2006). Some African firms, particularly from South Africa and Nigeria, are becoming MNCs and also investing in other African countries. Since its democracy in 1994, South Africa has claim over 600 projects in the continent. It accounts for more than 50 per cent of all investments to Botswana, Lesotho, Malawi, Swaziland and Democratic Republic of Congo. Nigerian firms, on the other hand, are active in countries within the West African Region.

Based on a recent UNCTAD data, global foreign direct investment indicated a declining trend. From a peak of US$2 trillion in 2007, it fell to US$1.8 trillion in 2008 and then US$1.2 trillion in 2009, followed by a recovery in 2010 and 2011 to US$1.4 and US$1.6 trillion, respectively (UNCTAD, 2013). FDI flows to sub-Sahara Africa (SSA) have experienced a significant increase over the past decade, moving from less than US$7.0 billion in 2000 to about US$37.0 billion in 2011 (UNCTAD, 2012). Between 2006 and 2008, inward FDI to SSA grew by about 118 per cent, reaching its highest level at US$37.3 billion. In 2009 and 2010, FDI inflows to SSA declined, owing to the global financial crisis (GFC). Although, African countries have long been seen as attractive because of Africa's vast natural resource endowment, a recent survey conducted by the Economist Intelligence Unit (2012) showed that a number of other factors have also

been significant in enhancing SSA attractiveness to investors over the past few years. The most important are: Africa's emerging middle class and different consumption patterns; its strong economic growth; and high commodity prices. These are followed by several other factors such as increased political stability, favourable demographics, and improved fiscal and monetary policies.

Indeed, while FDI inflows to low income countries experienced increases of 3.0 and 35.0 per cent in 2009 and 2010, respectively, those to middle income countries declined by about 13.0 per cent and 37.0 per cent, respectively, in the same period. Among middle income countries, Nigeria and South Africa were the largest recipients of inward FDI in 2011; Mozambique, Chad, Democratic Republic of Congo, Guinea and Tanzania were the top five low income countries destinations of FDI inflows (Hou et al., 2013). It is noteworthy also that over the last decade, most of the FDI inflows to SSA middle income countries and low income countries were to natural-resource-rich developing countries (see, Hou et al., 2013). However, the increase in FDI flows to non-resource rich countries was greater than in those to natural-resource-rich developing countries. FDI directed to natural-resource-rich developing countries was affected by the global turmoil, experiencing a decline of 15.0 per cent between 2009 and 2010, while that to non-natural-resource-rich developing countries continued to increase. Looking at the countries of origin of FDI, Europe is a key investor in SSA and, FDI inflows to SSA from European Union countries experienced an upward trend up until 2009, before contracting in 2010 and 2011, partly because of the Euro Zone crisis.

The BRICS[1] countries have also become important investors in Africa. Data showed that in 2010, BRICS represented 25.0 per cent of total FDI flows to the continent (Table 1). FDI flows from the EU, which is still the largest investor in Africa, accounted for 41.0 per cent of the region's FDI flows in the same year.

Among the BRICS countries, the major investor in Africa is China, followed by India and South Africa (UNCTAD, 2013). Chinese FDI flows to SSA have grown very rapidly since the mid-2000s, reaching a high of US$5,416 billion in 2008 (UNCTAD, 2013). After experiencing an 80.0 per cent decline in 2009 after a one-off large investment, they recovered slightly to US$1,883 billion in 2010 – which is still significantly below the 2008 peak.

[1] Brazil, Russian Federation, India, China, South Africa

Table 1: Africa: estimated FDI inflows, 2010

	Millions of dollars	Share in total
Home region		
Total world	39,540	100
Developed countries	26,730	68
European Union (EU)	16,218	41
North America	9,281	23
Developing economies	12,635	32
Asia	9,332	24
South-East Europe and Commonwealth of	175	0
Memorandum		
BRICS	10,007	25

Source: *UNCTAD 2013 & Hou et al. 2013*

A key factor in Chinese FDI to SSA was Africa's richness in natural resources (Mlachila and Takebe, 2011). For example, the continent has large reserves of oil (e.g. in Nigeria and Angola) and is also rich in non-fuel minerals (e.g. platinum and gold in South Africa, cobalt in Democratic Republic of Congo, copper in Zambia and diamonds in Angola). Besides this, other macroeconomic and structural factors (e.g. improved investment and business environment, better macroeconomic conditions, and privatisation processes, among others) are also relevant to the increase of Chinese FDI in SSA. Chinese FDI flows to SSA are directed mainly to natural-resource-rich developing countries such as South Africa, Sudan, Nigeria and Zambia (UNCTAD, 2013).

However, there is evidence that Chinese FDI to SSA is becoming increasingly diversified, moving into manufacturing and services sectors (Table 1). This is the case even in resource-rich developing countries (RRDCs) such as Zambia, where Chinese FDI flows have targeted not only the mining sector, but also the financial, telecommunication, tourism, garments, textiles and agro-processing sectors.

The manufacturing and services sectors have attracted the biggest share of Indian FDI flows to Africa, while Brazilian FDI has focused mainly in the natural-resource sector (UNCTAD, 2013; Mlachila and Takebe, 2011). Russian FDI flows to Africa, however, are both resource-seeking and market-seeking (UNCTAD, 2013). It is also worth noting that Indian and Brazilian FDI tend to be concentrated in a limited number of countries in SSA. For example, the bulk of Indian FDIs in Africa is directed to Mauritius, while Brazilian FDI flows are mainly concentrated in Angola and Liberia (UNCTAD, 2013; Mlachila and Takebe, 2011).

III.2 Portfolio Equity Flows

Portfolio equity inflows to SSA have been rather volatile over the last decade. In the mid-2000s, they reached a high of about US$17.0 billion in 2006 (of which 89.0 per cent went to South Africa). In 2007, however, portfolio equity inflows experienced a significant decline of 40.0 per cent because of the global financial crisis, and in 2008 they even reversed.

This clearly showed that SSA's equity markets were not immune to financial contagion during the crisis. The slowdown and reversal in portfolio equity inflows to SSA countries were, indeed, consistent with the sharp fall of their stock markets. Table 2 shows that stock markets in South Africa, Nigeria, Kenya, Mauritius, and Côte d'Ivoire were hit hard in 2008.

Table 2: Selected SSA countries: Stock Index Change in 2008

Index	% change in 2008
Nigeria All Share Index	-46
Mauritius All Share Indices	-36
Nairobi Stock Exchange 20-Share Index	-34
Johannesburg Stock Exchange All Share Index	-26
BRVM (Regional Securities Exchange) Composite Index	-11

Source: adapted from Hou et al. 2013

In 2009, portfolio equity inflows to SSA started to recover, reaching a new high of about US$16.0 billion in 2010 (Hou et al., 2013). Although flows declined by about 47.0 per cent when the Euro Zone crisis hit in 2011, there were no outflows as in 2008. Massa et al., (2012) reported that stock markets in countries such as Nigeria and Kenya were largely affected by the Euro Zone crisis, experiencing heavy sell-offs as a result of a global flight to safety of capital. Notwithstanding, the storms of the global financial and euro zone crises, stock markets in SSA have made important progress over the past decade. Nevertheless, a number of serious challenges need to be met to facilitate growth in portfolio equity inflows. First, is the fact that SSA stock markets are still thin and very illiquid. Stock market regionalisation may help to overcome this barrier, and there are already a few initiatives in this direction. Plans to form regional stock exchanges abound across the continent.

III.3 Bond Flows

Bond flows in SSA have also been volatile over the past decade (Hou et al. 2013), and concentrated in the Middle Income Countries. After reaching a peak value of more than US$ 7 billion in 2007, when Nigeria, Ghana and Gabon issued bonds

internationally for the first time, these flows were strongly hit by the global financial crisis in 2008.

- Nigeria issued a US$350.0 million private corporate bond in January 2007 and a US$ 75 million private corporate bond in March 2007;
- Ghana issued a US$750.0 million Eurobond in September 2007;
- Gabon issued a US$1.0 billion 10-year Eurobond in December 2007 (Hou et al., 2013). Many bond issuance plans were put on hold. In particular, Ghana cancelled plans for a US$300 million debt issue, owing to poor global market conditions; Kenya delayed a planned debut of US$500 million Eurobond; Tanzania postponed plans to issue a debut Eurobond totalling at least US$ 500 million; and Uganda did not issue a debut Eurobond to fund infrastructure projects (Brambila-Macias and Massa, 2010).

A substantial recovery in bond flows occurred in 2009. In 2010, bond inflows to SSA declined by about 28.0 per cent to US$1.4 billion, and then increased to US$6 billion in 2011. This showed that, compared with the 2007–8 global financial crisis level, when several bond issuance plans were put on hold in SSA countries, the Euro Zone crisis has affected bond inflows much less. Indeed, Namibia and Senegal were still able to issue bonds successfully for the first time, notwithstanding the crisis in the euro area (Massa et al., 2012).

There has been a rapid scaling up of bond flows in 2011 and 2012 (judging by recent reports) and more was expected in 2013 (some argue that Africa is set for a sovereign debt rush[3]), suggesting that bonds flows are likely to be an important source of non-concessionary external finance for a number of African countries, which are gradually graduating out of the poorest economy status.

III.4 External Debt Flows

The total external debt of the SSA economies has been rising slowly in nominal terms since 2006. It was largely constant until 2006, the year after debt cancellation took place for a number of African countries. The level of external debt increased during the global financial crisis. However, the ratio of external debt to exports fell steadily to about 60.0 per cent after the debt cancellation in 2005 (Hou et al., 2013). Since then, it has been almost flat despite a slight upward movement during the recent financial crisis.

III.5 Official Development Assistance (ODA) to Africa

With the main objective of promoting economic development and welfare of the recipient countries, ODA has a long repayment horizon suitable for

infrastructure projects with long gestation periods. ODA flows to Africa declined as part of a broader trend of the decline in total official flows to developing countries in the late 1990s, but remained a significant component of external financial flows to the region. Throughout the past three decades, ODA flows showed a general upward trend, climbing in nominal terms and growing significantly between the mid-1970s and early 1990s and resumed growth again in 2001 due to debt relief (White, 2003).

African countries in the past three decades continued to rely largely on ODA than other regions of the developing world. For instance, while ODA flows to Africa were as much as US$33 per capita in 1991, the average ODA of other low-income countries was US$14.0 per capita. Similarly, while ODA flows contributed to 5.3 per cent of African gross national product (GNP) in 1996, the corresponding proportion for other low-income countries was lower at 3.5 per cent (Ali et al., 1999).

Some of the recent boost in ODA flows reflects debt relief granted under the HIPC Initiative and other special purpose grants both directly attributable to the effort of the G-8 countries to put Africa on a sustainable development path. Debt relief grants in 2005 totaled US$23.0 billion, up more than five-fold of its 2004 figure. Aid to sub-Saharan Africa as percentage of total aid, has for the most part, been more than triple that of other regions, emphasizing the importance of these official flows to the region. The top recipient countries for ODA within Africa have varied although, since the late 1990s, the list has included Democratic Republic of Congo, Tanzania, Mozambique, Uganda, Madagascar, Ghana, Ethiopia and Zambia (Ali et al., 1999). These countries are part of those classified as Heavily Indebted Poor Countries (HIPCs). Most of the aids goes to the social sector of the economy for purposes of improving education, health and infrastructure development.

III.6 Workers' Remittances

The 2005 Global Development Finance Report estimated that remittances reached US$161.0 billion in 2004 and US$167.0 billion in 2005. Remittances seem to be unique in that they appear more evenly distributed and less volatile than the rest of the capital flows to developing countries (Table 3). Nevertheless, the report acknowledged the shortcoming of these figures, which take into consideration remittances channeled via official systems. One would argue that for Africa, it is very plausible that an equal or greater amount is channeled via informal means.

Table 3: Workers' Remittances to Developing Countries, 1990- 2004 (US$ billions)

	1990	1995	2000	2001	2002	2003	2004
Developing Countries	31.3	56.7	76.8	84.6	99.0	116.0	125.8
Lower middle-income	17.5	34.8	41.9	44.1	49.1	54.8	55.6
Upper middle-income	5.7	8.6	13.1	18.8	18.7	24.4	26.8
Low income	8.1	13.3	21.7	23.8	31.2	36.7	43.4
Latin America and the	5.8	13.4	20.2	24.2	28.1	34.1	36.9
South Asia	5.6	10.0	16.0	16.0	22.3	26.7	32.7
East Asia and the Pacific	3.2	9.0	11.2	12.9	16.6	19.5	20.3
Middle East and North	11.7	13.0	13.5	15.2	15.5	16.8	17.0
Europe and Central Asia	3.2	8.1	11.0	11.4	11.5	12.8	12.9
Sub-Saharan Africa	1.9	3.2	4.9	4.9	5.1	6.0	6.1

Source: IMF Balance of Payments Statistics Yearbook 2004 and World Bank estimates cited by Global Development Finance 2005 as adapted from Mhlanga and Christy (2006).

III.7 Capital Outflow in Africa[2]

While Africa is fast becoming the darling of foreign direct investment (FDI) and economic growth and aid organisation, Oxfam International raised concerns that the continent's development is being held back by a massive and illicit outflow of capital. This was part of discussions held ahead of the World Economic Forum on Africa, which started in Cape Town, bringing together political, corporate and civil society leaders to discuss the opportunities and challenges on the continent. According to Oxfam, *Business Day* reported that, while Africa's oil, gas and mineral exports amounted to US$333.0 billion in 2010, illicit financial outflows, achieved, for example, through tax evasion and trade mispricing by extractive industries, were estimated at US$200.0 billion annually, dwarfing development aid inflows to the continent.

Furthermore, a joint report by the African Development Bank and the Global Financial Integrity (2013) showed that Africa lost between US$1.2-US$1.4 trillion over the 30-year period, 1980-2009 through illicit financial flows, with illicit outflows from Sub-Saharan Africa outstripping those from North Africa by over two times. In real terms, three African regions - West and Central Africa at US$494.0 billion (37.0 per cent), North Africa at US$415.6 billion (31 percent), and Southern Africa at US$370.0 billion (27.0 per cent) - accounted for 95.0 per cent of total cumulative illicit outflows from Africa over the 30-year period. Estimates by country in the report showed that the large outflows from: West and Central Africa are driven largely by Nigeria, the Republic of Congo, and Cote d'Ivoire; North Africa are driven by outflows from Egypt, Algeria, and Libya, and Southern

[2] This is a report extracted from Risk Africa Magazine, October 12, 2013.

Africa are driven mainly by South Africa, Mauritius and Angola. Nigeria, South Africa and Egypt are the three largest exporters of illicit capital from Africa based on volume of outflows. However, the relative severity of the problem of illicit flows among African countries can be assessed using several measures. The study utilises "normalisers" such as GDP, external debt, exports, official development assistance and population to gauge the extent of the problem.

IV. Capital Flows and Macroeconomic Stabilisation

In this section, the ways in which capital flows and policy interact to determine macroeconomic outcomes are outlined. The discussion is classified into the implications of capital inflows and outflows on the macroeconomy.

IV.1 Capital Inflows and the Macro-Economy

Capital flows affect a wide range of economic variables such as exchange rates, interest rates, foreign exchange reserves, domestic monetary conditions and savings and investments. Some commonly observed effects of capital inflows that have been documented in recent studies include: real exchange rate appreciation; stock market and real estate boom; reserves accumulation; monetary expansion and effects on production and consumption. Empirical studies that have begun to appear on the subject assess the impact of capital inflows upon output growth (Gruben and McLeod, 19962), differential macroeconomic effects of portfolio and foreign direct investment (Gunther, Moore and Short, 1996) and effects upon monetary conditions, savings and investment (Kamin and Wood, 1998). Several studies, notably Corbo and Hernandez (1994), Calvo, Leidermann and Reinhart (1994) and Khan and Reinhart (1995), amongst others, have documented these effects for Latin America and East Asia. Some commonly observed effects of capital inflows are exchange rate appreciation, monetary expansion, rise in bank lending if the flows are intermediated through banks and effects upon savings and investment (Kohli, 2001).

a. Exchange Rate Appreciation:

In theory, an inflow of foreign capital will raise the level of domestic expenditure in the economy, raising the demand for non-tradable goods that results in an appreciation of the real exchange rate. The price-adjustment process then leads to a reallocation of resources from tradable to non-tradable goods and a switching of expenditures in favour of non-tradables. The rise in aggregate expenditure also increases the demand for tradables, leading to a rise in imports and a widening of the trade deficit. The transmission channel of the real exchange rate appreciation will, however, depend on the exchange rate regime. With a floating exchange rate and no central bank intervention, the

appreciation will take place through a nominal appreciation, but in a fixed exchange rate regime, the appreciation will work through an expansion in the domestic money supply, aggregate demand and the prices of non-tradeables. The behaviour of the real exchange rate in response to capital inflows has been an important area of concern and has been examined in several recent studies. Calvo, Leiderman and Reinhart (1993) and Edwards (1999) have explored the association between capital inflows and real exchange rates for a set of Latin American countries. They find substantial evidence that capital inflows contributed both to real exchange rate appreciation and reserves' accumulation in these countries.

b. Reserve Accumulation:

Capital inflows can be traced to either international reserves' accumulation or a current account deficit, depending upon the exchange rate regime. If there is no intervention by the central bank, i.e. the exchange rate regime is a pure float, then the net increase in capital assets via capital inflows would be associated with a similar increase in imports and therefore a widening current account deficit. Alternately, if the exchange rate regime is fixed and the central bank intervenes to counter appreciation pressures, then capital inflows would be visible in increase in foreign exchange reserves. Since the two extremes are rarely observed in practice, the choice of intervention, or its size, narrows down to the degree of exchange rate flexibility desirable by the authorities and is, in essence, a policy choice.

c. Impact on Monetary Conditions and Sterilisation:

Capital inflows impact on domestic money supply through accumulation of net foreign currency assets with the central bank. Whether the monetary base is altered or not depends on whether the central bank intervenes to maintain a fixed exchange rate or allows it to float freely with no intervention. If there is intervention, then an accumulation of international reserves represents an increase in the net foreign exchange assets of the central bank and directly affects the monetary base. Inferences based upon mere movements of the monetary variables, however, are in danger of amounting to conjecture, as these are also driven by domestic conditions. The relationship between capital inflows and money supply, therefore, needs to be investigated more carefully, as a monetary expansion implies inflation and if the central bank's monetary growth targets are disrupted, it may be desirable to insulate the impact of capital flows on money supply. This is typically done through sterilisation, which is simply the exchange of domestic assets for foreign assets. Typical sterilisation tools in developing countries are open reserve requirements and to a lesser extent, open market operations. The former has been a common monetary management tool

in Southeast Asia, and also, in some parts of Latin America (Chile, Mexico), use to insulate domestic money supply from the expansionary effects of capital inflows.

Recent econometric evidence shows the impact of capital flows on monetary growth. For instance, Kamin and Wood (1998) uncovered a significant independent effect of capital flows on domestic money demand for Mexico and the Pacific Basin group of countries. Both reserve changes and net capital inflows tended to lower interest rates and raise M_2, particularly in Mexico. In most developing countries, the securities markets are thin, with the result that central banks typically rely heavily on reserve requirement changes. While it is difficult to collect evidence on the magnitude of sterilisation, it has been conceded elsewhere that a complete offset could not be achieved. Occasionally, other sterilisation instruments like open market operations, swap operations with commercial banks, cuts in central bank credit and rediscounts, increase in the rediscount rate, conversion of commercial bank debt of public institutions and transfer of assets of pension/provident funds, among others, have been used to bring about monetary tightening.

IV.2 Capital Outflow and the Macroeconomic Stabilisation[3]

Capital Outflow has several consequences both in the short-run and long-run and these include:

First, in the short-run, capital outflow destabilises domestic interest rates, exchange rates and the country's international reserves. The outflow creates a shortage of liquidity in the system, which pushes interest rate higher. In floating exchange rate regime, capital outflow tends to depreciate the domestic currency, but in fixed exchange regime, it results in exchange reserves loss, which constrains the ability of the country to import capital goods necessary for growth. Second, in the long-run, it reduces growth potential resulting from inability to finance domestic investment leading to decline in capital formation. Furthermore, the tax base is eroded as income and wealth generated are held abroad through capital outflow and such tax erosion leads to potential loss of revenue to government and reduction of its ability to service its debt and lastly, by reducing government revenue and diverting savings out of the country, capital outflow increases the need to borrow from abroad thereby increasing the foreign debt burden.

[3] For detailed capital outflow consequencies (see Obadan, 2004).

V. Capital Flows and Macroeconomic Stabilisation: [4]Theoretical Arguments on the Benefits and Costs

Considered and discussed below are the arguments in favour of benefits and costs of capital flows across countries as opined by some economists and policy makers:

V.1 The Benefits of Capital Flows

Theoretical arguments supporting international capital flows in ensuring macroeconomic stabilisation from the point of view of its potential benefits are discussed as follows:

1. Consumption Smoothing

Access to international capital flows may allow a country to engage in risk sharing and consumption smoothing behaviours, by making the country to borrow in 'bad' times such as a recession or a sharp deterioration in the country's terms of trade and as well lend in 'good' times. Capital flows have the potential to increase household welfare and this is possible by making them to smoothing their consumption path over time. However, this 'counter-cyclical' role of world capital flows is particularly important if shocks are *temporary* in nature.

2. Domestic Investment and Growth

The possibility to draw from the international pool of resources from world capital market may also influence domestic investment and growth. Most emerging economies are faced with low saving rate resulting from low level of income and as a result domestic saving could not meet up with the desired investment that could put these economies on the path of desired growth and development. Consequently, experts argue in favour of foreign capital flows to augment this short fall in domestic saving, increase levels of physical capital, and facilitate the recipient countries, to increase their rate of economic growth and improve living standards. Foreign Direct Investment (FDI) has received much attention in exerting these potential benefits than other forms of capital flows (MacDougall, 1960; Berthélemy and Démurger, 2000; Borensztein et al. 1998; Grossman and Helpman, 1991).

3. Enhanced Macroeconomic Discipline

It has been argued that by increasing the rewards of good policies and the penalties for bad policies, the capital flows across borders may induce countries to follow sound macroeconomic policies and thus, reduce the incidence of policy mistakes. Burside and Dollar (2000) also opined that good policies are

[4] For detailed discussion of the theoretical arguments for capital flows (see *Agénor, 2001)*

responsible for capital flows resulting in better macroeconomic performance of recipient countries and this invariably will produce macroeconomic discipline so as to be able to access more capital flows. Consequently, greater policy discipline translates into greater macroeconomic stability, leading to higher rates of economic growth, and this is entrenched in the recent endogenous growth literature. Similarly, Bartolini and Drazen, (1997) argued that capital flows can act as a 'signal' that a country is willing to adopt 'sound' macroeconomic policies, for instance by reducing budget deficits and forgoing the use of inflationary tax. Against this backdrop, an open capital account may also encourage macroeconomic and financial stability, ensuring a more efficient allocation of resources and higher rates of economic growth.

4. Banking System Efficiency and Financial Stability

An increasingly common argument in favour of capital flows across border is that it may increase the depth and breadth of domestic financial markets and lead to an increase in the degree of efficiency of the financial intermediation process, by lowering costs and 'excessive' profits associated with monopolistic or cartelised markets. Invariably, improved efficiency may lead to lower markup rates in banking, a lower cost of investment and higher growth rates (Baldwin and Forslid, 2000).

V.2 The Costs of Capital Flows

In the past decades, the experience of capital flows across borders has led economists and policymakers to identify that, besides the possibility of its macroeconomic stabilisation; it may also induce instability and greater costs. The following issues were put forward to support this notion:

1. Concentration of Capital Flows and Lack of Access

There is sufficient evidence that periods of 'surge' in cross border capital flows tend to be highly concentrated to a small number of recipient countries. The dramatic increase in capital inflows in the early 1990s, for instance, was directed to only a small number of large, middle-income countries of Latin America and Asia (Fernandez-Arias and Montiel, 1996). However, despite this significant increase, capital flow to sub-Saharan African region, compared with other developing economies is still low. Recent evidence points to the fact that the region is largely marginalised in the area of financial globalisation (Ndikumana and Verick, 2008; Ogunleye, 2009). The share of total private capital flows to low-income countries actually fell during the 1990s whereas the share to the top ten recipients increased significantly (World Bank, 2001). Little foreign capital is directed at sub-Saharan African countries, and most of what flows to the region is limited to a few countries with significant natural resources (Bhattacharya et al.

1997; and Basu and Srinivasan, 2002). Thus, a number of developing countries may simply be 'rationed out' of world capital markets – regardless of how open their capital account is.

2. Domestic Misallocation of Capital Flows

Although the inflows of capital associated with an open capital account may raise domestic capital, their impact on long-run growth may be limited if such inflows are used to finance speculative or low-quality domestic investments (real estate sector). Low-productivity investments in the non-tradable sector may reduce over time the country's ability to export and this may lead to rising external imbalances. The misallocation of capital inflows may in part be the result of pre-existing distortions in the domestic financial system. In countries with weak banking sector and poor supervision of the financial system, the direct or indirect intermediation of large amounts of funds by the banking system may exacerbate the moral hazard problems associated with deposit insurance. That is, lenders may engage in riskier and more concentrated or outright speculative loan operations.

3. Loss of Macroeconomic Stability

Capital inflows induced may have undesirable macroeconomic effects, such as rapid monetary expansion resulting from the difficulty and cost of pursuing sterilisation policies, inflationary pressures due to its influence on domestic spending, real exchange rate appreciation and widening current account deficits resulting from reduced export value. In flexible exchange rate regime, growing external deficits tend to bring about a currency depreciation, which may eventually lead to a realignment of relative prices and induce self-correcting movements in trade flows. By contrast, under a fixed exchange rate system, losses in competitiveness and growing external imbalances can erode confidence in the viability and sustainability of the peg, thereby precipitating a currency crisis and increasing financial instability.

4. Pro-Cyclicality of Short-Term Flows

Small developing economies are often marginalised in the world capital markets. Furthermore, among those countries with a greater potential to access these markets specifically, oil producers, the availability of resources may be *asymmetric*. These countries may indeed be able to borrow only in 'good' times, whereas in 'bad' times they tend to face credit constraints. Access may thus, be pro-cyclical. Clearly, in such conditions, one of the alleged benefits of accessing world capital markets, the ability to borrow to smooth consumption in the face of temporary adverse shocks, is simply a fiction. Pro-cyclicality may, in fact, have a perverse effect and increase macroeconomic instability: favourable shocks may

attract large capital inflows and encourage consumption and spending at levels that are unsustainable in the longer-term, forcing countries to over-adjust when an adverse shock hits (Dadush *et al*.2000). This invariably suggested that overdependence on external capital tend to put such countries on undue macroeconomic crises.

5. Herding, Contagion and Volatility of Capital Flows

A greater degree of financial openness could lead to a high degree of volatility in capital movements. The possibility of large reversals of short-term capital flows raises the risk that borrowers may face costly 'liquidity runs', (Chang and Velasco, 2000). The higher the level of short-term debt is relative to the borrowing country's international reserves, the greater the risk of such runs. High levels of short-term liabilities intermediated by the financial system also create risks of bank-runs and systemic financial crises. In general, the degree of volatility of capital flows is related to both actual and perceived movements in domestic economic fundamentals, as well as external factors, such as movements in world interest rates. More generally, the fact that investors' sentiment (particularly that of highly leveraged, speculative trading institutions, such as hedge funds) is constantly changing in response to new information creates the potential for markets to overshoot on a scale that can generate financial crisis with very large economic and social costs. Short-term portfolio flows, in particular, tend to be very sensitive to herding among investors and contagious factors. Although investor herding is seen by some as evidence of irrationality, some recent literature suggests differently. In any case, rational or irrational, herding behaviour often translates into large movements into and out of certain types of assets and exacerbates fluctuations in asset prices and capital movements. Volatility of capital flows can also result from contagion effects.

VI. Conclusion

The paper, which is basically a review of concepts and theoretical considerations on the relationship between capital flows and the macro-economy, has attempted to review the nature and types of capital flows to Africa as well as their significance in the various recipient countries. The paper, while making effort to identify the other side of capital flows – i.e. the outflows through illicit channels, focused largely on the inflows and their effects on macroeconomic stability. Given that the nature and volume of capital outflows from the continent in recent times has become large and worrisome, there is an urgent need for attention to be re-directed to these illicit financial outflows from Africa, which are reported to be huge and of greater magnitudes than the inflows. If efforts in addressing this issue are sustained, Africa will be better off in obtaining the needed financial resources to promote rapid economic development.

References

Agénor, P.R. (2001). "Benefits and Costs of International Financial Integration: Theory and Facts", Paper presented at the conference on Financial Globalization: Issues and Challenges for Small States (Saint Kitts, 27–28 March, 2001), organised by the World Bank, the Malta Institute for Small States, and the Eastern Caribbean Central Bank.

Ali, A. G., C. Malwanda and Y. Suliman, (1999). Official Development Assistance to Africa: An Overview", *Journal of African Economies*, 8(4), 504-27.

Asher, R.E (1966). "Grants, Loan and Local Currencies: Their Role in Foreign Aid", Washington D.C. The Brookings Institute

Baldwin, R. and R. Forslid (2000). "Trade Liberalization and Endogenous Growth", *Journal of International Economics*, 50 (April), 497–517.

Basu, A. and K. Srinivasan (2002). "Foreign Direct Investment in Africa: Some Case Studies", International Monetary Fund Working Paper No. 02/61.

Bartolini, L. and A. H. Drazen (1997). "Capital Account Liberalization as a Signal", *American Economic Review*, 87:138–54.

Berthélemy, J.-C. and S. Démurger (2000). "Foreign Direct Investment and Economic Growth: Theory and Application to China", *Review of Development Economics*, 4 (June), 140– 55.

Bhattacharya, A., P. J. Montiel and S. Sharma (1997). "Private Capital Inflows to Sub-Saharan Africa: An Overview of Trends and Determinants", in Z. Iqbal and R. Kanbur (eds.), *External Finance for Low-Income Countries. The* World Bank, Washington DC.

Borensztein, E., J. De Gregorio and J. Wha Lee (1998). "How Does Foreign Direct Investment Affect Economic Growth?", *Journal of International Economics*, 45 : 115–35.

Brambila-Macias, J. and I. Massa (2010). "The global financial crisis and sub-Saharan Africa: The effects of slowing private capital flows on growth", *African Development Review*, 22(3): 366– 377.

Burside, C. and D. Dollar (2000). "Aid, policies, and growth", *American Economic Review*, 90,847–868.

Calvo, G. A., Leiderman, L. and Reinhart, C.M. (1993). "Capital Inflows and Real Exchange Rate Appreciation in Latin America, The Role of External Factors", IMF Staff Papers, Vol.40 (1) March.

Caprio, G. and P. Honohan (1999). "Restoring Banking Stability: Beyond Supervised Capital Requirements", *Journal of Economic Perspectives*, 13: 43– 64.

Chang, R. and A. Velasco (2000). "Banks, Debt Maturity, and Financial Crises", *Journal of International Economics*, 51: 169–94.

Chatterjee, S and S.J. Turnosky (2005). "Foreign Aid and Economic Growth: The Role of Flexible Labour Supply". A Paper Presented at the Annual Conference of the Royal Economic Society in Swansea.

Corbo, Vittonio and Herandez, L. (1994). "Macroeconomic Adjustment to Capital Inflows: Latin American Style versus East Asian Style", World Bank Policy Research WorkingPaper 1377, Nov. 1994, Washington D.C.

Dadush, U., D. Dasgupta and D. Ratha (2000). "The Role of Short-term Debt in Recent Crises", *Finance and Development*, 37 :54–57.

Edwards, S., Diaz, F.G. and Fraga, A.(1999). "Capital Flows to Latin America": in MartinFeldstein (Ed) International Capital Flows, NBER.

Fernandez-Arias, E. and P. J. Montiel (1996). "The Surge in Capital Inflows to Developing Countries: An Analytical Overview", *World Bank Economic Review*, 10: 51–77.

Gelb S., (2005). "South-South Investment: "The Case of Africa in FONDAD", Africa *in the World Economy - The Nationa l, Regional and International Challenges.* The Hague.

GIPC. (2006). "The GIPC Quarterly Report: Third Quarter Investment Report", Ghanain Investment Promotion Centre, Volume 2, Issue 3, November 2006.

Global Financial Integrity and AfDB (2013). "Illicit Financial Flows and the Problem of Net Resource Transfers from Africa: 1980-2009", Joint Report by African Development Bank and Global Financial Integrity, May

Grossman, G. and E. Helpman (1991). "*Innovation and Growth in the Global Economy",* MIT Press, Cambridge, Mass.

Gruben, W.C. and Mcleod, D. (1996). "Capital Flows, Savings and Growth in the 1990s", Unpublished manuscript, Federal Reserve Bank of Dallas. Cited in Kamin, S .B. &Wood, P. R.

Gunther, Jeffery W., Moore, Robert B., and Short, Genie D. (1996). "Mexican Banks and the 1994 Peso Crisis: The Importance of Initial Conditions", *North American Journal of Economics and Finance* 7, no. 2, 125-33.

Hou, Z., J. Keane., J. Kennan., I. Massa and D. W. Velde (2013). "The Changing Nature of Private Capital Flows to sub-Saharan Africa", *ODI research Working Paper 376.* Overseas Development Institute, London.

Iyoha, M.A (2001), "Review of EU Aid and Strategies for Africa's Development". Processed.

Iyoha, M.A (2004). "Macoreconomics: theory and Policy", Benin City, Mindex Publishing

Kamin, S .B. and Wood, P. R. (1998). "Capital inflows, Financial Intermediation, and Aggregate Demand: Empirical evidence from Mexico and other Pacific Basin Countries", in R.Glick. (Ed).

Khan, M. S. and Reinhart, C. M. (1995). "Capital Flows in the APEC Region" IMFOccasional Paper. March 1995, Washington D.C.

Kohli, R (2001). "Capital Flows and Their Macroeconomic Effects in India", Working Paper No. 64. Indian Council for Research on International Economic Relations

MacDougall, G. D. (1960). "The Benefits and Costs of Private Investment from Abroad: A Theoretical Analysis", *Economic Record* (March), 13–35.

Massa, I., Keane, J. and Kennan, J. (2012). "The euro zone crisis and developing countries", ODI Working Paper 345. London: Overseas Development Institute.

Mlachila, M. and Takebe, M. (2011). "FDI from BRICs to LICs: Emerging Growth Driver?", IMF Working Paper no. 11/1 78. Washington DC: International Monetary Fund, African Department.

Mhlanga, N and R. D. Christy (2006). "Capital Flows to Africa: An Analysis of the Structure of Official and Private Capital Flows", Working Paper 2006-19, Department of Applied Economics and Management Cornell University, Ithaca, New York, USA.

Ndikumana, L. and S. Verick (2008). "The Linkages between FDI and Domestic Investment: Unravelling the Developmental Impact of Foreign Investment in Sub-Saharan Africa", IZA Working Paper No. 3296.

Obadan, M.I. (2004). "Foreign Capital Flows and External Debt, Perspective on Nigeria and the LDCs Group, Lagos, Broadway Press Ltd.

Ogunleye, E.K. (2009). "Exchange Rate Volatility and Foreign Direct Investment in Sub-Saharan Africa: Evidence from Nigeria and South Africa", in A. Adenikiju, A. Busari and S. Olofin (eds.), *Applied Econometrics and Macroeconometric Modelling in Nigeria*, Ibadan University Press, Ibadan.

Risk Africa Magazine, 2013. http://www.riskafrica.com/illicit-capital-outflows-from-africa-exceed-development-aid-inflows/, October 12.

UNCTAD (1998). World Investment Report. *Trends and Determinants*. Geneva, Switzerland: United Nations Publications.

UNCTAD (2004). World Investment Report. *The Shift towards Services*. Geneva, Switzerland: United Nations Publications.

UNCTAD (2009). World Investment Report. *TNCs, Agricultural Production and Development*, United Nations, New York and Geneva.

UNCTAD (2013. "The rise of BRICS FDI and Africa", Global Investment Trends Monitor no. 12. Geneva: United Nations Conference on Trade and Development.

White H., (2003). Trends in the Volume and Allocation of Official Flows from Donor Countries. International Review of Economics and Finance, 13, 233-44.

World Bank (2001). Global Development Finance 2001. The World Bank, Washington DC.

World Bank. (2004). "Patterns of Africa-Asia Trade and Investment: Potential for Ownership and Partnership", Washington D.C

Empirical Examination of Foreign Capital Flows and Growth Nexus in Emerging Economies

Bassem Kamar*

I. Introduction

The free movement of capital between nations is supposed to be beneficial to all countries according to most theories of international economics. More specifically, it is expected to generate a more efficient allocation of resources that would increase productivity and economic growth in both recipient and source countries.

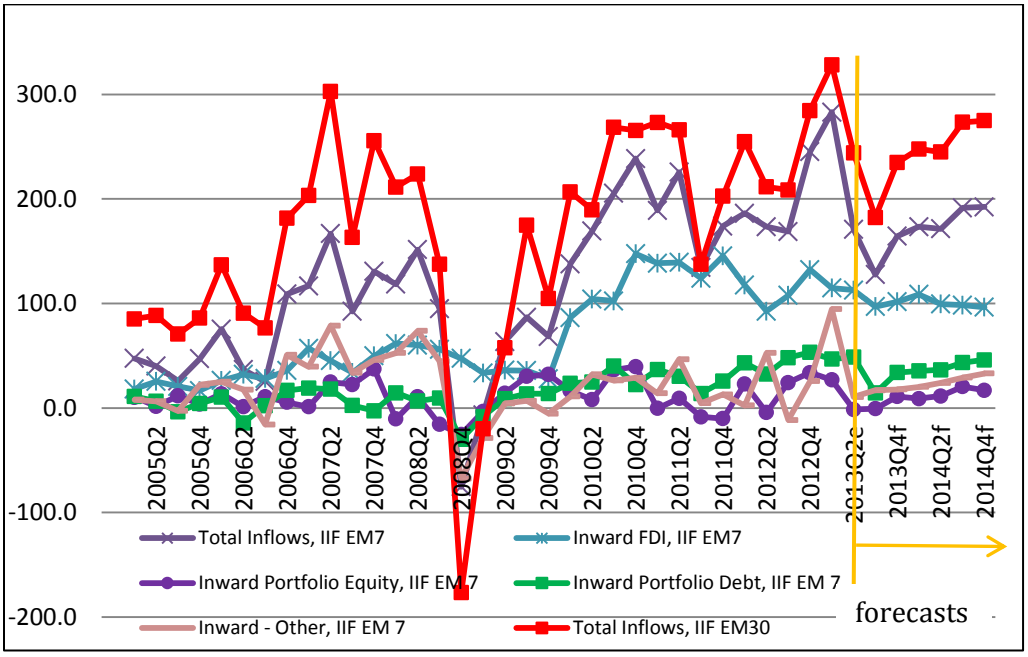
As summarized by Reinhart (2005), the recipient country can use the inflows to finance investments and stimulate economic growth. At the same time, the investing country can use it to increase its own welfare too because the capital outflows can smooth out the consumption path and achieve even higher consumption in the long-run by hedging against risk through international diversification.

Some theoretical studies have suggested that the gains from capital openness go beyond simply providing access to foreign capital; it can also come from the decrease of domestic distortions in economic reforms. Further empirical literature on this issue has looked into an extensive set of potential dimensions, such as the depth and development of the financial sector, the competitiveness of the country's products and services, the quality of institutions, the sequence of reforms, and the exact composition of the capital flows.

As the literature review will reveal, there is a very significant amount of papers that have analysed the effects of capital flows on growth. Yet, there is ultimately little consensus on the subject, justifying further investigations. Researchers and policymakers alike have come to recognise that large capital flows can create important policy challenges for emerging market economies (EMEs), and those have recently come to the forefront again with the sudden stop in the midst of the 2007/2008 Global financial crisis.

* Bassem Kamar is a Professor and Director of Research Dissemination at the International University of Monaco. He is also a training expert at the International Monetary Fund (IMF). The usual disclaimer applies.

Figure 1: Capital Inflows to Emerging Market Economies (US$ billion)



Source: Institute of International Finance (IIF); "IIF EM 7" = BRIC, Turkey, Mexico and Indonesia, "IIF EM 30" = full IIF sample

Today, capital flows to EMEs remain highly volatile (see Figure 1). According to the latest data provided by the Institute of International Finance (IIF), though flows have picked up after the sharp decline during the global financial crises, they nevertheless remain erratic, responding very sensitively to the deteriorating economic fundamentals in the developing world and to the market expectations regarding the changes in the US monetary policy.

Thus, the purpose of this paper is to analyse the effect of foreign capital flows on economic performance in three ways. First, it analyzes empirically the direct effect of capital account liberalisation on growth; second, it continues to explore the subject by testing one of the indirect effects of capital flows on economic welfare, namely their influence on competitiveness; and finally, it breaks down the issue further by decomposing capital flows into their specific elements – FDI, portfolio investments, aid, debt, remittances and tests their effect on competitiveness.

Against this background, the paper is structured as follows. Following the introduction, Section 11 provided the critical review of the literature. Section 111 exposed the econometric methodology, while Section 1V presented and analysed the empirical results.

II. Literature Review

The theoretical rationale for capital account liberalisation is based primarily on the argument that free capital mobility promotes an efficient global allocation of savings and a better diversification of risk, hence greater economic growth and welfare (Fischer, 1998). The view that free capital mobility enhances economic welfare is appealing to many economists, but there has been surprisingly little empirical evidence to either support or refute conclusively such a view. An opposing view has held that there is a considerable information asymmetry in international financial markets, so that free capital mobility – especially when significant domestic distortions exist – does not necessarily lead to an optimal allocation of resources (Stiglitz, 2000 and 2004).

Within the broader debate over the increasing importance of international capital flows in the world economy, some have alleged that the International Monetary Fund (IMF) has encouraged member countries to liberalise their capital accounts prematurely without ensuring that adequate institutions and prudential regulations were in place (Williamson, 1990). Others argue that rapid liberalisation, with insufficient attention to sequencing and establishing the appropriate preconditions, had been responsible for most of the financial instability and economic distress experienced by many emerging market countries (Desai, 2003; Stiglitz, 2000, 2002 and 2004; Wade, 1998-99; and Wade and Veneroso, 1998).

This paper is based on three complementary studies on the effects of free capital flows. The first study concentrates mainly on the evaluation of the impact of capital openness on economic growth through the use of empirical studies inspired by Quinn (1997), Gourinchas and Jeanne (2002), Edison and Warnock (2003), Prasad et al. (2003), Klein (2005), Henry (2007) and Quinn and Toyoda (2008). The second study intends to assess the impact the capital account liberalisation on the competitiveness of the country using Behavioral Exchange Rate models (Kim et al. (2004)). The third study decomposes the capital flows into their components and tests each individual flow's effect on competitiveness, taking also into account the possible regional effects.

II.1 Capital Account Liberalisation and Economic Growth

Economic theory suggests a number of benefits that may accompany capital account liberalisation. Edwards (2001) suggested that capital account liberalisation had the potential to lower the cost of capital, increase risk sharing, raise financial market liquidity, and improve the efficiency of the financial sector of the economy. These changes introduced by liberalisation could increase

investment, change the type of investments undertaken, increase productivity and accelerate economic growth.

However, early empirical studies were generally not supportive of a link between capital account liberalisation and growth. Alesina, Grilli and Milesi-Ferretti (1994), showed that growth effects of capital account liberalisation were small and insignificant. Considering a larger cross section of 61 countries Grilli and Millesi-Feretti (1995) found that there was no relation between capital account liberalisation and economic growth.

Rodrik (1998) also cast doubts on the effect of capital account liberalisation on growth. Using a sample of 100 developed and developing countries, he found no significant effect of capital account liberalisation on economic growth over the period 1975 to 1989. Contrary to the above authors, Quinn (1997) identified a positive link between capital account liberalisation and economic growth. He examined the impact of both capital account openness and the change in openness on economic growth in a sample of 64 countries over 1960-1989. Quinn`s empirical results showed that capital account liberalisation had a strongly significant effect on the growth of real per capita GDP.

Examining the impact of Quinn`s measure of capital account openness on three different measures of economic growth (the average annual growth of real GDP per capita, capital stock per worker, and output per worker), Krol (2001) provided evidence that capital account liberalisation promoted long-run economic growth. Similar to Krol (2001), Edwards (2001) also adopted a Quinn index of capital account liberalisation. Using weighted least squares for 60 countries, he concluded that countries with more open capital account performed better than countries with lower capital account liberalisation.

Analysing the stock market liberalisation in 18 emerging markets, Henry (2003) found that stock market capitalisation decreased the cost of capital, which led to greater investment and increased per worker output, at least in the immediate aftermath of liberalisation. In the light of these divergent findings, scholars considered the possibility that the effects of liberalisation were contingent on the presence or absence of other variables (Quinn and Toyoda, 2008).

Kray (1998) was one of the first studies that examined whether capital account liberalisation influences growth under economic preconditions. He used a variety of measures of capital account openness including Quinn`s capital account liberalisation and a measure based on actual net capital flows. He did not find a

significant effect unless these indicators interacted with the average balance of the financial account. Klein and Olivei (1999) show that capital account liberalisation promotes economic growth, but only for advanced industrial nations.

Edwards (2001) supported the view that the growth effects of capital account liberalisation depend on the economic preconditions. Using a sample of about 60 countries, and considering the Quinn index as a measure of capital account liberalisation, he provided evidence that an open capital account positively affected growth only after a country has achieved a certain degree of economic development.

Edwards` methodology was scrutinised in Arteta, Eichengreen and Wyplosz (2001). Their estimations suggested that Edwards` results might be sensitive to a variety of factors, and, therefore, they concluded that there was little evidence that capital account liberalisation had more favourable effects in high income and middle-income countries than in poor developing countries. They also found that there was some evidence that the positive growth effects of liberalisation were stronger in countries with strong institutions, as measured by standard indicators of the rule of law, but only weak evidence that the benefits grew with a country's financial depth and development. Finally, they found that while trade openness had a positive impact on growth, the effect of capital account liberalisation was not contingent on trade openness. Rather, it was contingent on the absence of a large black market premium. In the presence of such imbalances, capital account liberalisation was as likely to hurt as to help.

To the contrary, the study of Edison et al. (2004) supported the evidence of regional heterogeneity on the growth effect of capital account liberalisation. They included three different measures of capital account liberalisation for the period of 1976-1995. Their estimates showed that capital account liberalisation promoted economic growth in middle-income countries. However, this effect was neutral on both rich and poor countries.

Klein (2005) had developed a theoretical model that captured the link between institutional quality and the responsiveness of growth to capital account liberalisation through the effect of institutional quality on the return to savings. This model demonstrated the possibility of an inverted U-shaped relationship between the responsiveness of growth to capital account liberalisation and institutional quality. The empirical results of Klein (2005) were consistent with the theoretical model. Using three empirical specifications (OLS, instrumental variables and the non-linear least squares estimates) for a panel of 71 countries over 1976 to 1996

he found that the effect of capital account openness on growth tended to be significant for about one-quarter of the countries in the sample, and these countries tended to be the ones with better (though not the best) institutions. Klein (2005) opined that there was a strong correlation between institutional quality and per capita income, and the countries that tended to benefit significantly from capital account liberalisation were mostly upper-middle-income countries.

Eichengreen and Leblang (2002) examined the growth effect of capital account liberalisation in the presence of international crisis over different periods. Using two different data sets (a panel of historical data for 21 countries covering the period 1880-1997, and a panel covering 47 countries over the period 1975-1997) they found strong evidence that the impact of capital account liberalisation on growth was more likely to be positive when the domestic financial markets were well developed and regulated, and the operations of the international financial system were smooth and stable. However, it was more likely to be negative when domestic and international markets were subject to crises. They demonstrated that while crises depressed economic growth when the capital account is open, controls neutralised this effect. Controlling for sample selection bias (differences in terms of macroeconomic stability, financial and institutional development), Glick, Guo and Hutchison (2006) provided the opposite conclusion. They found that capital account liberalisation reduced countries' vulnerabilities to currency crisis.

Bekaert, Harvey and Lundblad (2005) had also sustained the view of heterogeneity of the growth effect. They concluded that not all countries experienced the same increment to growth after equity market liberalisations. Their findings showed that the effects of capital account liberalisation on economic growth were enhanced by higher levels of financial development, good institutions, and investor protection.

Quinn and Toyoda (2008) had offered a new dataset that contained more precise de jure measures of capital account openness for a wide sample of countries (94) for up to 50 years (1950 to 1999). Using this new indicator to replicate prior studies in the literature (Grilli and Milessi-Feretti, 1995; Quinn, 1997; Edwards, 2001; Edison et al.; 2004; and Bakaert, Harvey and Luandblad, 2005), they found that part of the conflicting results appeared to have been derived either from measurement errors or from estimations done on differing periods. They found that when this indicator was entered into six different analyses, it had a positive and significant coefficient.

They had also used pooled-time series, cross sectional OLS and system GMM estimators to examine economic growth ratios for 1955-2004 period. Their results showed that capital account liberalisation had a positive association with growth in both developed and emerging market nations. They further provided evidence that equity market liberalisation has an independent effect on economic growth. From interaction terms between capital account liberalisation and other finance or political economy variables, they have not found robust effects on economic growth.

Illustrating the fundamental predictions of the neoclassical growth model about the impact of capital account liberalisation on developing countries, Henry (2006) found that this model did not predict that countries with open capital account wound have higher long-run growth rates than countries with closed capital accounts. Yet, Henry and Sasson's (2007) analysis showed that capital account liberalisation had a positive and significant impact on both productivity and real wage growth.

The intended contribution of Bussière and Fratzcher (2008) in this trend of literature was to test the presence of an inter-temporal trade-off between growth and financial liberalisation. Both de jure[5] and de facto[6] measures of capital account liberalisation were adopted for a set of 45 countries over 1980-2002. Using different techniques of estimations (the difference GMM, the country fixed effects and a pooled estimator), they found that countries tend to grow more quickly immediately after liberalisation and slower in the medium term. More specifically, they showed that countries that gain in the initial five-year period after liberalisation were those that experience an investment boom, had large portfolio investment and debt inflows and had larger current account deficits. Bussière and Fratzcher (2008) concluded that the quality of institutions as well as the size and composition of capital inflows were two key determinants that allowed some countries to benefit from financial liberalisation in the medium to long-run.

II.2 Capital Account Liberalisation and the Exchange Rate

Capital flows induced by capital account liberalisation are an important determinant of the possible loss of competitiveness of EMEs. Salter (1959), Swan (1960), Corden (1960) and Dornbusch (1974) paradigm served as the theoretical underpinning to test empirically the incidence of capital flows on the REER in emerging economies. The model explained how a surge in capital flows would

[5] For de jure measure of capital account liberalisation, Bussière and Fratzsher (2008) have used the data from Kaminsky and Schmuckler (2003).

[6] For de facto openness measures the paper of Bussière and Fratzsher (2008) look at different flow variables, four based on FDI and portfolio flows, two proxies related to the size and composition of foreign debt and trade openness.

generate an appreciation of the REER (Corbo and Fisher, 1995). A rise in capital flows increases real wages, which in turn, bring out a rise in domestic demand and hence in prices of non-tradable goods relative to tradable goods that are exogenously priced. Since the REER is generally defined as the value of domestic prices of non-tradable goods relative to prices of tradable goods, a rise in the relative price of non-tradable goods corresponds to a real exchange appreciation (spending effect). This is indicative of the presence of "Dutch Disease" effects (Corden and Neary, 1982), which describe the side effect of natural-resource booms or increases in capital flows on the competitiveness of export-oriented and import-competing sectors.

The empirical literature in this area is quite limited, with few works published on the effects of capital account liberalisation on the exchange rate and competitiveness of an economy (for a comprehensive analysis of the impact of capital flows on competitiveness, refer to Bakardzhieva et. al, 2010). Most of the earlier research focused on the nature and processes surrounding capital account liberalisation and its consequences, as already underlined in the previous section.

However, Altar et al. (2005) examined the impact of capital account liberalisation on the exchange rate and competitiveness of the Romanian economy. The variables used were the productivity differential between Romania and the European Union, the proportion of net foreign assets to GDP, and the degree of openness of the Romanian economy. These variables were formulated in a model using the Johansen cointegration technique to determine the long-run equilibrium relation between the selected variables and the exchange rate. The results showed that an increase in productivity of the tradable sector yielded an appreciation of the real effective exchange rate, and a growth in the net foreign assets to GDP of the banking system caused a long-term depreciation of the real effective exchange rate.

Greenidge and Morgan (2008) investigated the economic competitiveness in Barbados, Jamaica, and Trinidad and Tobago by examining the impact of capital account liberalisation on the real effective exchange rate, over the period 1980Q1 to 2007Q4. They estimated a model of the real effective exchange rate, which also included an appropriate measure of capital account liberalisation. The results showed that the direct effects of capital account liberalisation on economic competitiveness varied across the countries. While capital account liberalisation had a positive impact on competitiveness in Tobago and Barbados, in Jamaica a significant and negative impact on competitiveness was observed. The paper found that the paper is that the direct

effects of capital account liberalisation on economic competitiveness varied across the countries and appeared to reflect the pace at which such policies were implemented. Barbados took a very gradual approach to the liberalisation process, Trinidad went a bit faster, while in Jamaica, the pace of liberalisation was very rapid and the domestic financial sector did not prepared for it.

Examining the macroeconomic effects of capital account liberalisation in Korea, Kim and Christian (2004) found that capital account liberalisation substantially changed the nature and composition of capital flows, and appreciated the nominal and real exchange rates. Consumption and investment increased (due to expanded credit availability), which in turn raised the real GDP. The increase in income and the exchange rate appreciation led to deterioration of the current account. These effects were consistent with the predictions of boom-bust cycle models.

Patnaik and Shah (2009) examined structural change in the Chinese and Indian de facto exchange rate regimes, focusing on the period from 1998 to 2007. China and India had both sought control over the exchange rate in order to maintain export competitiveness, manage current account balance, and pursue independent monetary policy. With increasing capital account openness, exchange rate inflexibility had been associated with significant monetary policy distortions. In both countries, the short-term rate expressed in real terms dropped and achieved very low values, in the unprecedented business cycle expansion of the early 2000s. In the Indian case, difficulties of sterilisation led to a modification of the exchange rate regime, moving towards greater flexibility. In China, in contrast, the exchange rate regime did not change.

II.3. Different Capital Flows and the Real Exchange Rate

Studies have tried to assess the impact of certain types of capital flows on the REER as a measure of competitiveness. Some of them distinguish FDI from other capital flows, some have focused on specific foreign exchange flows, such as aid and remittances, and some have interacted capital flows with economic policy variables. Other flows, such as portfolio investments, other investments, and income, have witnessed very limited or no attention.

Theoretically, one can argue that the impact of capital flows on REER depends on the types of expenditure each flow is tied to. While an *a priori* assumption could be that capital flows could lead to REER appreciation; this might actually not be the case if the flows are tied to particular spending in certain countries. The review of the literature reveal several cases in which the impact of different types of capital flows on REER is contradictory.

In one hand, if FDI are used to import new machines and equipment, they might have limited or no effect on REER. On the other hand, if FDI flows are biased towards tradable goods, they might tend to depreciate the REER. Athukorala and Rajapatirana (2003), in a study on the impact of FDI versus other flows, applied to countries in Latin America and South and East Asia and established that non-FDI capital flows led to real exchange rate appreciation (to a far greater degree in Latin America than in East Asia). Lartey (2007) and Elbadawi and Soto (1994) found opposite results on Sub-Saharan Africa and Chile, respectively, where FDI was found to cause REER to appreciate.

Elbadawi and Soto (1994 and 1997) were among the few who studied the impact of portfolio investment and other investments (debt) flows on REER. They disaggregated capital flows into four components: short-term capital flows, long-term capital flows, portfolio investment, and foreign direct investment. They found that short-term capital flows and portfolio investment had no, or only transitory, effect on the equilibrium real exchange rate in Chile, Cote d'Ivoire, Ghana, Mali, and Mexico, but long-term capital flows and foreign direct investment had a significant appreciating effect.

To our knowledge, the analysis of the relation between REER and income flows appearing in the current account had been negligible. Many developing countries, such as the GCC and China, are accumulating reserves and are creating large wealth funds to manage their accumulated surpluses. The return from these wealth-funds' investments abroad appears in the income account of the balance of payments. As current account surpluses in these countries increase, wealth-fund investments grow and the income flows rise. The impact of this rise in income on the REER depended on whether these revenues were tied to local or foreign goods consumption and on how such flows would affect the price of non-tradables. The impact also depended on possible nominal exchange rate appreciation, which could be subject to the existing exchange rate regime and to the sterilisation of exchange rate interventions (in case of fixed regimes).

While the theoretical impact of remittances strongly points towards the appreciation of REER, the empirical results are sometimes contradictory too. In theory, an increase in remittances is equivalent to a (permanent) increase in households' income. If non-tradables are normal goods, this positive income shock would result in extra spending on both tradables and non-tradables. Since most developing countries are price-takers in international markets, a growing demand does not raise prices of tradables. However, since the prices of non-tradables are determined in the domestic economy, they increase owing to

additional demand, the so-called 'spending effect.' There is also a 'resource movement effect' that favours the more profitable non-tradable sector (because of the price increase) at the expense of tradable goods production. It could also be argued that rather than being altruistically motivated, remittances are driven by selfish motivations, including exploitation of investment opportunities. Another possible scenario is that profit-driven private capital flows that co-move with remittances represent the driving force behind the positive relationship between remittances and the real exchange rate (Lartey et al., 2008).

The pressure of remittances on the real exchange rate will be somewhat mitigated if (i) there are productivity gains, particularly in the non-tradable sector that offset the effects of the increasing demand; (ii) governments implement policies that aim at stimulating labour demand by reducing labour costs; and (iii) a large share of the remittances is channeled to the external sector via additional imports so that the price effect on non-tradable goods is limited. Yet, in principle, it seems difficult to justify that these effects are enough to mitigate appreciating pressures (López et al., 2007).

Several empirical papers confirm the presence of a large "spending effect" that causes a rise in relative prices of non-tradables and REER appreciation, producing a Dutch Disease effect. Amuedo-Dorantes and Pozo (2004) and Lopez et al. (2007) found the transfers of workers' remittances led to an appreciation of the REER in the Latin American countries. Lartey et al. (2008) showed that an increased level of remittances in developing countries could lead to REER appreciation. The study also found that the Dutch Disease effect was more acute in the presence of fixed exchange rate regimes. Applying the study to individual countries, Bourdet et al. (2006) on Cap Verde and White et al. (1992) also confirmed these results on Cape Verde and Sri Lanka, respectively.

On another interesting vein, Rajan and Subramanian (2005) established that remittances had no effects on external competitiveness. They argued that remittance flows were mainly directed towards unskilled-labour activities and the tradable sectors, such as manufacturing.

On aid flow, an analysis by Rajan and Subramanian (2005) concluded that aid flows had systematic adverse effects on a country's competitiveness, as reflected in a decline in the share of labour intensive and tradable industries in the manufacturing sector. Their evidence suggested that these effects stemmed from the real exchange rate overvaluation caused by aid flows. Also, in a multi-country setting with a panel study of 62 developing countries, Elbadawi (1999) established that a 10 per cent increase in aid flows contributed to a rise of 1 per

cent in the REER. Along the same line, Prati and Tressel (2006) found that foreign aid flows had a negative impact on exports of poor countries as implied by the Dutch Disease theory. Adenauer and Vagassky (1998) also found that aid contributed substantially to real exchange appreciation in the countries of the West African Economic and Monetary Union.

More recently, Arellano et al. (2009) established that higher aid flows were associated with a higher relative price of non-tradables and thus a real appreciation. In a study covering 73 aid-dependent countries, they explained that aid increased the availability of tradables relative to non-tradables, raising the equilibrium price of the latter. At the same time, it pushed up the returns to capital, the factor assumed to be used intensively in non-tradable production, thus increasing the relative cost of producing non-tradables. Yet, they also emphasised that no real appreciation would occur if the capital stock was freely interchangeable between sectors.

Several individual country studies corroborate the theoretical impact of aid. White and Wignaraja (1992) concluded that aid flows had caused REER appreciation in Sri-Lanka. Opoku-Afary et al. (2004) examined the case of Ghana using vector autoregression (VAR) econometric modeling and established no short-run effect, but the impact of aid in the long run was strong and conducive to real exchange appreciation. Bourdet and Falck (2006) opined that aid flows in the Cape Verde Islands caused some REER appreciation with an elasticity of less than 10 per cent.

Gupta et al. (2005) demonstrated that the impact of aid flows on the REER depended on the uses of aid, its contents, and its assumed policy response. If foreign aid was spent on imports, there is no effect on the REER. However, if the aid receipts were sold by the government to the central bank, the impact on REER would depend on how much the central bank would sell of the aid-related foreign exchange in the domestic market, and on how much of this amount of local currency counterpart was spent domestically.

Adam and Bevan (2004) and Nkusu (2004) pointed out that the more elastic the supply responsed, the smaller the real exchange appreciation needed, which emphasised the mitigating role of excess output capacity. Atingi-Ego (2005) confirmed the above argument in finding that excess capacity in the non-traded sector of some African countries limited the potential of price increases stemming from aid flows. Additionally, Adam and Bevan (2004) demonstrated that the reaction of the REER to aid flows depended on the variation of the composition of aid expenditures.

IMF (2005) reported on an absence of appreciation of the exchange rate in five African countries, following the surge of aid flows. The study concluded that part of the reason that real appreciation (and consequently, the Dutch disease) was not observed in those cases was precisely because authorities were concerned with competitiveness and restricted aid absorption accordingly.

For a large sample of developing countries, Kang et al. (2007) established that aid flows had a negative effect on exports linked to REER overvaluation for half the sample and a positive impact on growth and exports for the other half of the sample. Fielding (2007) also reached the same mixed results when using a conditional VAR for ten Pacific economies. Elbadawi et al. (2008), using a behavioural real exchange model on a sample of 83 countries between 1970 and 2004, found that although post-conflict countries received larger aid flows, they exhibited moderate REER overvaluation.

Both Falck (1997) and Nyomi (1998) examined the impact of aid flows on the REER in Tanzania. While Falck's used ordinary least squares (OLS) estimation and established a real exchange appreciation, Nyomi's employed error correction model and found that foreign aid generates depreciation in the REER.

The literature review on our three research questions led us to conclude that there is no consensus on the causal relationships between capital flows and growth directly or between capital flows and growth indirectly through competitiveness. Thus, we found that we could add value to the existing knowledge by carrying out an empirical analysis of those relationships based on the methodologies and data samples described in Section 111.

III. Econometric Methodology

This Section empirically, our aim is to investigate the effect of capital flows on economic growth and competitiveness (real effective exchange rate) using a panel data techniques.

III.1 Data and Issues

The first two sets of tests are carried out on a panel comprised of the countries in the MENA region for a period from 1984 to 2008. The last set of tests covers a much broader geographical area with 57 developing countries from Africa, Asia, Latin America, Central and Eastern Europe, the Middle East and the Gulf Cooperation Council over the period 1980-2007.

For the capital openness-growth nexus, Quinn et al. (2008) argued that measurement error in capital account openness indicators, joined with clustering

and collinearity among other independent variables, could lead to inconsistent results, and might contribute to inflated standard errors and biased coefficient estimates. Consequently, we employ alternative indicators of capital account liberalisation. The separate use of two indicators represents an effort to assess the robustness of the results.

A fundamental problem is the choice of indicators that allow for a better characterization of the degree of openness of the capital account. The most popular source data on this subject is the IMF Annual Report on Exchange Arrangement and Exchange Restriction (AREAR). Most authors use a binary variable, IMFB, on the existence /absence of restrictions on the capital account taken from the AREAR data[7].

The problems with using the IMFB indicator are well known, since there are a variety of ways and grades in which the capital account can be restricted. Besides, because of data limitation, we consider alternative continuous indicators of the capital account openness that include other components of external policies for which data is available in the AREAR database. The first indicator was developed by Chinn and Ito (2006). They created a measure known as KAOPEN based on principal component analysis of three financial current binary indicators in AREAR: multiple exchange rates, current account, and surrender of exports proceeds; and the five-year average of the IMFB (called SHARE, as also in Klein (2003)). This index was available for 181 developed and developing countries for the period 1970-2005. It ranged from -2 in case of most controlled to 2.5 in case of most liberalised. Data for FDI are taken from the IMF's Balance of Payments Statistics database.

III.2 Capital Account Liberalisation and Economic Growth

To assess the relationship between capital account liberalisation and economic growth in a dynamic panel, the study employed the System GMM estimator proposed by Arellano and Bover (1995) and Blundell and Bond (1998). The basic regression takes the form:

$$GROWTH_{it} = \alpha_i + \beta CAL_{it} + \gamma X_{it} + \mu_{it} \qquad (1)$$

where:

- GROWTH was our dependent variable, which equals real per capita GDP growth.
- Capital account liberalisation was proxied by IMFB and KAOPEN;

[7] For a recent survey about the limitations in measurement of capital account openness, see Quinn et al. (2008).

- X represented a matrix of control variables to assess the relationship between economic growth and capital account liberalisation. Other potential growth determinants such as economic, financial, institutional and policy environments were controlled for;
- Initial income (RGDPG) equals the logarithm of real per capita GDP in the initial year of the period under consideration;
- As indicator of financial intermediary, we considered CPS, which equals the logarithm of credit to the private sector by deposit money banks and other financial institutions, as a share of GDP. The second indicator of financial intermediary, LIQ, measured the amount of liquid liabilities of the financial system, including liabilities of banks, central banks and other financial intermediaries.
- Macroeconomic stability was proxied with inflation, which equals the growth rate of consumer price index (INF);
- Trade Openness: The trade openness (TO) is proxied by the share of exports and imports to GDP.
- Government Consumption (GC) variable was collected from the WDI and equal to government wages bills and supplies and services; and
- Data on institutional development (INST) was assembled by the International Country Risk Guide, published by the PRS group. Following Knack and Keefer (1995), three PRS indicators were used to measure the overall institutional environment, namely (i) corruption, (ii) rule of law, and (iii) bureaucratic quality.

III.3 Capital Account Liberalisation and Real Exchange Rate

We examine the impact of capital account liberalisation on competitiveness (measured by the Real Effective Exchange Rate).

First, we define the Real Exchange Rate (RER) as: $\frac{P}{EP^*}$, where:

- P= Domestic price index, expressed by the consumer price index (as it has an important weight of non-exchangeable goods);
- P* = Foreign price index, expressed by the consumer price index of the U.S. (as it has an important weight of exchangeable goods); and
- E= Nominal exchange rate, defined as the average price of dollar in local currency. An increase (decrease) of the RER means a real appreciation (depreciation) of the relevant currency.

We use annual data to construct the real effective exchange rate index for country *i* at period *t*, TCREF*it*, as the nominal exchange rate index multiplied by the relative price of the rest of the world (in U.S. dollars) to the domestic price index,

$$TCRF_{i,t} = \frac{\frac{P_{it}}{P_{i0}}}{\left[\frac{E_{it}}{E_{i0}}\right]\prod_{k=1}^{n}\left[\frac{P^*_{kt}}{P^*_{k0}}\frac{E_{k0}}{E_{kt}}\right]^{wk}} \quad (2)$$

- E*it* and P*it* are nominal exchange rate and consumer price index, respectively, of the country *i*, in period *t*;
- E*kt* and P*kt* are nominal exchange rate and consumer price index, respectively, of *k*- commercial partners, in period *t*;
- Price level at time *0* represents the base period of our index numbers; and
- *Wk*, the weights, are computed as the ratio of the bilateral trade flows of country *i* to the trade-flows of its main commercial partners.

Explanatory Variables:

- The logarithm of real GDP per capita (RGDPG);
- The logarithm of government consumption (GC);
- The trade openness (TO) as the ratio of total imports and exports on the total domestic expenditure;
- Capital Account Liberalisation (CAL) described above;
- Financial Development Index: LIQ as described above; and
- Currency Crises is a dummy variable equal 1 in time of currency or bank crisis and 0 otherwise (BANKCURR).

Our baseline model has the following specification:

$$y = \alpha_{it} + \beta X_{it} + \gamma CAL_{it} + \delta Z_{it} + \varepsilon_t \quad (3)$$

Where y represents the REER; X_{it} is the vector of control variables; CAL_{it} represents the measures of capital account liberalisation, while Z_{it} represents the matrix of control variables.

III.4 Different Capital Flows and Real Exchange Rate

The linear dynamic panel data equation is specified as follows:

$$LREER_{it} = \alpha + \gamma LREER_{it-1} + \beta FECFLOWS_{it} + \phi X_{it} + \eta_i + \varepsilon_{it}\ , \quad (4)$$

where LREER is the log of the real effective exchange rate of country *i* in period *t*, $FECFLOWS_{it}$ is a vector of foreign exchange and capital flows, X_{it} is a vector of contemporaneous control variables, η_i denotes a full set of country effects and ε_{it} is the classic error term, *i* refers to the country and *t* refers to time.

The alternative specifications use the following variables instead for FECFLOWS:

- NKF = Net Capital Flows = Balance of goods and services [- (Exports - Imports) / GDP] -
  Change in Gross international reserves (including gold) / GDP

- FDI = Foreign Direct investments / GDP
- PORT = Portfolio investments / GDP
- DEBT = Other Investments (from Financial Account) / GDP
- INCOME = Income (from Current Account)/ GDP
- AID = Official unrequited transfers (from Current Account) / GDP
- REMIT = Other unrequited transfers (from Current Account) / GDP

The control variables are defined as follows:

- GCON = Public Consumption Expenditure / GDP
- NGDP = Nominal GDP per Capita
- TOT = Price of Exports to Price of Imports (Index 2000=1)
- OPEN = (Imports + Exports) / GDP
- Alternative OPEN = Imports / GDP

III.5 Econometric Framework

The study employed Dynamic Panel System GMM estimator proposed by Arellano and Bover (1995) and Blundell and Bond (1998). The traditional dynamic panel data model is specified as follows:

$$y_{i,t} = \alpha y_{it-1} + X'_{it}\beta + \vartheta_i + \varepsilon_{it} \quad (5)$$

where *y* is the endogenous variable, X represents the set of explanatory variables, other than lagged endogenous variable and including indicators of stock market and bank development, υ is an unobserved country-specific effect, ε is the error term, and the subscripts *i* and *t* represent the country and time period, respectively.

Arellano and Bond (1991) proposed to difference equation (5), obtaining:

$$y_{i,t} - y_{it-1} = \alpha\left(y_{it-1} - y_{it-2}\right) + \left(X'_{it} - X'_{it-1}\right)\beta + \varepsilon_{it} - \varepsilon_{it-1} \quad (6)$$

While differencing eliminates the country-specific effect, it introduced a new bias. By construction, the new error term $\varepsilon_{it} - \varepsilon_{i,t-1}$ was correlated with the lagged dependent variable, $y_{i,t-1} - y_{i,t-2}$. Under the assumptions that (a) the error term, ε, was not serially correlated, and (b) the explanatory variables, *X*, were weakly exogenous (i.e., the explanatory variables are assumed to be uncorrelated with future realizations of the error term), Arellano and Bond (1991) proposed the following moment conditions.

$$E\left[y_{i,t-s}\left(\varepsilon_{i,t} - \varepsilon_{i,t-1}\right)\right] = 0 \qquad \text{For } s \geq 2;\ t = 3,\ldots\ldots,T \quad (7)$$

$$E\left[X_{i,t-s}\left(\varepsilon_{i,t} - \varepsilon_{i,t-1}\right)\right] = 0 \qquad \text{For } s \geq 2;\ t = 3,\ldots\ldots,T \quad (8)$$

Using conditions (7) and (8), Arellano and Bond (1991) proposed a two-step GMM estimator, commonly called difference GMM. Although asymptotically consistent, Monte Carlo simulations suggested that the difference GMM estimator displayed large finite sample biases and very low precision in the estimation of the autoregressive parameter, especially when it was close to unity (Blundell and Bond, 1998; Alonso-Borrego and Arellano, 1999).

Blundell and Bond (1998) addressed these shortcomings of the difference GMM estimator by introducing a new estimator called system GMM, which was used in this study.

The estimator combined, within a system, the regression in differences (6) and the regression in levels (5), each with its specific set of instruments. For the equation in levels, the country-specific effect was not eliminated but must be controlled for with the use of instrumental variables. The instruments for the regression in differences remained as described above (i.e. lagged endogenous and exogenous variables previous or equal to *t*-2). For the regression in levels, the instruments were the lagged differences of the endogenous and exogenous variables. For these exogenous variables to be considered appropriate instruments, Blundell and Bond (1998) and Arellano and Bover (1995) set the following additional moment conditions:

$$E[(y_{i,t-s} - y_{i,t-s-1})(\vartheta_i - \varepsilon_{i,t})] = 0 \quad \text{for s = 1} \quad (9)$$

$$E[(X_{i,t-s} - X_{i,t-s-1})(\vartheta_i - \varepsilon_{i,t})] = 0 \quad \text{for s = 1} \quad (10)$$

Thus, we used the moment conditions presented in equations (III)–(VI) and employed the system panel estimator to generate consistent and efficient parameter estimates.

The consistency of the GMM estimator depended on the validity of the assumption that the error terms do not exhibit serial correlation and on the validity of the instruments. To address these issues we used two specification tests suggested by Arellano and Bond (1991), Arellano and Bover (1995), and Blundell and Bond (1998). The first was the Sargan test of over-identifying restrictions, which tested the overall validity of the instruments by analysing the sample analogue of the moment conditions used in the estimation process. The second test examined the hypothesis that the error term ε_{it} was not serially correlated. We tested whether the differenced error term was second-order serially correlated (by construction, the differenced error term is probably first-order serially correlated even if the original error term is not). Failure to reject the null hypotheses of both tests gave support to our model.

IV. Empirical Results

In this section, the results of three empirical tests using panel data techniques were presented.

IV.1 Capital Account Liberalisation

All the econometric results reported the Arellano-Bond test for serial correlation. The values of the test of second order correlation presented no evidence of model misspecification, accepting the null hypothesis of serial correlation in the first-differenced errors of order 2. Besides, system GMM estimators were consistent only if the moment conditions used are valid. Although there was no method to test if the moment conditions were valid, we could test whether the over-identifying moment conditions were valid by implementing the Sargan test (Arellano and Bond, 1991). Table 1 presented strong evidence that the over-identifying restrictions were valid, which confirmed the validity of the instruments, at 5% level of significance.

The finding showed that both measures for capital account liberalisation had a significant positive impact on growth, while banking crisis had a significant negative impact. These results indicate that in the MENA countries, capital account liberalisation strongly contributed to enhancing growth, which was in line with previous research such as Honig (2008) and Quinn et al. (2008). This positive impact could be explained by the fact that the majority of the MENA countries adopted partial capital account liberalisation as explained by Ben Gamra (2009).

While trade openness also had the expected positive impact, both inflation and liquidity had no significant impact on growth. Government consumption had a negative impact on growth, which might be due to its bias towards non-tradable goods. Another explanation could be that government consumption required financing that might lead to the crowding-out of private sector investments. Banking and currency crises also had the expected negative impact on growth in the specifications.

In both equations, all variables kept the same level of significance and almost the same coefficient except the two measures of capital account liberalisation, where the IMFB coefficient showed a stronger positive impact on growth.

From the above results it could be concluded that capital account liberalisation had a positive impact on growth[8].

[8] At least in the MENA region.

Table 1: Capital Openness and Economic Growth (System GMM).

Variables	(1)	(2)	(3)
RGDPG(-1)	-0.108***	-0.124**	-0.139**
KAOPEN	0.00578***	0.00533***	
IMFB			0.0184***
BANKCURR	-0.0157**	-0.0243***	-0.0236***
TRADE	0.0190***	0.0177***	0.0176***
INF	0.0164	-0.0251	-0.0416
GC	-0.065***	- 0.0739***	-0.0745***
CPS	-0.0025		
LIQ		-0.0142*	-0.0119
Constant	-0.0964**	-0.0423	-0.0620
AR(1) Test	Z1= -2.79 p= 0.05	Z1= -7.9 p= 0.01	Z1=-6.21 p= 0.00
AR(2) Test	Z2=1.17 p=0.24	Z2=1.5 p=0.24	Z2= 1.25 p=0.21
Sargan Test	Chi²= 9.49p=1	Chi²= 168.4 p=0.46	Chi²=129.4

*, **, *** estimated coefficients are respectively significant at 10%, 5% and 1%.

IV.2 Capital Liberalisation and Competitiveness

A number of proxies were used to express competitiveness in the economic literature. This paper used the most recurrent indicator - the real effective exchange rate (REER).

Table 2: Capital Openness and Competitiveness System GMM.

Variables	(1)	(2)
REER(-1)	0.842***(0.045)	0.859*** (0.044)
KAOPEN	0.0321**(0.0148)	
CURRCRISIS	-0.114***(0.029)	-0.132***(0.030)
TRADE	-0.176***(0.056)	-0.138**(0.056)
GC	-0.171**(0.071)	-0.149**(0.074)
GDP	0.132**(0.061)	0.126*(0.077)
LIQ	0.166(0.113)	0.114(0.108)
Constant	- 0.569(0.652)	-0.628(0.777)
AR(1) Test AR(2)Test Sargan/Hans	Z_1= -4.93 p= 0.00 Z_2=-0.51 p=.0.62 Chi^2= 13.3 p=0.21	Z_1= -5.01p= 0.00 Z_2=-0.45p=0.66 Chi^2=13.3p=0.35

*, **, *** estimated coefficients are respectively significant at 10%, 5% and 1%.

Table 2 included two equations where the two measures of capital account openness - KAOPEN and IMFB - were included alternatively with the same set of control variables that would theoretically affect competitiveness. These variables included macroeconomic indicators such as trade openness, income, government consumption, liquidity, and a variable, capturing the impact of currency crisis.

Both measures for capital account liberalisation had the expected significant positive impact on competitiveness, which is in line with the Dutch Disease phenomenon and the findings of previous research (see Bakardzhieva et. al, 2010, for a deep analysis of capital flows on competitiveness).

Liquidity seemed to have no significant impact on competitiveness, while currency crisis led to the depreciation of REER and enhanced competitiveness. This is expected as currency crisis usually were characterised by the depreciation of national currency, which in turn depreciated the REER. Both the trade

openness and government consumption had a negative impact on the REER. The negative impact of trade openness joined the general wisdom that trade liberalisation tended to depreciate the REER (Dornbusch, 1974; Edwards, 1994; Khan and Ostry, 1992; Williamson, 1994). The negative impact of government consumption on REER could be due to the fact that in non-industrialised countries, like the ones under investigation in this research, increases in public wages might come from public spending, and government consumption could indirectly depreciate the real exchange rate if the rise in private spending, to the higher wages, fell stronger on tradable than non- tradable goods. Also, an increase in government spending would deteriorate the fiscal balance and is, therefore, liable to put downward pressure on the exchange rate (for a summary of similar findings see Kim and Roubini, 2008, and Kim, 2010).

Finally, income (GDP) had positive impact on REER, harming competitiveness. An increase in income might lead to an increase in consumption, which seemed to be biased toward non-tradable goods and services, leading to REER appreciation.

In both equations, all variables kept the same level of significance except GDP that was only marginally significant in the specification using the IMFB. All variables had almost the same coefficient except the two measures of capital account liberalisation, where the IMFB's coefficient, just like that of GDP growth, showed a strong impact on the appreciation of the REER.

IV.3 Different Capital Flows and Competitiveness

Table 3 reported the results of estimation of equation (4) across various estimators. Columns (1) and (2) showed the results of Within Groups and Pooled OLS estimators, respectively. Column (3) reported results based on system GMM estimates using NKF without the CRISIS variable. Column (4) provided results on system GMM with the CRISIS variable. Column (5) reports results based on system GMM with the different types of flows, including CRISIS.

Table 3: GMM-in System Estimates of the Impact of Capital Flows on REER

Estimator	Pooled OLS	Within Group	Sys1-GMM	Sys2-GMM	Sys3-GMM
Regressors	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
Constant	0.385***	0.719***	0.569	0.104	1.055***
	(0.089)	(0.114)	(0.458)	(0.390)	(0.306)
REER(-1)	0.903***	0.855***	0.791***	0.863***	0.870***
	(0.009)	(0.012)	(0.048)	(0.021)	(0.023)
LNGDP	0.010***	0.099***	0.132***	0.091***	0.095***
	(0.004)	(0.011)	(0.031)	(0.021)	(0.023)
LTOT	0.014	0.005	0.157**	0.177***	-0.047
	(0.015)	(0.019)	(0.075)	(0.075)	(0.086)
LGCON	-0.011	-0.011	0.157**	-0.072*	-0.057*
	(0.011)	(0.019)	(0.075)	(0.037)	(0.035)
LOPEN	0.002	-0.035***	-0.053	-0.048**	-0.044*
	(0.005)	(0.013)	(0.035)	(0.024)	(0.024)-
CRISIS	-0.145***	-0.124***		-0.376***	0.386***
	(0.018)	(0.018)		(0.095)	(0.088)
NKF	0.001**	0.002**	0.006***	0.004***	
	(0.000)	(0.000)	(0.002)	(0.001)	
FDI					0.001
					(0.002)
DEBT					0.001*
					(0.001)
PORT					0.004***
					(0.001)
INCOME					-0.002
					(0.002)
AID					0.002
					(0.002)
REMIT					0.009***
					(0.004)
R^2 Adjusted	0.8736				
R^2 Within		0.8220			
R^2 Between		0.7460			
R^2 Overall		0.7975			
m1 (p-value)			0.002	0.010	0.009
m2 (p-value)			0.643	0.655	0.455
Hansen J test (p-value)			0.319	0.305	0.203
Diff.-in-Hansen (p-value)			0.826	0.418	0.822
Observations	1347		1347	1347	1313
Countries	57		57	57	57
Instruments			57	56	57

Notes: Dependent variable was the Real Effective Exchange Rate. Sys-GMM was the two system GMM estimation. Robust standard errors were reported in "()". The two step estimates were Windmeijer corrected. ***, ** and * referred to levels of significance of 1 percent, 5 percent and 10 percent, respectively. LNGDP was considered predetermined and LTOT endogenous. It was assumed that the other regressors were strictly exogenous. The values reported for the Hansen test were the p-values for the null hypothesis of instrument validity. The Diff Hansen reports the p-value for the validity of additional moment restriction required by the system GMM. The values reported for m1 and m2 are the p-values for first and second order autocorrelation disturbances in the first differences equations.

The results were revealing. The estimated coefficients on lagged dependent variable lied between the two bounds and were positive and significant (close to 1), suggesting the high persistency of real exchange rate and hence, the use of a dynamic specification. The specification tests for the three versions of System-GMM indicated that one could reject the null that the error term in first differences exhibited no second-order serial correlation. The null hypothesis of Hansen J could not be rejected in the three estimations, confirming that the instruments used were not correlated with the errors. The Diff.-in-Hansen test for the validity of the additional instruments required by the System-GMM applied to the three versions of the estimation (a coefficient close to, though lower than, one and the results from the differenced Hansen test gave a support to the implementation of the System-GMM methodology).

The results showed that NKF had a positive impact on REER, which means that an increase in NKF will lead to the appreciation of REER and to a loss of competitiveness, confirming the expected Dutch Disease phenomena. The increase in the terms of trade and income also led to the appreciation of the REER, while the increase in openness and government consumption tended to depreciate REER; enhancing competitiveness. The results of the control variables were in line with the literature on REER determinants.

The second regression specification replaced NKF with the different types of flows, namely FDI, portfolio investments, debt, income, aid, and remittances. The results reported in column (2) of Table 3, emphasised that all capital flows except FDI had a significant positive impact on the REER. The coefficients of debt, portfolio investments, income, aid, and remittances were consistent with the coefficient of NKF reported in column (1).

The fact that FDI had no significant impact on the REER confirmed the intuition that while this type of flow might lead to REER appreciation in the short run when the economy received the flows, its impact was diluted over time as part of the flows could start to leave the country in the form of imports of machinery and other capital goods. Also, the increase in production induced by FDI could lead to downward pressure on prices and to REER depreciation. These results were in line with the findings of Athukorala and Rajapatirana (2003).

Table 4 reported the results of the regression estimations using the System-GMM that examined the impact on REER across the six regions of: (i) the aggregated NKF (column 1); and (ii) each type of capital flows (columns 2 to 7). To assess these relations, we created interaction variables between each capital and foreign exchange flow and each of the six regions. The aim was to identify for

each region how each of the flows affected the behaviour of the REER. In each regression specification (2 to 7), we included the interaction variable between each region and the flow we study, the control variables, and all the other flows aggregated.

For portfolio flows (PORT) in column 4 of Table 4, we included an interaction dummy between each region and portfolio investments, taking the value of 1 for each group of countries and 0 for all other countries. Then, we included the previous control variables, and NKF minus PORT to control for the impact of the other capital flows (aggregated) on the REER.

The autocorrelation tests of second orders *m2* validated the hypothesis of nonutocorrelation of the error terms. The Hansen J statistic indicated that the null hypothesis of non non-linear correlation between the set of instruments and the error terms could not be rejected in any case. The Diff.-in-Hansen null hypothesis, which validated the additional restrictions required by the System-GMM, was not rejected in any of the estimations either.

The results in column 1 of Table 4 confirmed that NKF had a positive and significant impact on REER in all regions, except the CEEC where they suggested no harm on competitiveness. The case of the CEEC is particularly interesting as NKF not only had no significant impact on REER, but it also had a negative sign. The explanation could be that these countries had been receiving massive FDI flows compared with other capital flows, which, as shown earlier, had no effect on the REER appreciation in the long-run. This was another confirmation that FDI did not harm competitiveness. It also revealed that if FDI was large enough in comparison with other capital and foreign exchange flows, it could counter their negative effect on competitiveness.

When analysing the impact of the different types of capital flows on REER in each region using the interaction variables, the results revealed a relatively similar impact across regions, leading to REER appreciation (with a varying magnitude). FDI was the only exception as it seemed to have a non-significant (yet negative) effect on REER in almost all regions.

Table 4: GMM System Estimates of the Impact of Capital Flows on REER by Region[9]

	(NKF)	(FDI)	(DEBT)	(PORT)	(INCOME)	(AID)	(REMIT)
Constant	-0.915	0.104	0.055	0.032	-0.099	-0.033	-0.052
	(0.572)	(0.451)	(0.451)	(0.492)	(0.492)	(0.492)	(0.532)
REER(-1)	0.866***	0.879***	0.867***	0.886***	0.872***	0.884***	0.894***
	(0.056)	(0.055)	(0.057)	(0.057)	(0.055)	(0.053)	(0.058)
LNGDP	0.099***	0.097***	0.100***	0.092***	0.071***	0.082***	0.090***
	(0.030)	(0.024)	(0.026)	(0.024)	(0.023)	(0.027)	(0.025)
LTOT	0.219**	0.175**	0.211***	0.175*	0.204***	0.182**	0.160
	(0.099)	(0.086)	(0.074)	(0.096)	(0.098)	(0.091)	(0.109)
LGCON	-0.063	-0.086**	-0.069*	-0.076*	-0.046*	-0.067*	-0.029
	(0.046)	(0.043)	(0.041)	(0.042)	(0.032)	(0.037)	(0.034)
LOPEN	-0.058*	-0.053**	-0.057**	-0.051**	-0.094**	-0.046**	-0.044*
	(0.032)	(0.025)	(0.029)	(0.023)	(0.021)	(0.023)	(0.026)
CRISIS	-0.398***	-0.384***	-0.374***	-0.390***	-0.392***	-0.404***	-0.418***
	(0.100)	(0.092)	(0.110)	(0.094)	(0.089)	(0.093)	(0.098)
NKF or Flow-MENA	0.004*		0.005*	-0.005*	0.007***	0.009	
	(0.002)	0.002	(0.003)	(0.005)	(0.002)	(0.008)	-0.001
NKF or Flow - GCC	0.005***	(0.003)	0.005***	0.007***	-0.000	0.005***	(0.003)
	(0.002)	0.003	(0.001)	(0.002)	(0.002)	(0.001)	0.016**
NKF or Flow - L.A.	0.005	(0.003)	0.002	0.011*	0.015**	0.005	(0.006)
	(0.005)	-0.007	(0.006)	(0.006)	(0.007)	(0.008)	-0.011
NKF or Flow - ASIA	0.004*	(0.011)	0.005	0.011*	0.002	0.053	(0.017)
	(0.002)	-0.001	(0.004)	(0.006)	(0.005)	(0.045)	0.008
NKF or Flow - CEEC	-0.001	(0.006)	-0.002	0.002	0.003	0.057***	(0.006)
	(0.002)	0.001	(0.002)	(0.003)	(0.007)	(0.018)	-0.025**
NKF or Flow - AFRICA	0.008**	(0.003)	0.006***	0.009**	-0.002	0.009*	(0.011)
	(0.003)	0.009*	(0.002)	(0.005)	(0.002)	(0.005)	0.013
		(0.005)	0.006***	0.004***	0.003***	0.003***	(0.009)
		0.004***	(0.002)	(0.001)	(0.001)	(0.001)	0.003***
		(0.001)					(0.001)
	0.009		0.010	0.009	0.010	0.010	
	0.696	0.009	0.684	0.652	0.695	0.655	0.010
	0.281	0.636	0.239	0.269	0.243	0.198	0.664
Other-K. flows	0.676	0.323	0.829	0.789	0.728	0.611	0.216
	1347	0.892	1347	1347	1347	1308	0.883
m1 (p-value)	57	1347	57	57	57	57	1308
m2 (p-value)	57	57	56	56	56	56	57
Hansen J test (p-value)		57					56
Diff.-in-Hansen (p-value)							
Observations							
Countries							
Instruments							

[9] This table presented the results of GMM system estimation for a sample of 57 countries over the period from 1980 to2007. The dependent variable was the Log Real Effective Exchange Rate. Seven specifications were estimated: one assessing the aggregated impact of NKF on REER in each region (column 2) and the others assessing the impact of each type of capital flow in interaction with each region. Sys-GMM was the two system GMM estimation. Robust standard errors were reported in "()". The two step estimates were Windmeijer corrected. ***, ** and * referred to levels of significance of 1 percent, 5 percent and 10 percent, respectively. LNGDP is considered predetermined and LTOT endogeneous. It was assumed that the other regressors were strictly exogenous. The values reported for the Hansen test were the p-values for the null hypothesis of instrument validity. The Diff Hansen reported the p-value for the validity of additional moment restriction required by the system GMM. The values reported for m1 and m2 were the p-values for first and second order autocorrelation disturbances in the first differences equations.

The impact of FDI on REER (column 2) is negative and non-significant in the Latin America, South and East Asia, the CEEC, and the MENA, and non-significant with a positive sign in the GCC. These results confirmed that FDI did not lead to an appreciation of the REER; rather it led to depreciation and an improvement of competitiveness (Athukorala and Rajapatirana, 2003). Only Africa was showing a significant positive impact of FDI on the REER[10], leading to a loss of competitiveness, which corroborated the findings of Lartey (2007).

Debt had a significant positive impact with similar coefficients in all regions except for the CEEC where the coefficient was again negative and non-significant. The results for the CEEC were consistent with those for the overall impact of NKF on REER and with those for the impact of FDI. An explanation could be that DEBT was oriented toward financing productive investments that had a similar impact as that of FDI, requiring importing machinery and intermediate goods, leading to an outflow of the capital received. It is worth noting that the CEEC DEBT flows had been steadily increasing and were the closest to FDI in size.
The results of the regression including portfolio investments (column 4 of Table 2) showed a positive and significant impact of portfolio investments on the REER in South and East Asia, the Latin America, the GCC, and the CEEC[11]. Portfolio investments had no significant impact in Africa, perhaps due to the relatively low portfolio investments in this region.

In South and East Asia and the Latin America, capital markets were more developed compared with the other regions, and they attracted international investors willing to diversify their portfolios. The result was mainly a capital inflow that might not necessarily be translated into an increase of production or of imports of machinery and intermediate goods. In addition, these two regions witnessed capital outflows, accompanied or followed by massive nominal exchange rate depreciation, leading to REER depreciation. Therefore, portfolio flows would most probably have a positive relation with the REER.

Surprisingly, the impact of portfolio investments was significant but negative in the MENA countries. This might be because the MENA capital markets were underdeveloped and that most of the portfolio investments to the region were driven by the privatisation of public enterprises. Portfolio investment flows were used to modernise the privatised firms through buying new imported machinery, increasing production, and importing intermediate goods. This behaviour was

[10] According to Saborowski (2009) this result could possibly be due to the lack of financial sector development.
[11] At the 10 percent significance level for the CEECs.

The results for income showed no impact on the REER in all regions except the Latin America and MENA. Income flows consisted mainly of the net revenue on investments abroad (both direct and portfolio) and interest paid on public debt. In the cases of Africa, the CEEC, and South and East Asia, the income outflows were relatively low, which explained their non-significance. In Latin America and the MENA, it was the decline in interest payments and consequently in capital outflows that contributed to the appreciation of the REER, consistent with the overall impact of NKF.

The impact of aid was positive and significant in the CEEC, the GCC, South and East Asia, and Africa. Its impact was not significant in the MENA and the Latin America, which could be explained if aid was spent on imports (Gupta et al., 2005) or if its absorption was very low and it was accumulated in reserves. In this case, there was no need for a real exchange rate appreciation to mediate a fall in net exports and thereby absorb the aid (IMF, 2005). Africa had been receiving massive aid flows and the literature had demonstrated that aid contributed to the appreciation of the REER in this region. The case of the GCC was less obvious as this region had seen mainly aid outflows to other countries. This might had played a role in depreciating the REER, consistent with the positive sign for the relation we had in the study.

Finally, remittances revealed disparate results. It was generally expected that an increase in remittance receipts would result in an appreciation of the economy's equilibrium real exchange rate (Chami et al, 2008). This expected positive and significant impact was obtained in the cases of the GCC, South and East Asia, and Africa, and a positive and non-significant impact in the MENA. Yet the results pointed to a negative and non-significant impact in the Latin America, and negative and significant impact in the CEEC. These diverging results reflected that remittances could have different impacts, depending on their nature and magnitude. As suggested by Rajan and Subramanian (2005) a non-significant impact could result from remittances being directed mainly towards unskilled-labour activities and tradable sectors. A deeper analysis of the particular impact of remittances on REER across regions could elucidate how the nature and size of the remittances could affect competitiveness differently.

V. Conclusion

The analysis of results confirmed that capital flows could contribute to growth directly. They study showed that the suspected indirect positive effects were also present, materializing namely through the competitiveness channel. This was in line with the Dutch Disease phenomenon and the findings of previous studies. The results led to the important conclusion that the impact of capital and foreign exchange flows on

competitiveness depended not only on the type of inflow, but also on the type of inflow receiving country. While most of the results confirmed the findings of previous studies, the disparity of the results across regions called for further investigations. Several factors could explain this disparity: the shocks and crises that each region faced; the policies implemented by the different governments; the level of development of the economy and its institutions; and the degree of financial market sophistication among others.

When disaggregating the capital and foreign exchange flows into foreign direct investments, portfolio investments, debt, income, aid, and remittances, the paper found that, for the entire sample, income had the strongest impact on REER appreciation, followed by remittances, aid, portfolio investments, and debt. Here again, the results were in line with the literature on the determinants of competitiveness. Importantly, FDI was the only variable that had no significant impact on competitiveness.

The cross-regional comparison of the impact of each of these six flows on REER revealed disparate results. Portfolio investments, debt, aid, and income showed close results, pointing toward an appreciation of the REER, except for the case of the MENA where portfolio investments had a negative sign. The fact that the MENA capital markets were underdeveloped and that portfolio investments were encouraged by the privatisation of public enterprises could reveal a behaviour similar to that of FDI. Remittances reveal disparate results, probably owing to the diversity of their nature and size across regions.

The results for FDI were highly revealing as they clearly pointed towards no positive impact on REER appreciation in any region, except in Africa. These results could be very useful for policy makers in their aim to reconcile the dilemma of attracting capital and foreign exchange flows to finance current account deficits and enhance investments, while maintaining competitiveness to enhance exports and economic growth.

This is not to suggest though that FDI has to be encouraged by all means and at the expense of all other inflows. Some countries give FDI a huge subsidy compared with domestic investments. This might not be optimal as it skews investment towards particular types rather than being neutral with respect to policy reforms. Rather, we are of the opinion that if other flows seriously jeopardize competitiveness, the authorities could stimulate FDI to counterbalance these negative effects on the REER and even achieve improving competiveness.

References

Adam, C., and D. Bevan (2004). "Aid, Public Expenditure and Dutch Disease", *Development and Comp Systems* 0409027, EconWPA.

Adenauer, I., and L. Vagassky (1998). "Aid and the Real Exchange Rate: Dutch Disease Effects in African Countries", *Review of International Trade and Development*, Vol.33, pp. 177-85.

Ahmed, Shaghil and Zlate, Andrei (2013). "Capital Flows to Emerging Market Economies: A Brave New World?", *International Finance Discussion* Papers number 1081, Washington DC: Board of Governors of the Federal Reserve System.

Altar, M., L. Albu, I. Dumitru and C. Necula (2005). "The impact of capital account liberalisation on exchange rate and the competitiveness of the Romanian Economy", Pre-accession Impact Studies III, Study No.2. *European Institute of Romania*.

Amuedo-Dorantes, C., and S. Pozo (2004). "Workers' Remittances and the REER: A Paradox of Gifts", *World Development*, Vol. 32(8), August, pp. 1407-17.

Ang, James B., (2008). "Determinants of foreign direct investment in Malaysia", *Journal of Policy Modeling, Elsevi*er, vol. 30(1), pages 185-189.

Arellano, C., A. Bulír, T. Lane, and L. Lipschitz (2009). "The Dynamic Implications of Foreign Aid and its Variability", *Journal of Development Economics*, Elsevier, Vol. 88(1), January, pp. 87-102.

Arellano, M., and O. Bover (1995). "Another Look at the Instrumental Variables Estimation of Error Component Models", *Journal of Econometrics*, Vol. 68, pp. 29-52.

Arellano, M. and S. Bond (1991). "Some Tests of Specification for Panel Data: Monte Carlo Evidence and an application to Employment Equations", Review *of Economic Studies* 58: 277-97.

Aron, J., I. Elbadawi, and B. Kahn (1998) "Determinants of the REER in South Africa", Working Papers Series 98-16, *Centre for the Study of African Economies*, University of Oxford.

Arteta, Carlos, Barry Eichengreen and Charles Wyplosz (2001). "When Does Capital account liberalisation Help more than it Hurts?", *NBER Working* Paper N° 8414.

Asiedu, E. and D. Lien (2003). "Capital Controls and Foreign Direct Investment", *World Development,* Vol. 30, No. 3, pp. 107–19.

Athukorala, P.C., and S. Rajapatirana (2003). "Capital Flows and the REER: A Comparative Study of Asia and Latin America", *The World Economy*, Vol. 26(4), pp. 613-37.

Atingi-Ego, M. (2005). "*Choice of Appropriate Monetary Policy Instrument Mix by Bank of Uganda*", (unpublished; Kampala: Bank of Uganda).

Baffes, J., I. Elbadawi, and S. A. O'Connell, (1999). "Single-Equation Estimation of the Equilibrium Real Exchange Rate", In: *Exchange Rates Misalignment: Concepts and Measurement for Developing Countries*, ed. by L. Hinkle and P. Montiel, World Bank Policy Research Paper (Washington, D.C.: World Bank).

Bakardzhieva Damyana , Samy Ben Naceur, and Bassem Kamar, (2010). "The Impact of Capital and Foreign Exchange Flows on the Competitiveness of Developing Countries", *IMF Working* Papers

Balassa, B., (1964)."The Purchasing Power Parity Doctrine: A Reappraisal", *Journal of Political Economy*, Vol. 72, pp. 584-96.

Baltagi, H. B., Demetriades, P.O., Law, P.H, (2009). "Financial development and openness: Evidence from panel data", *Journal of Development Economics*, 89: 285-296.

Bekaert, Greet, Campbell R. Harvey and Christian Luandblad (2005). "Does Financial Liberalisation Spur Growth?" *Journal of Financial Economics*, 77(1), 3-55.

Ben Gamra, Saoussen (2009). "Does financial liberalisation matter for emerging East Asian economies growth?" Some new evidence, *International Review of Economics and Finance,* Volume 18, Issue 3*,* June, Pages 392-403.

Bennett, H. and Z. Zarnic, (2008). "International Competitiveness of the Mediterranean Quartet: A Heterogeneous-Product Approach", *IMF Working Pape*r 08/240, (Washington, DC: International Monetary Fund).

Bittencourt, Manoel, (2008). "Inflation and Financial Development: Evidence from Brazil," Working Papers RP2008/14, *World Institute for Development Economic Research* (UNU-WIDER).

Blonigen, B. A. (1995). "Explaining Japanese foreign direct investment in the United States", *Unpublished PhD Dissertation*, University of California, Davis.

Blonigen, B., (1997). "Firm-Specific Assets and the Link between Exchange Rates and Foreign Direct Investment", *American Economic Review*, Vol. 87(June), pp. 447-465.

Blundell, R., and S. Bond, (1998). "Initial Conditions and Moment Restrictions in Dynamic Panel Data Models", *Journal of Econometrics*, Vol. 87(1), pp. 115-43.

Bourdet, Y., and H. Falck, (2006). "Emigrants' Remittances and Dutch Disease in Cape Verde", *International Economic Journal, Korean International Economic Association*, Vol. 20(3), September, pp. 267-84.

Boyd, John H., Ross Levine, and Bruce D. Smith, (2000). "The Impact of Inflation on Financial Market Performance", *Journal of Monetary Economics*, forthcoming.

Buiter, W. H. and A. Taci (2002), "Capital Account Liberalisation and Financial Sector Development in Transition Countries", EBRD, mimeo.

Buiter, W., (2008). "Economic, Political, and Institutional Prerequisites for Monetary Union Among the Members of the Gulf Cooperation Council", *Open Economies Review*, Springer, vol. 19(5), pages 579-612, November.

Bussière, Matthieu and Marcel Fratzscher. (2008). "Financial Openness and Growth: Short-run Gain, Long -run Pain?" *Review of International Economics*, 16 (1), 69-95. 10/154, International Monetary Fund.

Calvo, G. A., and A. Drazen, (1997). "Uncertain Duration of Reform: Dynamic Implications", *NBER Working* Paper 5925 (Cambridge, Massachusetts: National Bureau of Economic Research).

Carlos de Resende & René Lalonde & Stephen Snudden, (2010). "The Power of Many: Assessing the Economic Impact of the Global Fiscal Stimulus" *Bank of Canada, Discussion Papers* 10-1.

Caves R. E., (1998). "Exchange rate movements and foreign direct investment in the United States", *Harvard Institute of Economic Research*.

Chami, R., A. Barajas, T. Cosimano, C. Fullenkamp, M. Gapen, and P. Montiel, (2008). "Macroeconomic Consequences of Remittances", *IMF Occasional Paper 259* (Washington, DC: International Monetary Fund).

Chinn, Menzie and Hiro Ito. (2002). "Capital Account Liberalisation, Institutions and Financial Development: Cross Country Evidence", *NBER Working* Paper N° 8967.

Christiansen, L., A. Prati, L. Ricci, and T. Tressel, 2009, "External Balance in Low Income Countries", IMF Working Paper 09/221 (Washington, DC).

Corbo, V., and S. Fisher (1995). "Structural Adjustment, Stabilisation and Policy Reforms: Domestic and International Finance", in *Handbook of Development Economics*", ed. by J. Behrman and T. N. Srinivasan, Vol. III, pp. 2846-924.

Corden, W. M., (1960). "The Geometric Representation of Policies to Attain Internal and External Balance", *Review of Economic Studies*, Vol. 18(1), pp. 1-22.

Corden, W. M., and J. P. Neary, (1982). "Booming Sector and De-industrialization in a Small *Open Economy, Economic Journal*, Vol. 92, pp. 1–24.

_____ (1994). "*Economic Policy, Exchange Rates and the International System",* (Oxford: Oxford University Press).

Desai, Padma, (2003). "Financial crisis, contagion, and containment", (Princeton, New Jersey)

Dornbusch, R., (1974). "Tariffs and Non-traded Goods", *Journal of International Economics*, Vol. 4(2), May, pp. 177-85.

Edwards S. (1989). "Real Exchange Rates in the Developing Countries: Concepts and Measurement", *NBER Working* Paper No. 2950, (Cambridge, Massachusetts: National Bureau of Economic Research).

Edwards, S. (2001). "Capital Mobility and Economic Performance: Are Emerging Economies Different?" *NBER* Working Paper N° 8076 .

_____, 1992, "Exchange Rates as Nominal Anchors," NBER Working Paper No. W4246 (Cambridge, Massachusetts: National Bureau of Economic Research).

Elbadawi, I. (1999). "External Aid: Help or Hindrance to Export Orientation in Africa", *Journal of African Economies,* Vol. 8(4), pp. 578-616.

_____, and R. Soto, (1994). "Capital Flows and Long Term Equilibrium Real Exchange Rates in Chile", *WB Policy Research* Working Paper WPS1306 (Washington, DC: World Bank).

_____, and R. Soto, (1997). "REERs and Macroeconomic Adjustment in Sub-Saharan Africa and Other Developing Countries", *Journal of African Economies*, Vol. 6(3), pp. 74-120.

Elbadawi, I., L. Kaltani, and K. Schmidt-Hebbel, (2008). "Foreign Aid, the REER, and Economic Growth in the Aftermath of Civil Wars", *World Bank Economic Review* 22, pp. 113-40.

Edison, Hali J, and Francis E. Warnock, (2003). "A simple measure of the intensity of capital controls", *Journal of Empirical Finance*, Vol. 10. pp 81-103.

Edison, Hali, Michael W. Klein, Luca Antonio Ricci and Thorsten Slok. (2004). "Capital Account Liberalisation and Economic Performance: Survey and synthesis", *IMF Staff Papers*, 51(2).

Eichengreen, B. (2001). "Capital Account Liberalisation: Who Do Cross- Country studies Tell Us?", *The World Bank Economics Review*, 15(3), 341-365.

Eichengreen, Barry and David Leblang (2002). "Capital Account Liberalisation and Growth: Was Mr.Mahthir Right?", NBER Working Paper N° 9427.

Eyraud, L., (2008). Madagascar: "A Competitiveness and Exchange Rate Assessment", *IMF Working* Paper 09/107, (Washington, DC: International Monetary Fund).

Faia, E. (2007). "Welfare Implications of Capital Account Liberalisation", *CEIS Tor Vergata- Research Paper Series*: Working Paper N°32.

Falck, H. (1997). "Aid and Economic Performance-The Case of Tanzania", *Department of Economics*, University of Lund.

Fielding, D. (2007). "Aid and Dutch Disease in the South Pacific," UNU-WIDER Research Paper, *World Institute for Development Economic Research*.

Fischer Stanley, (1998). "Capital account liberalisation and the role of the IMF, in *Should the IMF pursue capital account convertibility?"*, Essays in International Finance, n° 207, Princeton, New Jersey : Department of Economics, Princeton University.

Frankel A. J. (1999). "No Single Currency Regime Is Right for All Countries or at All Times", *NBER* Working Paper, n° 7338, 1999

Frankel J., and A. Rose, (1996). "Currency Crashes in Emerging Markets: An Empirical Treatment", *Journal of International Economics*, Vol. 41, pp. 351-66.

Froot, K., and J. Stein, (1991). "Exchange Rates and Foreign Direct Investment: An Imperfect Capital Markets Approach", *The Quarterly Journal of Economics*, MIT Press, vol. 106(4), pages 1191-217, November.

Glick, Reuven, Xueyan Guo and Michael Hutchison. (2004). "Currency Crises, Capital Account Liberalisation, and Selection Bias", *Federal Reserve Bank of San Francisco* Working paper N° 2004-15.

Greenidge, K., and N. Morgan (2008). "The impact of Capital account liberalisation on economic competitiveness in selected Caribbean countries", Presented at the *29th Annual Review Seminar Central Bank of Barbados* July 28-31.

Grilli, V, and G. M. Milesi-Ferretti, (1995), "Economic effects and structural determinants of capital controls", IMF Staff Papers, Vol. 42, pp.517-51.

Gupta, S, R. Powell, and Y. Yang, (2005). "The macroeconomic Challenges of Scaling up Aid to Africa", *IMF Working Paper* 05/79 (Washington, D.C.: International Monetary Fund).

Gypta, A. S. (2007). "Does Capital Account Openness Lower Inflation?", *Indian Council for Research on International Economic Relation*s: Working Paper N°191.

Henry, P. B. (2003). "Capital Account Liberalisation, The Cost of Capital and Economic Growth", *Center for Research on Economic Development and Policy Reform* Working paper N° 174.

Henry, P. B. (2006). Capital Account Liberalisation: "Theory, Evidence and Speculation", *NBER* Working Paper N° 12698.

Henry, Peter Blair and Diego Sasson. (2008). "Capital Account Liberalisation, Real Wages and Productivity", *NBER* Working Paper N° 13880.

Herciu and Toma (2007). "Competitiveness, Economic Freedom and Real Exchange Rate, Evidence from Romania",*-MPRA* Paper No. 1722, posted 07. November

Honig A. (2008). "Addressing causality in the effect of capital account liberalisation on growth", *Journal of Macroeconomics*: 1-15.

Hsiao, C, (1986). "Analysis of Panel Data" (Cambridge: Cambridge University Press).

Ila Patnaik, Ajay Shah (2009). "The difficulties of the Chinese and Indian exchange rate regimes", ISSN 1722-4667, *The European Journal of Comparative Economics,* Vol. 6, n.1, pp. 157-173, 2009

International Monetary Fund, (2005). *"The Macroeconomics of Managing Increased Aid Inflows: Experiences of Low-Income Countries and Policy Implications"* (Washington, D.C.: International Monetary Fund).

Ito, Hiro, (2004). "Is Financial Openness a Bad Thing? An Analysis on the Correlation Between Financial Liberalisation and the Output Performance of Crisis-Hit Economies", *Santa Cruz Department of Economics, Working Paper Series 32926, Department of Economics, UC Santa Cruz.*

Kamar, B. and D. Bakardzhieva, (2005). "Economic Trilemma and Exchange Rate Management in Egypt", *Review of Middle East Economics and Finance*, Vol. 3 (2), pp. 91–114.

_____, and S. Ben Naceur, (2007). "GCC Monetary Union and the Degree of Macroeconomic Coordination", *IMF Working* Paper 07/249 (Washington, D.C.: International Monetary Fund).

Kaminsky, Graciela Laura, and Sergio L. Schmukler, (2003). Short-run pain, long-run gain: the effects financial liberalisation, *IMF Working* Paper, n° 03/04 (Washington, International Monetary Fund).

Kang, J. S., A. Prati, and A. Rebucci, (2007). "*Aid, Exports, and Growth: A Time Series Perspective on the Dutch Disease Hypothesis*" (Washington, D.C.: International Monetary Fund).

Khan, Mohsin S. and Ostry, Jonathan D., (1992). "Response of the equilibrium real exchange rate to real disturbances in developing countries", *World Development*, Elsevier, vol. 20(9), pages 1325-1334, September.

Kim, S. (2010). "Country Characteristics and Effects of Government Consumption Shocks on Current Account and Real Exchange Rate", *Department of Economics* Working Paper (Seoul: Seoul National University).

Kim, Soyoung, Lee, Jong-Wha and Park, Cyn-Young, (2010). "The Ties that Bind Asia, Europe, and United States".

Kim, Soyoung and Lima, Luiz Renato, (2010). "Local persistence and the PPP hypothesis", *Journal of International Money and Finance*, Elsevier, vol. 29(3), pages 555-569, April.

Kim, Soyoung and Roubini, Nouriel, (2008). "Twin deficit or twin divergence? Fiscal policy, current account, and real exchange rate in the U.S", *Journal of International Economics,* Elsevier, vol. 74(2), pages 362-383, March.

Kim, *Soyoung*, Sunghyun Henry Kim and Yunjong Wang. (2004). "Macroeconomic Effects of Capital Account Liberalisation: The Case of Korea", *Review of Development Economics,* 8(4), 624-639.

Kim, W. (2003). "Does Capital Account Liberalisation Discipline Buget Deficit?", *Review of International Economics*, 11(5), 830-844.

Kirkpatrick, Colin, Parker, David and Zhang, Yin-Fang, (2004). "Foreign Direct

Investment in Infrastructure in Developing Countries: Does Regulation Make a Difference?", Centre on Regulation and Competition (CRC) Working papers 30703, University of Manchester, *Institute for Development Policy and Management* (IDPM).

Klein M, M. W. (2003). "Capital Account Liberalisation and the Varieties of Growth Experience", *NBER* Working Paper.

Klein M. (2005). "Capital Account Liberalisation, Institutional Quality and Economic Growth: Theory and Evidence", *NBER* Working Paper N° 11112.

Klein, Michael and Giovana Olivei. (2005). "Capital Account Liberalisation, Financial Depth, and Economic Growth", *NBER* Working Paper N° 7384.

Klein. M. W. (2007). "Capital Account Liberalisation and the Varieties of Growth Experience", Fletcher School, Tufts University and *NBER*.

Kray A. (1998). "In *Search of Macroeconomic Effects of Capital Account Liberalisation",* (Unpublished: Washington: World Bank) .

Krol R. (2001). "Cross-Country Evidence on Capital Account Liberalisation and Economic Growth", *Global Economy Quarterly*, (1), 39-64.

Lartey E. K. (2007). "Capital Inflows and the Real Exchange Rate: An Empirical Study of Sub-Saharan Africa", *The Journal of International Trade & Economic Development*, Vol. 16(3), pp. 337–57.

_____, F. S. Mandelman, and P. A. Acosta, (2008). "Remittances, Exchange Rate Regimes, and the Dutch Disease: A Panel Data Analysis", *Federal Reserve Bank of Atlanta* Working Paper 2008-12.

Law, S. H. and Habibullah M. S. (2009). "The determinants of financial development: institutions, openness and financial development", *South African of Economics*, 71(1).

Law, Siong Hook and Panicos Demetriades, (2006). "Openness, Institutions and Financial Development", WEF Working Papers 0012, *ESRC World Economy and Finance Research Programme*, Birkbeck, University of London.

Leaven L., and F. Valencia, (2008). "Systemic Banking Crises: A New Database", *IMF Working* Paper 08/224 (Washington, D.C.: International Monetary Fund).

Levine, Ross and Zervos, Sara, (1996). "Stock market development and long-run growth", *Policy Research Working* Paper Series 1582, The World Bank.

Lipschitz, L., and D. McDonald, (1991). "Real Exchange Rates and Competitiveness: A Clarification of Concepts, and Some Measurements for Europe", IMF Working Paper 91/25 (Washington, D.C.: International Monetary Fund).

López, H., L. Molina, and M. Bussolo, (2007). "Remittances and the REER", *World Bank Policy Research Working* Paper 4213.

Michalet C. A. (2000). "Strategies of Multinationals and Competition for Foreign Direct Investment", Seminar Series. *Foreign Investment Advisory Service*. World Bank, Washington, D.C.

Monfort B. (2008). "Chile: Trade Performance, Trade Liberalisation, and Competitiveness", *IMF Working Paper* 08/128, (Washington, DC: International Monetary Fund).

Mundell R. (1997). "Stabilization and Liberalisation Policies in Semi-Open Economies", Chapter 1 in Edwards, S., (1997). Capital Controls, Exchange Rates and Monetary Policy in the World Economy, (Cambridge: Cambridge University Press).

Nee V. and Opper, S. (2009). "Bureaucracy and Financial Markets", *Kyklos*, 62: 293–315.

Nickell S. J. (1981). "Biases in Dynamic Models with Fixed Effects", *Econometrica*, Vol. 49, pp. 1417-26.

Nkusu M. (2004). "Aid and the Dutch Disease in Low-Income Countries: Informed Diagnoses for Prudent Prognoses", *IMF Working Paper* 04/49 (Washington, D.C.: International Monetary Fund).

Noy, Ilan and Vu, Tam B. (2007). "Capital account liberalisation and foreign direct investment", *The North American Journal of Economics and Finance*, Elsevier, vol. 18(2), pages 175-194, August.

Nwachukwu J. (2008). "Foreign Capital Inflows, Economic Policies and the Real Exchange Rate in Sub-Saharan Africa: Is There an Interaction Effect?", *Brooks World Poverty Institute Working* Paper No. 25.

Nyomi T. S. (1998). "Foreign Aid and Economic Performance in Tanzania", *World Development*, Vol. 26, pp. 1235-40.

Opoku-Afari, M. O. Morrissey, and T. Lloyd, (*2004). "Real Exchange Response to Capital Inflows: A Dynamic Analysis for Ghana", *CREDIT Research Paper* 04/12.

Ouattara B. and E. Strobl (2008). "Aid, Policy and Growth: Does Aid Modality Matter?" *Review of World Economics,* Vol. 144, No. 2 (1 July), pp. 347-65.

Prasad, Eswar S. Kenneth Rogoff, Shang-Jin Wei, and M. Ayham Kose, (2003). "Effects of financial globalization on developing countries: some empirical evidence", *IMF occasional paper*, n° 220, (Washington, International Monetary Fund).

Prati A. and T. Tressel (2006). "Aid Volatility and Dutch Disease: Is There a Role for Macroeconomic Policies?", *IMF Working* Paper 06/145 (Washington, D.C.: International Monetary Fund).

Quinn D. (1997). "The Correlates of Change in International Regulation", *American Political Science Review*, Vol. 91(3), 531-551.

Quinn, Dennis and A. Maria Toyoda. (2008). "Does Capital Account Liberalisation Lead to Growth?", *Review Of Financial Studies*, Vol. 21 (3),

1403-1449.

Reinhart Carmen M. (2005). "Some Perspective on Capital Flows to Emerging Market Economies", *NBER Reporter*: Research Summary.

Rajan R. and A. Subramanian, (2005). "What Undermines Aid's Impact on Growth?", *IMF Working Pape*r 05/126 (Washington, D.C.: International Monetary Fund).

Rivera-Batiz, Francisco L & Rivera-Batiz, Luis A, (2001). "International Financial Liberalisation, Capital Flows, and Exchange Rates Regimes: An Introduction", *Review of International Economics*, Blackwell Publishing, vol. 9(4), pages 573-84, November.

Rodrik D. (1998). "Who Nes Capital-Account Convertibility? Princeton Essays in *International Finance"*, n° 207, 55-65, Princeton, New Jersey: Department of Economics, Princeton University.

Saborowski C., (2009). "Capital Inflows and the Real Exchange Rate: Can Financial Development Cure the Dutch Disease?" *IMF Working Paper* 09/20 (Washington, D.C.: International Monetary Fund).

Salter W. E. (1959). "Internal and External Balance: The Role of Price and Expenditure Effects", *Economic Record* 35, Vol. 71, pp. 226–38.

Samuelson P., (1964). "Theoretical Notes on Trade Problems", *Review of Economics and Statistics*, Vol. 23.

Stiglitz Joseph, (2000). "Capital market liberalisation, economic growth and instability", *World Development*, Vol. 28, n° 6, pp.1075-86.

Stiglitz Joseph, (2002). "*Globalization and its discontents",* (New York: W. W. Norton).

Stiglitz Joseph, (2004). "Capital market liberalisation, globalization and the IMF", *Oxford Review of Economic Policy*, Vol.20, n° 1, pp. 57-71.

Swan T. W. (1960). "Economic Control in a Dependent Economy", *Economic Record* 36, Vol. 73, pp. 51–66.

Tytell, Irina and Shang-JinWei, (2004). "Does financial globalization induce better macroeconomic policies?", *IMF Working*Paper, n° 04/84, (Washington, International Monetary Fund).

Wade, Robert, (1999). "*The coming fight over capital flows", Foreign Policy* (Winter), pp. 41-54.

Wade, Robert, and Frank Veneroso, (1998). "The gathering world slump and the battle over capital controls, *New Left Review*", NLR I/237, September/October, pp. 13-42.

White H. and G. Wignaraja, (1992). "Exchange Rates, Trade Liberalisation and Aid: The Sri Lankan Experience", *World Development* 20(10), pp. 1471-80.

Williamson, John, (1990). "What Washington means by policy reform?", in *Latin American Adjustment: how much has happened* ?, ed. by John Williamson (Washington, Institute for International Economics).

Capital Flows, Capital Control and Exchange Rate Regimes

Jonathan A. Aremu, Ph.D*

I. Introduction

Over the years, economists have debated about the optimal choice between the speed and sequencing of economic reforms. One of these debates relates to easing of capital account controls as it affects the capital account of the balance of payments (BOP). While some economists view liberal cross-border movement of capital as welfare enhancing, others deem it damaging, especially for developing countries. According to the latter group, free capital mobility heightens macroeconomic volatility and the vulnerability of developing countries to external shocks. Thus, liberalisation of the capital account should be gradual and should be undertaken after other reforms and market liberalisation have been concluded. On the other hand, proponents of liberalisation see no reasons to delay the ease capital mobility as restrictions result in serious economic costs, inefficiencies and resource misallocation.

Whereas capital controls were seen as "orthodox" necessity by the conveners of the Bretton Woods (BW) system, their ideas were discarded during the neo-liberal era that began in the late 1970s. What was once fulcrum of the international monetary system—regulating capital flows to maintain policy autonomy and stabilise exchange rates—became heresy. However, following the array of the financial crisis since the late-1990s, there is an emerging consensus that capital controls can play a legitimate role in promoting financial stability in domestic and international environments (Akyuz, 2012). In fact, the World Bank (2013) stated that the recent financial crisis has challenged conventional thinking of financial policies and consequently capital flows, and has given greater credence to the idea that active state involvement in the financial sector can help maintain economic stability, drive growth, and create jobs.

In the immediate aftermath of the global financial crisis, the world economy was characterised as undergoing a "two-speed" recovery. The industrialised nations, where the crisis started, experienced slow growth whereas many emerging market and developing countries grew significantly. The growth asymmetries reinforced by wide interest rate differentials across the globe, triggered significant flows of financial resources, based on the perceived relative higher marginal

* Jonathan A. Aremu is a consultant with ECOWAS Common Investment Market (ECIM), Abuja. The usual disclaimer applies.

productivity of capital in emerging and developing economies in congruence with economic theory. The concurrence of low interest rates and slow growth in the global north with relatively high interest rates and fast growth in the global south, encouraged divestment from the rich economies of the north, and to the south.

However, without government intervention, accelerated capital flows may have adverse consequences both for the source and the recipient economies. It is believed that large surges of short-term and potentially reversible capital that flows to developing countries can have negative effects. Firstly, these surges can pose complex policy dilemmas for macroeconomic management, as they can initially push key macroeconomic variables, such as exchange rate and prices of assets like property and shares, away from what could be considered their long-term equilibrium. Secondly, and more important, these flows can pose the risk of very sharp reversals with little or no notice. Such reversals – particularly if they lead to currency and financial crises – can result in very serious losses of output, investment and employment, as well as increases in poverty.

On this basis, economies of the south fear that the flood of capital from the north may affect their exchange rates, while stirring current account deficits and asset bubbles, if appropriate policies are not put in place. With such surge in capital inflow, the value of their currencies could appreciate – making it harder for companies and farmers in these economies to export, and thus causing job losses and a general lack of competitiveness. Furthermore, unfettered speculation of capital flows could also raise the price of stock, bond and real-estate markets – threatening to create bubbles such as the one that was started in the US in 2008.

Therefore, the movement to outlaw capital controls began to lose popularity given that premature capital account liberalisation in part caused the Asian Crisis of 1997-8. However, nations, such as Malaysia that used capital controls to avoid the worst of that crisis were better off. The fears of the emerging and developing countries have equally attracted the attention of the International Monetary Fund (IMF) to take steps to address the issue; making the Fund to change its mind in favour of the capital restrictions. This new position of the IMF's was based on findings which suggested that borrowing in a low-interest economies coupled with loose capital controls brought about the Great Depression in 1929.

The '*explanandum'* from these premises points to the fact that regulatory controls of cross-border capital flows can complement both the macroeconomic policy. Indeed, since it was shown that countries that used such regulations were less affected during financial crisis, the objective of this presentation is to examine the

importance of capital controls on the flow of foreign capital under the current circumstance for the benefit of the Nigerian economy. Part II of the paper will look into some critical issues in the global capital flows by identifying the principal agents; structure and trends of the flows; effects; and policy options in managing the flows. In Part III, an attempt is made to review the historical developments of global governance of capital controls since the pre-World War I, while Part IV examines the policy challenges in capital control management strategies. Part V examines the on-going ECOWAS financial integration among its Member States, coming at a time of increasing voice for a return to the Bretton Woods's ideology. Part VI concludes the paper with charting a framework for increasing the resilience of the Nigerian capital flow system.

II. Issues in Global Capital Flows

The integration of a country's local financial system with the international financial markets and institutions typically requires that governments liberalise the domestic financial sector and the capital account. Although developed countries are the most active participants in the process, developing countries, like Nigeria as well, have also been participating. While the integration of developing countries with the international financial system is not a new phenomenon, the depth and breadth of it today are unprecedented. Hitherto, capital flows tended to follow migration and were directed towards supporting trade flows under the gold standard (in which gold backed national currencies). The main benefit of financial globalisation for developing countries is the development of their financial system (more complete, deeper, more stable, and better-regulated financial markets). To Levine (1999), there are two main channels through which financial globalisation promotes such financial development. First, financial globalisation implies that a new type of capital and more capital is available to developing countries. Among other things, this new and more capital allows countries to better smooth consumption, deepens financial markets, and increases the degree of market discipline. Second, financial globalisation leads to a better financial infrastructure, which mitigates information asymmetries and, as a consequence, reduces problems such as adverse selection and moral hazard.

It must, however, be pointed out here that capital account liberalisation is neither necessary nor sufficient to attract foreign capital. China is held as an example of a country that was receiving large amounts of Greenfield foreign direct investment (FDI) without pursuing an open capital account regime, while many African countries were receiving very little despite a rapid liberalisation of their capital account. Thus, for successful integration, economic fundamentals need to be and remain strong, and local markets need to be properly regulated and

supervised. The need for these strong fundamentals is key since financial globalisation tends to intensify a country's sensitivity to foreign shocks. Moreover, international market imperfections, such as herding, panics, and boom-burst cycles, as well as the fluctuating nature of capital flows can lead to crises and contagion, even in countries with good economic fundamentals.

II.1 Agents of Global Capital Flows

There are three main agents of financial globalisation: governments, borrowers and investors, and financial institutions.

1. Governments

Governments could allow capital flows by liberalising restrictions on the domestic financial sector and the capital account of their BOP or impose controls on cross-country capital movements. Six possible reasons explain the wave of financial liberalisation during the Washington Consensus era by various countries across the world. First, governments found capital controls to be increasingly costly and difficult to maintain effectively. Second, policymakers have become increasingly aware that government led financial systems and non-market approaches have failed. Third, the importance of foreign capital to finance government budgets and smooth public consumption and investment became understood as foreign capital has helped governments capitalise banks with problems, conduct corporate restructuring, and manage crises. Fourth, opening up the privatisation of public companies to foreign investors has helped increase their receipts. Fifth, although governments can also tax revenue from foreign capital, they might find this harder to do than with other factors of production because of its footloose nature. Sixth, governments have become increasingly convinced of the benefits of a more efficient and robust domestic financial system for growth and stability of the economy and for the diversification of the public and private sectors' investor base.

2. Borrowers and Investors

Borrowers and investors, including households and firms, have also become main agents of financial globalisation. By borrowing abroad, firms and individuals can relax their financial constraints to smooth consumption and investment. Firms can expand their financing alternatives by raising funds directly through bonds and equity issues in international markets and thereby reducing the cost of capital, expanding their investor base, and increasing liquidity. As rationalised by Aremu (2005), borrowing countries benefit not only from new capital but also, in the case of FDI, from new technology know-how, management, and employee training. More financing alternatives help foreign investors overcome direct and indirect investment barriers. International investors, as argued by Obstfeld (2001) have

taken advantage of financial globalisation to achieve cross-country risk diversification of their portfolios. Consequently, institutions and individuals in developed countries can easily invest in emerging/developing countries markets through buying shares of international mutual funds (including global, regional, and country funds) as shown in Kaminsky and Reinhart (1999). Investors can also purchase depository receipts, cross-listed shares of international companies, and international corporate and sovereign bonds in international capital markets.

3. Financial Institutions

Financial institutions, through the internationalisation of financial services, are also a major driving force of global capital flow. According to the IMF (2000), changes at the global level as well as changes in both developed and developing countries explain the role of financial institutions as a force of globalisation. At a global level, the gains in information technology have diminished the importance of geography, allowing international corporations to service several markets from one location. The improvement in information technology has had three main effects on the financial services delivery across countries as they:

- promoted a more intensive use of international financial institutions,
- led to a major consolidation and restructuring of the world financial services industry, and
- gave rise to global banks and international conglomerates that provide a mix of financial products and services in a broad range of markets and countries, blurring the distinctions between financial institutions and the activities and markets in which they engage.

In developing countries alike, the liberalisation of the regulatory systems has opened the door for international firms to participate in local markets. The privatisation of public financial institutions has equally provided foreign banks increasing opportunities to enter local financial markets. Macroeconomic stabilisation, a better business environment, and stronger fundamentals in emerging/developing markets have ensured a more attractive climate for foreign investment.

II.2 Structure of Global Private Capital Flows

Flows of capital do occur from one nation to another in exchange for significant ownership stakes, for higher returns on capital invested in host companies or for other reasons. There are varieties of such flows:

1. Foreign Direct Investment

FDI occurs when new companies are set up or existing companies are taken over by foreign enterprises in developing countries. FDI has proved to be resilient during financial crises. For instance, in the East Asian countries, such investment was remarkably stable during the global financial crisis in 1997-98. In sharp contrast, other forms of private capital flows—portfolio equity and debt flows, and particularly short-term flows—were subject to large reversals during the same period (Dadush, Dasgupta, and Ratha, 2000). The gains to host countries from FDI can take several other forms: FDI allows the transfer of technology—particularly in the form of new varieties of capital inputs—that cannot be achieved through financial investments or trade in goods and services. FDI can also promote competition in the domestic input market. Recipient of FDI often gain employee training in the course of operating the new business. Profits generated by FDI contribute to corporate tax revenues in the host country.

2. Portfolio Investment (Debt)

Portfolio debt investment occurs when a foreign entity purchases debt securities such as bonds issued by another country or an institution in another country. Developing countries generally welcome the inflows of foreign portfolio debt investment, which they often see as a vote of confidence in their economic management. Portfolio debt investment has contributed to lower government borrowing costs by exerting downward pressure on domestic interest rates. But there are risks attached to this kind of investment. Volatile private debt capital inflows can complicate the management of exchange rate and monetary policy. As the experience of other developing countries show, portfolio capital inflows can reverse sharply, leading to large swings in exchange and interest rates, as it occurred in the South East Asian economies in the late 1990's.

3. Portfolio Investment (Equity)

Portfolio equity investment occurs when foreign entities invest in a local stock market by buying shares in local companies. However, the number of developing countries with stock markets is very few. Moreover, most of them are very small or underdeveloped to absorb relative large portfolio equity investment. Except for South Africa and Nigeria, the markets are small. To broaden the capital market, Economic Community of West African States (ECOWAS) is collaborating with regional stakeholders in the establishment of regional capital market. Already, the West African Capital Market Integration Council (WACMIC) was inaugurated by the President of ECOWAS Commission early in 2013. This kind of reforms could support development of the region to become attractive to portfolio equity investments.

4. International Bank Lending (Loan)

Another noteworthy trend in the 1990s was the substantial rise in the share of private borrowing in total borrowing. Short-term international debt is defined as cross-border debt with a maturity of one year or less. One potential advantage of global financial integration may be the enlarged access it gives countries to smooth consumption by using short-term loan in the face of adverse economic shocks. But the advantage of contracting short-term debt for counter-cyclical purposes can be wiped out if lenders' decision, changes in risk perceptions, and other factors make access to such short-term capital flows pro-cyclical. Moreover, shocks may attract large capital inflows and encourage consumption and investment at levels that are unsustainable in the longer term, and countries may be forced to over-adjust to adverse shocks when capital reverses.

Short-term capital flows appear to be pro-cyclical in developing countries, increasing when economic growth is accelerating and declining during economic slowdown. In addition, short-term lending is driven by external (or "push") factors. For instance, when short-term interest rates drop in industrial countries it causes an expansion in global liquidity. Some of this encourage short-term lending to developing countries. Two reasons may explain the pro-cyclical behavior of short-term capital flows. First, economic shocks tend to be large and more frequent in developing countries, due to weak economic bases and greater dependence on primary commodity exports. Adverse shocks cause a country's creditworthiness to be downgraded. Changes in risk perception and rating downgrades can lead to rationing of credit to marginally creditworthy borrowers, and such changes can worsen rather than smooth their adjustment. Second, these negative effects are exacerbated by information asymmetry between borrowers and lenders, which may trigger herd behaviour as panicked investors rush to withdraw their capital in response to an adverse shock.

Of the different types of private capital flows discussed so far, short-term loans are the most likely to be withdrawn during difficult times. This is because the cost of pulling out is minimal for lenders of short-term debt, whereas liquidating FDI may involve selling plant and machinery, and selling stocks or bonds during a crisis usually involves a loss for the sellers. In sum, international debt flows, especially of the short-term variety is risky. It is driven by speculative considerations based on interest rate differentials and exchange rate expectations, not on long-term considerations. Its movement is often the result of moral hazard distortions such as implicit exchange rate guarantees or the willingness of governments to bailout the banking system. It is the first to run for the exits in times of trouble and is responsible for boom-busrt cycles of the late 1990's in the South East Asian economies.

5. Remittances

Remittances are closely associated with outward migration, but policies matter, too. Usually, a lower transaction costs and the absence of exchange restrictions, black market exchange rate premiums, and unstable macroeconomic environments have been associated with higher remittances. In addition, remittances are less volatile than other private capital flows and that they tend to move counter-cyclically with recipient country income (Chami et al., 2005). Furthermore, remittances tend to be a stable source of foreign exchange earnings. Migrants usually send more money when the family back home experiences hardships, for whatever reason, and therefore remittances act as insurance against economic adversity. Also, remittances have been remarkably resilient during global economic crises. In sum, remittances reduce poverty, increase welfare, and provide foreign currency that enables countries to pay for essential imports and service external debt. That in turn improves access to international capital markets.

At a macroeconomic level, however, large sustained remittance flows may lead to currency appreciation, with adverse consequences for exports. Moreover, some analysts say remittances dampen growth because recipients may become dependent on them and work less. Finally, an even more insidious effect of remittances on economic development and well-being is their impact on institutions and governance. A remittance-receiving household no longer has to care as much about the quality of the government and its ability to provide infrastructure and institutions that facilitate growth. If conditions are bad at home, families send more members abroad and use remittance income to compensate for the lack of government services. They lose interest in pressuring the government to deliver better services. The government, for its part, does not feel compelled to provide these services because it realises that these households can fend for themselves, and the quality of government declines even further. Hence, remittances are not the highway to a better future.

II.3 Innovative Sources of Private Capital for Development

Innovative financing approaches are required, especially for private sector borrowers in developing countries, who face ever harsher credit rationing than public sector borrowers. Some innovative market-based financing mechanisms that developing countries could use include:

a) Diaspora Bonds

The rationale behind diaspora bonds is twofold. For the countries, diaspora bonds represent a stable and cheap source of external finance, especially in times of financial stress. For investors, diaspora bonds offer the opportunity to display

patriotism by helping their country of origin. Furthermore, the worst case scenario for diaspora bond is that debt service payments by the issuer are in local rather than hard currency. But because diaspora bond investors often have liabilities in their country of origin, they are likely to view the risk of receiving payments in local currency with much less trepidation than would non-diaspora investors.

b) Performance-Indexed Bonds

Coupons on this kind of bonds are set to vary according to the growth performance of a country's GDP, a proxy for its ability to pay. This feature lets a developing country to follow counter-cyclical fiscal policy, paying less during an economic slowdown and more during an expansion. It is plausible that developing countries would be willing to pay a higher rate on indexed bonds than they would pay on fixed-coupon bonds to be able to avoid potential debt defaults. Similar to the growth-indexed bonds issued by sovereigns, sub-sovereign borrowers could issue performance-indexed bonds. A performance-indexed bond would be linked to a well-defined indicator of the performance of the borrowing entity.

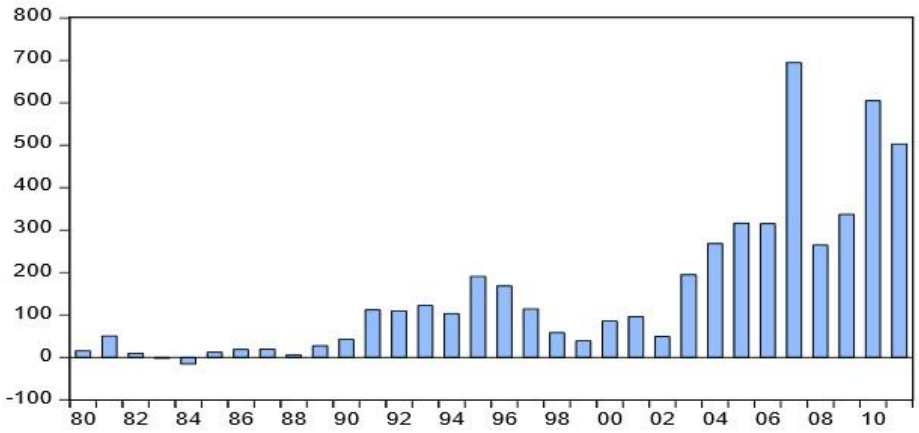
c) Future-Flow Securitisation

Securitisation is provided to allow for decline in the value of the underlying collateral, debt securitised by future hard-currency receivables will be a viable option for developing countries seeking to raise funds in the prevailing environment of low global risk appetite. By pledging future hard-currency receivables, securitised transactions subordinate the interests of current and future creditors. The transactions backed by future revenue streams are structured so that the payments do not enter the issuer's home country until obligations to bond investors are met.

II.4 Trends in Global Capital Flows

It has been discovered that financial globalisation has proceeded at a more rapid pace than trade over the past few years as developing countries experienced surge in capital inflows after mid-2009 followed by reversal in the course of 2011 as the European debt crisis worsened (see fig, 1). Renewed disruptive exchange rate swings vis-à-vis the United States dollar broadly mirrored the tidal flows of private capital. Global finance remains in upheaval (IIF,2012)

Figure1. Private Capital Flows to Emerging and Developing Economies, 1980-2011 (US$ billion)



Source: International Financial Institute, 2012

The rise in international capital flows involving developing countries has led to a corresponding rise in cross-border financial holdings and an expansion in their international investment positions, recording foreign assets and liabilities. The relative rise in developing countries gross foreign assets and liabilities provides further evidence of progressing financial globalisation. As financial globalisation proved hazardous in the experience of many developing countries, maintenance of a competitive exchange rate became a policy focus. If foreign exchange market interventions are used to contain pressures for currency appreciation, a build-up of international reserves arises as a by-product. Perhaps the rule of finance over trade in the modern age of accelerated globalisation is best illustrated by trading in foreign exchange markets.

Risks and Net Effects of Global Capital Flows

Although financial globalisation has several potential benefits, it can also carry some risks. The recent stream of financial crises and contagion after countries liberalised their financial systems and became integrated with world financial markets might lead some to suggest that globalisation generates financial volatility and crises (Gallagher (2011). Though domestic factors tend to be key determinants of crises, there are different channels through which financial globalisation can be related to crises.

First, when a country liberalises its financial system, it becomes subject to international market discipline exercised by both foreign and domestic investors. When an economy is closed, only domestic investors monitor the economy and

react to unsound fundamentals. In open economies, the joint force of domestic and foreign investors could encourage countries to achieve sound fundamentals although this process might take a long time.

Secondly, financial globalisation can also lead to crises if there are imperfections in international financial markets, which can generate bubbles, irrational behaviour, herding behaviour, speculative attacks, and crashes, among other things. Imperfections in international capital markets can lead to crises even in countries with sound fundamentals. For example, if investors believe that the exchange rate is unsustainable they may speculate against the currency, which can lead to a self-fulfilling prophecy on balance-of-payments crisis regardless of market fundamentals.

Thirdly, financial globalisation can lead to crises as a result of the importance of external factors on an economy, even in countries with sound fundamentals and even in the absence of imperfections in international capital markets. If a country becomes dependent on foreign capital, sudden shifts in foreign capital flows can create financing difficulties and economic downturns. These shifts do not necessarily depend on country fundamentals. Calvo et al., (1996) argue that external factors are important determinants of capital flows to developing countries. In particular, they find that world interest rates were a significant determinant of capital inflows into Asia and Latin America during the 1990s. Economic cyclical movements in developed countries, a global drive towards diversification of investments in major financial centers, and regional effects tend to be other important global factors. Frankel and Rose (1996) highlight the role that foreign interest rates play in determining the likelihood of financial crises in developing countries.

Fourth, financial globalisation can also lead to financial crises through contagion, namely by shocks that are transmitted across countries. Three broad channels of such contagion can be identified as: real links, financial links, and herding behaviour, or "unexplained high correlations." Real links is associated with trade links. When two countries trade among themselves or if they compete in the same external markets, a devaluation of the exchange rate in one country deteriorates the other country's competitive advantage. As a consequence, both countries will likely end up devaluing their currencies to rebalance their external sectors. Financial links exist when two economies are connected through the international financial system. When the value of their collateral falls as a result of a negative shock in one country, leveraged companies need to increase their reserves. Therefore, they sell part of their valuable holdings in the countries that are still unaffected by the initial shock. This mechanism propagates the shock

to other economies. Thirdly, financial markets might transmit shocks across countries as a result of herding behaviour or panics. At the root of this herding behaviour is asymmetric information. Information is costly, so investors remain uninformed. Therefore, investors try to infer future price changes on the basis of how other markets are reacting. In this context, a change in Thailand's asset prices might be useful information about future changes in Nigeria or Ghana's asset prices. Additionally, in the context of asymmetric information, what the other market participants are doing might convey information that each uninformed investor does not have. This type of reaction leads to herding behaviour, panics, and irrational exuberance.

II.5 Policy Options in Managing Global Capital Flows

There are different views on how governments can maximise the benefits of financial globalisation while simultaneously minimising its risks (maxi-mini). One of the most important benefits of financial globalisation is the development of the financial sector. But, on the other hand, it can also be associated with some costs, particularly higher sensitivity to crises and contagion. This sensitivity to financial contagion makes many economists to believe that some degree of government intervention on financial globalisation is advisable. In spite of this, there are yet disagreements what governments should do regarding financial integration.

A first view argues that government intervention is at the root of recent crises. This view believes that international capital markets are efficient and developed (or at least international financial markets are more efficient than financial markets in developing countries). Therefore, countries with underdeveloped financial markets would benefit from full financial liberalisation, with minimal government intervention. Certain types of government intervention create distortions that can lead to moral hazard and crises. In support of this opinion, Akerlof and Romer (1993) show that government guarantees can induce firms to go broke at society's expense (looting). They claim that once looting becomes established in one sector, it can distort production in other sectors.

A second view claims that cross-country capital flows should be restricted. According to this view, anomalies such as asymmetric information, moral hazard, asset bubbles, speculative attacks, herding behaviour, and contagion are present in international financial markets. These anomalies make economies open to capital flows to suffer the consequences of these imperfections. The recent crises showed that international financial markets punished similarly countries with different fundamentals and policies. Given this evidence, Krugman (1998), Stiglitz (2000), and Tobin (1978) argue that government intervention to

restrict cross-country capital movements can be socially beneficial. In this regard, Stiglitz (2000) clamours for developing countries to put some limits on capital inflows to moderate excessive boom-busrt patterns in financial markets. Governments can mitigate the cost of volatile capital flows, reducing excessive risk taking and making markets less vulnerable to external shocks, and still pursue integration with international financial markets.

A third view concentrates on risk management. This view focuses on strengthening the domestic financial sector and sequencing financial liberalisation. Obiechina (2010) supports this view by recommending, among others that capital account liberalisation should be sequenced. This is because opening a weak domestic financial sector to large capital movements is potentially risky. If the domestic financial sector does not manage risk properly, is adequately capitalised, or lacks the right incentives, large capital flows swings can create severe problems in the domestic financial sector. Since financial crises can be very costly, this view proposes an adequate regulation and supervision of the domestic financial system without distinguishing between foreign capital and domestic capital. Additional proposals include the use of counter-cyclical fiscal policy, the stability of prices, the active management of reserve requirements, and the implementation of contingent liquidity arrangements. Improved prudential regulation and increased market discipline, through more transparency and information, are also recommended as a way to avoid excessive risk taking.

From the above reactions, it is clear that capital control measures have important roles to play, particularly in developing countries. They are measures to smooth the pro-cyclicality of short-term debt inflows and outflows in and out of countries' financial markets. Capital flows tend to be pro-cyclical in the financial markets of developing countries, meaning that they often get too much during good times which cause asset bubbles and appreciation in the exchange rate or at least exchange rate volatility. If there is lots of currency mismatches, or maturity mismatches, capital account regulations/controls can be used to throw a wedge into them. Perhaps, the most important reason why nations consider capital account regulations is to have a more independent monetary policy.

III. History of Global Governance of Capital Controls

A. Pre-World War I

In the first age of globalisation which is generally dated from 1870–1914, capital controls remained largely absent as there was generally little need for capital controls due to low levels of international trade and financial integration. The

"core" countries of the pre-1914 era largely adhered to the classical gold standard that by 1880 had evolved from the historic specie regime based on bimetallism. The gold standard was a system of backing a country's currency with its gold reserves. Such currencies are freely convertible into gold at a fixed price, and the country settles all its international trade transactions in gold. Between 1900 and 1914 world's major economic powers were on gold standard, but could not maintain it during World War I (1914-18). The essence of the classical gold standard for the core countries was a credible commitment to maintain gold convertibility and this was embedded in their long history of financial development. The prevalent view was that adopting a specie standard meant adherence to sound money with stable prices. Floating regime was considered to be a radical departure from monetary and fiscal probity to be tolerated only in the event of temporary emergencies such as wars or financial crises

B. World War I to World War II: 1914 - 1945

Highly restrictive capital controls were introduced with the outbreak of World War I. The first widespread capital controls were adopted in World War I as a method to finance the war effort. At the start of the war, all the major powers suspended their participation in the gold standard for the duration of the conflict but maintained fixed-exchange rates. The gold standard with free capital mobility, however, had to be jettisoned during the inter-war years, except for a brief period of gold exchange standard, because of the compelling need of the monetary authorities to pursue their domestic goals.

These restrictions raised revenues in two ways. First, by keeping capital in the domestic economy, it facilitated the taxation of wealth and interest income. Second, it permitted a higher inflation rate, which generated more revenue. In the 1920s, they were generally relaxed, only to be strengthened again in the wake of the 1929 Great Depression. This was more an *ad hoc* response to potentially damaging flows rather than based on a change in normative economic theory. The use of capital controls peaked during World War II. An example of capital control in the inter war period was the *flight tax* introduced in 1931 by Chancellor Brüning of Germany. The tax was needed to limit the removal of capital from the country by wealthy residents. At that time Germany was suffering economic hardship due to the Great Depression and the harsh war reparations imposed on its economy after World War I.

C. The Bretton Woods Era: 1945–1971

A widespread system of capital controls were decided at the international 1944 Bretton Woods conference . At the end of World War II, international capital was "caged" by the imposition of strong and wide ranging capital controls as part of

the newly created Bretton Woods system it was perceived that this would help protect the interests of ordinary people and the wider economy. Keynes, one of the principal architects of the Bretton Woods system, envisaged capital controls as a permanent feature of the international monetary system, though he agreed that current account convertibility should be adopted once international conditions had stabilised sufficiently. This essentially meant that currencies were to be freely convertible for the purposes of international trade in goods and services, but not for capital account transactions. Following the Keynesian Revolution, the first two decades after World War II saw little argument against capital controls from economists, with an exception was Milton Friedman. However, from the late 1960's the effectiveness of capital controls began to break down.

D. Transition Period and Washington Consensus: 1971 - 2009

The demise of the Bretton Woods system in the early 1970s was largely precipitated by the pursuit of financial policies inconsistent with maintaining the pegged rate system by some of the key countries, and this has been followed by an era of a more flexible regime. By the late 1970s, as part of the displacement of Keynesianism in favor of free market orientated policies and theories, countries began abolishing their capital controls, starting between 1973 - 1974 with the U.S., Canada, Germany and Switzerland and followed by Great Britain in 1979. Most other advanced and emerging economies followed, chiefly in the 1980s and early 1990s. During the period spanning from approximately 1980 - 2009, known as the Washington Consensus era, the normative opinion was that capital controls were to be avoided except perhaps in a crisis. It was widely held that the absence of controls allowed capital to freely flow to where it is needed most, helping not only investors to enjoy good returns, but also helping ordinary people to benefit from economic growth. During the 1980s many emerging/developing economies were coerced into following the advanced economies by abandoning their capital controls as a result of the structural adjustment programs (SAP) that became inevitable to resolve their debt crisis.

However, the orthodox view that capital controls are a bad thing was challenged following the 1997 South Asian Financial Crisis. Asian nations that retained their capital controls escaped the crisis relatively unscratched. Malaysia's prime minister, Mahathir bin Mohamad imposed capital controls as an emergency measure in September 1998. Both strict exchange controls and limits on outflows from portfolio investments, put in place by Malaysian government were found to be effective in containing the damage from the crisis on the economy.

E. Post Washington Consensus: 2009 and Later

By 2009, the global financial crisis had caused a resurgence towards Keynesian thought. During the 2008–2012 Icelandic financial crisis, the IMF proposed that capital controls on outflows should be permitted by Iceland, calling them an essential feature of the monetary policy framework, given the scale of potential capital outflows. In the latter half of 2009, as the global economy started to recover from the global financial crisis, capital inflows to emerging market economies—especially, in Asia and Latin America—surged, raising macroeconomic and financial-stability risks similar to the Iceland crisis. Several emerging market economies responded to these concerns by adopting capital controls measures; for example, Brazil imposed a tax on the purchase of financial assets by foreigners and Taiwan restricted overseas investors from buying time deposits.

The return towards capital controls witnessed pro-capital control statements by various prominent economists, together with an influential staff position note prepared by IMF economists in February 2010 (Ostry et al., 2010). A follow-up note prepared in April 2011, have been hailed as an end of an era that eventually led to a change in the IMF's long held position that capital controls should be used only in extremis, as a last resort, and on a temporary basis. In February 2011, citing evidence from new IMF research (Ostry et al., 2010) that restricting short-term capital inflows could lower financial-stability risks, over 250 economists headed by Joseph Stiglitz wrote a letter to the Obama administration asking them to remove clauses from various bilateral trade agreements that allow the use of capital controls to be penalised.

IV. Policy Challenges Associated with Capital Flows and Types of Controls

A. Purposes of Capital Controls

At least six core reasons why nations may want to deploy capital control measures in their various economies. Fear of appreciation: capital inflows cause upward pressure on the value of the domestic currency, making domestic producers less competitive in the international market, hurting exports and therefore the economy. Fear of "hot money": the large injection of money into a small economy may cause distortions, and eventually a sudden reversion if foreign investors try to leave simultaneously. Fear of large inflows: large volumes of capital inflows, even if not all hot money, can cause dislocations in the financial system. Fear of loss of monetary autonomy: a trinity is always at work: it is not possible to have a fixed (or highly managed) exchange rate, monetary policy autonomy, and open capital markets. Specifically, when central banks

intervene in the exchange market buying foreign currency in order to curb the appreciation of the exchange rate, they effectively increase the domestic monetary base. Trying to raise interest rates to offset that effect causes more capital inflows, as foreign investors rush in to take advantage of higher yields. Fear of asset bubbles. This is a particularly important issue in the 2008 financial crisis, since the bursting of the real state bubble was the root cause of the banking crisis around the globe. Fear of capital "flight" whereby capital may rapidly leave a nation in the event of a crisis or because of contagion (Grabel, 2003; Epstein, 2005).

These fears have led to five main possibilities for capital control, and further arranged in Table 1 as well so as : to restrict capital outflows in the event of a balance of payments crisis; to curb capital inflows, before it leads to crisis; to check and restructure the composition of capital inflows, in particular to discourage short-term banking inflows, and favour FDI, relative to other inflows; impose a tax on foreign exchange transactions, with the aim of reducing volatility; separate domestic interest rates from foreign, with the aim of restoring some monetary independence.

1. Restrict Capital Outflows

Conditional on a speculative attack occurring, controls on capital outflow can help slow down or minimise the loss of reserves or the required increase in interest rates. Needless to say, controls on outflows can also weaken the discipline that international financial markets place on the quality of macroeconomic policy of a country. For a country experiencing potentially excessive capital inflows, liberalisation of controls on outflow may offer a way of reducing net national indebtedness (Epstein, 2012). On the other hand, international investors sometimes respond to such liberalisation by accelerating the capital inflows, particularly when such liberalisation is perceived to boosts investors' confidence -- particularly their confidence that they will be able to take their money back out of the country in the future if they wish. This logic could be inverted to suggest that if a country wants to discourage volatile capital inflows, it could do so by retaining controls on outflows, thereby deliberately depressing investor confidence.

2. Curb Capital Inflows

The usual basis for capital controls on inflows, as earlier pointed is to prevent overvaluation and over indebtedness. It is understood that, high levels of capital inflow and cumulative indebtedness, often in conjunction with a currency overvalued in real terms, have been considered key indicators of the risk of financial crises. Such surges in capital flows usually comes before financial crisis.

For example, Mexico and Thailand had large net capital inflows in 1994 and 1996 (Frankel and Rose, 1996), respectively, in advance of their financial crises. It is probably easier to keep capital out than to keep it in. As earlier said, discouraging inflow (particularly temporary inflows), is meant to limit real appreciation and aggregate debt, and subsequently to have withstood contagion from other crises. Such controls have a role to play as a temporary measure when a country faces a large upsurge of inflows. They might help a government play for time until it can determine whether the funds are going to useful investments, which will generate the foreign exchange earnings needed in the future to service the debt, or whether they are instead going towards mere consumption. The efficacy of controls on inflows is likely to be greater than controls on outflows, in part because it is easier to "scare capital off" than to "keep it in against its will." Enforceability remains a serious limitation however, the more so as time goes by.

3. Check the Components of Capital Inflows

The knowledge the capital inflow is a leading indicator to the probability of currency crashes occurring at a future date. The higher the reliance on FDI, the lower the probability of crisis (Aremu, 2005). The higher the reliance on foreign-currency borrowing that is short-term or intermediated through banks, the higher the probability of crisis. In addition, bank flows in particular are more vulnerable to moral hazard problems than are other sorts of modes of finance, and that a mismatch of short-term bank liabilities with longer-term bank assets (e.g., real estate) leaves a country more vulnerable. Flows of longer-term securities have the advantage that the price of a stock or bond adjusts automatically in the event of adverse developments ("risk-sharing"), with fewer sticky negotiations with bankers over terms of rollovers or restructuring.

4. Introduce Tax on all Foreign Exchange Transactions

Introducing a small uniform tax on all buying and selling of foreign exchange (ie Tobin tax), with no attempt to ascertain the purpose of the transactions is equally a convenient way of discouraging unwanted capital flows. It is believed that a small Tobin tax would automatically dampen short-term capital movements (such as the majority of transactions that take place in well-developed foreign exchange markets, which are typically unwound within hours), more than it would discourage long-term movements or trade in goods and services.

Table 1 Purposes of Capital Controls

S/N	Purpose of Control	Methods	Direction of Control
1	Generate Revenue/ Finance War Effort	Controls on capital outflows permit a country to run higher inflation with a given fixed-exchange rate and also hold down domestic interest rates.	Outflows
2	Financial Repression/ Credit Allocation	Governments can use the financial system to reward favored industries or to raise revenue, may use capital controls to prevent capital from going abroad to seek higher returns.	Outflows
3	Correct a Balance of Payments Deficit	Controls on outflows reduce demand for foreign assets without contractionary monetary policy or devaluation. This allows a higher rate of inflation than other- wise would be possible.	Outflows
4	Correct a Balance of Payments Surplus	Controls on inflows reduce foreign demand for domestic assets without expansionary monetary policy or revaluation. This allows a lower rate of inflation than would otherwise be possible.	Inflows
5	Prevent Potentially Volatile Inflows	Restricting inflows enhances macroeconomic stability by reducing the pool of capital that can leave a country during a crisis.	Inflows
6	Prevent Financial Destabilisation	Capital controls can restrict or change the composition of international capital flows that can exacerbate perverse incentives in the domestic financial system.	Inflows
7	Prevent Real Appreciation	Restricting inflows prevents the necessity of monetary expansion and greater domestic inflation that would cause a real appreciation of the currency.	Inflows
8	Restrict Foreign Ownership of Domestic Assets	Foreign ownership of certain domestic assets—especially natural resources—can generate resentment.	Inflows
9	Preserve Savings for Domestic Use	The benefits of investing in the domestic economy may not fully accrue to savers so the economy, as a whole, can be made better off by restricting the outflow of capital.	Outflows
10	Protect Domestic Financial Firms	Controls that temporarily segregate domestic financial sectors from the rest of the world may permit domestic firms to attain economies of scale to compete in world markets.	Inflows and Outflows

5. Differentiate Interest Rates

Differentiating domestic interest rates from foreign interest rates in order to retain some independence for monetary policy is another way of controlling capital flows. The goal of policy independence is not directly relevant to the goal of minimising financial crises. Like it happened in Southeast Asia, in the face of large capital inflows they were able to sterilise the increase in reserves, so as to avoid real appreciations of their currencies. A reasonable interpretation is that they in fact were able to attain (only) a modest amount of policy independence through modestly incomplete liberalisation of capital markets.

B. Capital Controls and Exchange Rate Issues

Movement of capital flows could cause excessive exchange rate pressures, as it happened in early 1980's in Nigeria and the country was forced to adopt the second-tier foreign exchange market (SFEM). In fact, the magnitude and gyrations of capital flows have become the primary determinant of exchange rate movements on a day-to-day basis for most developing countries, rather than trade deficits and economic growth as in the past. Adverse expectations, especially fuelled by the uni-directional movement of currencies have often turned out to be self-fulfilling prophesies. For the majority of these economies, such exchange rate movements have had significant impact on both financial and real sector of the economy seriously affecting domestic growth trajectories.

It is in this context that, the choice of an appropriate exchange rate regime and the conduct of monetary policy has become more challenging tasks for monetary authorities. While fixed exchange rate is seen to have the advantage of a nominal anchor for "importing" credibility, providing transparency, reducing unpredictable volatility and transactions costs, floating exchange rate has the benefits of monetary independence, insulation from real shocks and a less disruptive adjustment mechanism in the face of nominal rigidities. Accordingly, the choice of exchange regime is not straightforward and is in fact contingent on a host of factors, such as the size of the economy, degree of openness, product diversification/export structure, divergence of domestic inflation from trading partners, labor mobility, vulnerability to real/nominal shocks, fiscal policy flexibility, capital mobility, credibility of policymakers and degree of economic/financial development.

No doubt, extensive work has been done in the area of exchange rate regime, across countries, yet it still continues to attract a fair share of attention on regular basis. Although the results of empirical studies on the experiences of different exchange regimes across countries differ, by and large, a majority of the studies infer that for relatively poor countries with little access to international capital

markets, pegged exchange rate regimes had worked well, delivering both relatively low inflation and relatively high exchange rate regime durability (Hussain et al., 2004). As countries developed economically and institutionally, some of them seem to have found considerable benefits in adopting a more flexible exchange rate system. In fact, the key distinction for exchange rate regime choice between advanced and emerging economies is found in the degree of financial maturity.

Because the determination of exchange rate has long been a sensitive topic in international finance, opinions differ as to which types of capital flows are important for exchange rate determination because some flows appear to matter far more than others do. The following questions always emerge: First, do net cross border capital flows explain exchange rate movements and if yes, is it net bond flows or net equities flows that matters? Second, is it the net accumulation of foreign assets that matter? Thirdly, through which channels do equity return differentials and interest rate differentials affect the nominal exchange rate? In foreign exchange markets, exchange rates are explained, to a large extent by the level of capital flows because the flows convey investors' private information. However, it has been difficult to identify which capital flow components convey the most private information, partly because private information by its very nature cannot be observed directly. In an IMF recent working paper, Gyntelberg et al., (2012) provided robust empirical evidence, using capital flows into Thailand as a sample, that not all capital flows influence exchange rate equally: capital flows induced by foreign investors' stock market transactions have both an economically significant and permanent impact on exchange rate, whereas capital flows induced by foreign investors' transactions in the government bond market do not.

The question is whether the private information contained in foreign exchange order flow is based primarily on information generated initially in stock or bond markets and is then subsequently transmitted to the foreign exchange market where it may generate follow-up adjustments in the currency's exchange value. There are several types of private information that stock market investors may have about the fundamental determinants of a firm's value. These include knowledge of the quality of the firm's products, the prospects for successful product innovation, management quality, and the strength and likely strategies of the firm's competitors. Private information may further include passively collected information about macro variables and other exchange rate fundamentals which may be dispersed among customers. This type of private information is relevant for both equity and bond market participants.

Private but dispersed information characterises many macro variables at the center of exchange rate modelling, such as output, money demand, and consumer preferences. These variables are first realised at the micro or household/firm level and only later aggregated by markets and/or governments. For some macro variables, government- provided aggregations exist, but their publication lags the underlying realizations by weeks and months, leaving room for market-based aggregation well in advance of their eventual publication. For other measures, such as risk preferences and money demand functions, the task of aggregation is left fully to markets.

These authors proposed that when it comes to external capital flows; it is foreign investors' private information that related to the stock market and not the bond market which drives the exchange rate. They tested this proposition using daily-frequency data from financial markets in Thailand, and found strong evidence in favour of this proposition. Specifically, they found that only the relatively small portion of foreign exchange flows that is driven by foreign investors' transactions in the stock market has a lasting effect on the exchange rate. Given that these flows in the stock and foreign exchange markets are consistent with information asymmetry between domestic and foreign investors, they infer that the reason these flows have a lasting effect on the exchange rate is that they convey investors' private information to the market. In contrast, the much larger portion of foreign exchange flows that is not explained by stock market variables plays at most a transitory role in determining the exchange rate.

Taken together, these findings strongly suggest that (at least for the case of Thailand) foreign exchange order flow is relevant for the exchange rate if it has to reflect investors' private information about the prospects of individual firms. Their findings also suggest that data collection efforts on external capital flows might be made more informative if they were categorized according to their private information content; and that analysts should focus their attention on those flows that convey private information.

Expected Stance on Nigeria's Exchange Rate Policy

Overtime, Nigeria's exchange rate policy essentially focuses on managing volatility with no fixed rate target, while allowing the underlying demand and supply conditions to determine the exchange rate movements over a period in an orderly way. The Central Bank of Nigeria (CBN) continues to follow the approach of watchfulness, caution and flexibility in regard to foreign exchange market as well as co-ordinates its market operations carefully, particularly in regard to the foreign exchange market with appropriate monetary, regulatory and other intervention measures as considered necessary from time to time in the

foreign exchange market. From this my observation, the conduct of exchange rate policy in Nigeria today appears to be guided by three major reasons viz: (i) to maintain orderly conditions in the foreign exchange market by providing foreign exchange as considered necessary from time to time, and to prevent the emergence of destabilising and speculative activities of participants in the foreign exchange market; (ii) to help maintain an adequate level of foreign exchange reserves; and (iii) to help eliminate market constraints with a view to facilitating the development of a healthy foreign exchange market.

If this agrees with the monetary authority's position, it is my suggestion that the various tiers of the governments in the country should be carried along for fiscal prudence. This is because the overall approach to foreign exchange rate and reserve management should be judiciously built upon a host of identifiable factors and other contingencies, which include: the size of the current account deficit of the country; the magnitude of short-term liabilities (including current repayment obligations on long-term loans); the possible variability in portfolio investments and other types of capital flows; the unanticipated pressures on the balance of payments arising out of external shocks; and movements in the repatriable foreign currency deposits of non-resident Nigerians.

Among the issues that could affect the exchange rates and reserves of the country of which the CBN must collaborate with the various tiers of governments:
First, the need for clear hierarchy in the nature of capital flows with equity flows getting more preference to short-term debt flows. Within equity investments, governments should ensure that FDI should be given precedence over portfolio investment.

Secondly, the Nigeria external liabilities have to be kept under constant watch and any eventuality of reverse movement should be factored in. For this purpose:

- external debt should be calculated not only in terms of its original maturity but also residual maturity,
- there should be a clear understanding of the quality and magnitude of contingent liabilities and derivatives,
- maturity profile of external borrowings should be carefully modulated so as to prevent payments that are difficult to implement,
- short term debt/trade credits need to be constantly monitored, and
- there should be flexibility of retirement/prepayment of costly debt at times of benign international interest rate regime.

Thirdly, that management of capital account involves a distinction not only between residents and non-residents or between inflows and outflows but also

between individuals, governments' functionaries, corporate institutions and financial intermediaries. The financial intermediaries are usually a greater source of volatility amongst these. Therefore, a necessary condition for capital account liberalisation of Nigerian economy is the presence of a well-regulated and mature financial sector with strong supervisory framework from the various organs of the government. Only after Nigerian financial sector has attained some degree of credibility and resilience could it gain from capital flows emanating from better accounting procedures, transparency norms, corporate governance etc.

Lastly, our foreign exchange reserves should at least be sufficient to cover likely variations in capital flows or the "liquidity-at-risk" and not to be continuously depleted monthly. Furthermore, adequate reserves, keeping in view the national balance sheet considerations, which include public and private sectors, also provide comfort and confidence to market participants. In addition, constant improvements in information base needs to be made to all stakeholders in the economy to ensure the appropriateness, timeliness and quality of data dissemination. It is important to communicate to the public, in a transparent way as possible, the type of policy that is being followed.

III. Capital Flow, Capital Control and ECOWAS Financial Integration Program

The lessons learnt from the Asian Financial Crisis and even the recent global financial crisis reinforce the need to monitor the capital flows in the region and channel appropriately the region's savings towards productive investments within the region. Unfortunately, ECOWAS financial markets are still individually and the range of products and openness within ECOWAS remains low. Unless ECOWAS financial markets work together to achieve parity with developed markets in terms of cost, liquidity, product range and technology investments, investors and issuers in the region will rely on the larger and more liquid markets outside the community, thus making the economic integration of the region less relevant. This threat of marginalisation has acted as a catalyst for greater capital market integration among ECOWAS Member States.

V.1 Objectives of ECOWAS Financial Market Integration

Under ECOWAS Common Investment Market (ECIM), greater cross-border access to investors can help broaden the investor base and range of products, and can provide the liquidity, scale and capacity to compete globally. Furthermore, financial integration can, by facilitating access to a larger pool of issuers, investors and financial services providers, build awareness of ECOWAS as an asset class

and enhance the attractiveness of the region for global capital flows. Holistic benefits of financial market integration include the following:

- There will be overall benefit to Member States in terms of promoting and facilitating economic growth, enhancing the breadth and depth of the financial market and diversifying sources of financing, investment channels and investor base.
- For investors, financial market integration will lead to enhanced product and service innovation, and lower prices for financial services as competition lowers transactions costs and allows larger regional firms to exploit economies of scale and scope. Investors can also now diversify their investments to a greater extent than before.
- The integration of financial markets will allow the financial intermediaries to benefit from economies of scale, leading to improved and more innovative services at lower prices, as well as from the opportunity to tap the larger pool of investors' resources in the region.
- For companies/issuers, harmonisation of standards can considerably reduce the administrative burden and costs by replacing many different sets of diverging rules with a single set. Under such harmonisation of standards, issuers seeking to issue equity or debt securities in more than one ECOWAS Member States will be required to prepare only one set of disclosure documents, with additional limited wrap-around for multi-jurisdiction offers.
- For governments and regulators, financial market integration will lead to a more efficient allocation of financial resources, arising from the fact that savings can flow more easily and at lower cost to investment and because barriers will have been dismantled. Through sequenced liberalisation and integration process, regulation of cross-border trades and investment will be strengthened as regulators are able to offer greater protection for investors. In addition, through harmonization and mutual recognition agreements, ECOWAS financial markets will be able to improve their regulatory standards by benchmarking with international standards and adopting best practices.
- Integration of financial system across Member States will also hasten the development of the less developed financial markets in the region as they would be able to benefit from the experiences of the more developed ECOWAS financial markets than from other Member States and thus accelerate their adoption of regional/ international standards.

Because of these reasons, and in spite of this paper's position on the need for capital control, there is a strong case for ECOWAS to step up its financial

integration initiatives to enhance capital flow among its Member States under its ECIM initiative. The Commission is taking necessary steps to ensure that the liberalisation of the financial sector among Member States is not an obstacle to the efforts of each individual market to develop themselves. To this end, the initiative is being worked out in a systematic and complimentary fashion so as to ensure that domestic and regional efforts progress efficiently and in tandem with Vision 2020. Policy harmonisation and coordination efforts are being enhanced and clear goal setting put in place for the short, medium and long-term. The Commission believes that having a clear roadmap on the liberalisation of the sector is critical with established milestones and regional stakeholders providing a systematic approach to ensure efficient financial integration.

V.2 ECOWAS Capital Market Integration

Given that ECOWAS capital markets are at different stages of development, rendering large differences in market practices, institutional development and regulatory standards, laws and process, an opt-in approach is proposed. This means that Member States which are ready will proceed with the support of ECOWAS Commission, while the other jurisdictions will undertake a more gradual approach and pursue integration initiatives as and when they are ready. The Commission is doing this through two approaches: First, strengthening ECOWAS capital markets through development and integration of the community. This is achieved through greater harmonisation in offering standards, facilitating mutual recognition, allowing greater flexibility in language and laws in securities issuance, enhancing tax structures and facilitating market linkages. Secondly, allowing greater capital mobility via its on-going regional payment and settlement system. This is expected to be achieved through liberalisation of capital movements across Member States, subject to having in place necessary safeguard mechanisms.

The Commission expects its various Committees to work out the modalities towards achieving the following:

1. Regulatory Alignment and Harmonization

Areas requiring attention of the Committees include regulation of special purpose vehicles, allowing the use of omnibus accounts for custody of exchange linked trades, prevention of cross-border market misconduct, and disclosure of material information in a timely manner to investors of exchanges, and non-discriminatory investor protection schemes and standards. The Committees are to set out a mid-term targets to achieve the ECOWAS interlinked market as soon as possible through:

- Alignment of environments – regulatory and legal (trading, clearing, settlement and custody, market conduct, enforcement and disclosure), and market practices (settlement deadlines and periods, operational hours, corporate action processing rules)
- Address impediments and barriers such as capital controls
- Address cooperation and partnership issues such as technical assistance, technology and infrastructure

2. Market Infrastructure to Facilitate Connectivity

The Committees are looking into the following trading models:-

- Dual / cross listing of securities Issue: Regulatory cost of listing due to disclosure and listing requirements of both exchanges
- Depository receipt instrument Issue: When a company depository receipt is traded on a foreign exchange, the listed company needs to satisfy the disclosure and listing requirements of both exchanges – again, this could add to the regulatory cost
- Offshore trading Issues: Issuers not subject to listing requirements of the foreign exchange and not therefore required to disclose information. Only need to comply with domestic requirements. Arrangements needed to allow dissemination, ease of access to information from corporate disclosures of the foreign issuers

IV. Conclusion

VI.1 Framework for Resiliency of Nigerian Capital Flow Management

The basic neoclassical model suggests that, with rising financial globalisation, capital should flow from rich to poor countries, making people in both sets of countries better off by enabling a more efficient international allocation of capital from countries where capital is less productive to those where it ought to be more productive. In addition, financial flows should allow for more efficient sharing of risk across countries, thereby facilitating the smoothing of national consumption against country-specific shocks to national output. These benefits are likely to be greater for developing countries, like Nigeria, as they have less capital and more volatile growth, implying that both the growth and risk sharing benefits would be larger for them. Have international capital flows delivered these benefits? Unfortunately, evidences that financial integration have accounted for systematically higher growth rates in developing economies is not robust. On the contrary, some observers have argued that financial globalisation is the proximate determinant of the financial crises experienced by many developing economies over the last two decades. And yet, financial globalisation has continued apace, with rising cross-border financial flows. In

practice, large capital flows can create substantial challenges for policymakers. These challenges have recently come to the forefront again for emerging market economies.

Capital controls, which prevent money from moving in and out of an economy irrespective of the economic health of the nation (causing financial instability), can insulate domestic monetary policy to some extent. This presentation has argued that such preventive method is acceptable particularly in emerging countries like Nigeria. Two types of such controls have been considered: controls on capital outflows, and controls on capital inflows. However, controls on outflows – and, in particular, quantitative controls on outflows, are largely ineffective because they are easily circumvented, encourage corruption and, may not help the adjustment process. A major drawback of controls on outflows is that, in most cases, they are not used as a temporary device to face a crisis situation but most often they become a permanent feature of the country's incentive structure. For capital controls on inflows however, it was argued that it: make monetary policy more independent; alter the composition of capital flows; reduce real exchange rate pressures. For both controls, it would be interesting, for policy purposes, for the CBN to examine differences between short run and long run impacts of the measures, so as to ascertain how quickly control measures lose their effectiveness.

From this presentation, two critical questions emerge under the current financial globalisation. First, is global financial integration avoidable? Secondly, if so, should it be avoided by Nigerian policy makers? If the answer to either of these questions is no, then Nigeria is going to have to live in a world characterised by occasional large shocks emanating from the capital account of the balance of payments. If this is so, it is likely that surges and reversals will continue to be facts of life for the economy like all other countries. It is the responsibility of the CBN to work out how the country can take advantage of external capital, while achieving resiliency to inflows/outflows in a financially-integrated world. How can such resiliency be achieved?

First, the composition of the country's external financing seems to be of paramount importance. Not only does the volatility of capital flows differ along a spectrum from FDI at one extreme to short-term foreign currency- denominated borrowing from banks at the other, but the growth benefits of different types of inflows seem to line up fairly closely with their stability. There is a strong professional presumption that FDI is beneficial for growth, and there's a significant amount of evidence supporting positive growth effects of portfolio equity flows, while there is little evidence that the more volatile debt-related flows have

significant growth benefits (see Jeanne et al., 2012). This suggests that Nigerian economy can reap growth benefits from international financial integration while enhancing their resiliency to the ebbs and flows of international capital flows if her external financing takes the form of equity rather than debt. But achieving this outcome has a strong institutional component: reducing corruption across the three tiers of governance, ensuring well-defined property rights, maintaining appropriate accounting and disclosure standards, and high standards for corporate governance.

A second important component of resiliency is a well-functioning domestic financial sector, meaning a financial sector that is well capitalised and regulated to minimise credit risk and to avoid currency mismatches in financial institutions and their customers, as well as one that is protected against panic by a well-functioning central bank (lender of last resort) and well-designed deposit insurance system. Resiliency is achieved under such a system by avoiding the misallocation of resources arising from capital inflows, by reducing the chances that inflows may trigger credit booms and asset-price bubbles, and by reducing the vulnerability of the system to sudden capital outflows.

Third, resiliency is also likely to be enhanced by an exchange rate regime that allows substantial short-run exchange rate variability, supported by a large stock of liquid foreign exchange reserves (a managed float with active intervention as the CBN regularly do in the foreign exchange market). Short-run exchange rate variability not only avoids the perception of exchange rate guarantees that may favour short-term foreign exchange-denominated capital inflows, but more importantly, provides an automatic stabiliser against the effects on macroeconomic stability of surges in capital inflows or sudden outflows. The overheating associated with large inflow surges can be at least partially offset by real exchange rate appreciation, and the contractionary effects of sudden outflows can be ameliorated by real exchange rate depreciation. The accumulation of reserves, by CBN, during inflow episodes and their use during sudden stops, on the other hand, can ensure that real exchange rate variability is not excessive, thereby preventing capital flows from too severely aggravating the signal extraction problem faced by agents deciding how to allocate capital between traded and non-traded activities in the domestic economy.

Fourth, because monetary policy is often the first line of defence against macroeconomic shocks, including those emanating from capital inflows and outflows, a resilient domestic environment will feature a central bank that can flexibly implement effective monetary policy without being constrained by reputational concerns, by fiscal dominance, or by concerns over its own

solvency. This implies a central bank that is independent, has a good understanding of the domestic monetary transmission mechanism, has cultivated an anti-inflationary reputation, and operates a well-understood policy rule.

Finally, the single most important component of resiliency is probably a fiscal one, including a safe margin of fiscal solvency, a set of fiscal institutions that allow the implementation of fiscal restraint during boom times, a preponderance of long-term, domestic currency denominated debt rather than short-term foreign currency debt among the government's liabilities, and strong automatic fiscal stabilisers. A safe margin of fiscal solvency is critical to prevent concerns about the government's ability to service its debt itself becoming a driver of capital outflows. However, it is also important to allow the government to run deficits when required to stabilise the economy in response to capital outflows triggered by other factors. It is also important that a country's fiscal institutions allow it to resist pressures to spend or cut taxes during good times (i.e., when output is above potential). Policy responses to capital-inflow episodes that favor a tight fiscal-loose monetary policy mix is likely to have a variety of beneficial effects, so institutions that encourage the exercise of fiscal restraint in booms are an important component of resiliency. Similarly, avoiding reliance on short-term foreign currency debt makes the government less vulnerable to Mexican-style liquidity crises. Designing strong automatic fiscal stabilisers (such as counter-cyclical transfer payments) would help minimise reliance on discretionary fiscal policy responses to both inflows and outflows, which may take time to implement.

References

Akerlof G. and P. M. Romer (1993). "Looting: The Economic Underworld of Bankruptcy for Profit", Brookings Papers on Economic Activity, University of Carlifornia, Berkley

Akyuz Y. (2012). "Financial Liberalisation: The Key Issues", South Centre Reprint Series No. 1. Geneva: The South Centre.

Aremu J. (2005). "Attracting and Negotiating Foreign Direct Investment with Transnational Corporation", Marletlink, Lagos.

Bakker A. and B. Chapple (1996). "Advanced Country Experiences with Capital Account Liberalisation", IMF Occasional Paper 214

Calvo G. and C. Reinhart (2000). "Fear of floating", Working Paper 7993, National Bureau of Economic Research, Cambridge, MA.

Calvo G., A., L. Leiderman and C.Reinhart (1996). "Capital Flows to Developing Countries in the 1990s: Causes and Effects", Journal of Economic Perspectives, 10, Spring 1996, 123-139

Chami R., C. Fullenkamp and S. Jahjah (2005). "Are Immigrant Remittance Flows a Source of Capital for Development?", IMF Staff Papers Vol. 52, No. 1, 2005 International Monetary Fund

Dadush U., D. *Dasgupta* and M. Rutha (2000). "The Ends of Globalisation: Bringing Society Back", In Lanham ed. "The Effect of Trade and *Foreign Direct Investment* on Employment and. Relative Wages"

Epstein G. (2012). "Capital Outflow Regulation: Economic Management, Development and Transformation in Regulating Global Capital Flows for Long-Run Development", Pardee Center Task Force Report. Available at http://www.bu.edu

Epstein G. (2005). Capital Flight and Capital Controls in Developing Countries Northampton: Edward Elgar.

Frankel, J. A., and A. K. Rose (1996). "Currency crashes in emerging markets: An empirical treatment", Journal of International Economics, Vol. 41, No. 3-4, pp. 351-366.

Gallagher K. P. (2011). "The Myth of Financial Protectionism: The New (and Old) Economics of Capital Controls", UMASS: Political Economy Research Institute.

Grabel I. (2003). "Averting Crisis? Assessing Measures to Manage Financial Integration in Emerging Economies", Cambridge Journal of Economics 27 (3):317-336.

Gyntelberg J., M. Loretan and T. Subhanij (2012). "Private Information, Capital Flows, and Exchange Rates", IMF Working Paper series

Husain A., M. Mody and K. Rogoff (2004). "Exchange Rate Regime Durability and Performance in Developing Advanced Economies", Journal of Monetary Economies, University of Rochester, New York

Institute of International Finance (IIF) (2012). "Capital Flows to Emerging Countries", IIF Research Note, The Global Association of Financial Institutions, New York

IMF (2000). Annual Report on Exchange Arrangements and Exchange Restrictions. Washington, DC, International Monetary Fund.

Jeanne O., A. Subramanian and J. Williamson (2012). "Who Needs an Open Capital Account?", Peterson Institute for International Economics: Washington.

Kaminsky G., and C. M. Reinhart (1999). "The Twin Crises: The Causes of Banking and Balance-of-Payments Problems", The American Economic Review, pp.473–500.

Krugman P. (1998). "What Happened to Asia?" (unpublished; Cambridge, Massachusetts: Massachusetts Institute of Technology).

Levine R. (1999). "International Financial Liberalisation and Economic Development", unpublished manuscript, University of Virginia (April).

Obiechina E. M. (2010). "Capital Flows and Financial Crises: Policy Issues and Challenges for Nigeria", CBN Economic and Financial Review, March, 2010

Obstfeld M. (2001). "International Macroeconomics: Beyond the Mundell-Fleming Model", NBER Working Paper 8369.

Obstfeld M. and A. Taylor (2004). "Global Capital Markets: Integration, Crisis, and Growth", Cambridge, Cambridge University Press.

Ostry J. (2010). "Capital Inflows: The Role of Controls", IMF Staff Position Note, International Monetary Fund, Washington, DC

Stiglitz J. E. (2000). "Capital Market Liberalisation, Economic Growth, and Instability," World Development 28 (6): 1075-1086.

Tobin J. (1978). "A Proposal for International Monetary Reform", Eastern Economic Journal,4(3-4), 153-159.

The World Bank (2013). "Rethinking the Role of the State in Finance", Global Financial Report, 2013, World Bank, Washington DC.

Domestic Credit Growth and International Capital Flows: Implications for Monetary Policy Management in Nigeria

Moses K. Tule*

I. Introduction

The financial crises of the last three decades have spurred interest in the dynamics of international capital flows. A number of studies have examined the behaviour of net capital flows, namely the difference between the foreign purchase of domestic assets (or capital inflows by foreigners) and the domestic purchase of foreign assets (or capital outflows by domestic agents). However, the literature is scanty about the individual behaviour of these two components on net capital flows.

Foreign capital flows, i.e. Foreign Direct Investment, FDI, (investment in real assets) and Foreign Portfolio Investment (investment in financial assets) often come in waves. During the 2008 global financial crisis, two key contributory factors that were identified in the crisis were the balance sheet problems associated with rapid credit growth in some countries (most obviously, Ireland and Spain) during the pre-crisis period and excessive external imbalances (Lane and McQuade, 2013) . Easy availability of credit in the U.S., fueled by large inflows of foreign funds after the Russian debt crisis and Asian financial crisis of the 1997–1998 periods, led to a housing construction boom and facilitated debt-financed consumer spending. Lax lending standards and rising real estate prices also contributed to the real estate bubble. Loans of various types (e.g., mortgage, credit card, and auto) were easy to obtain and consumers assumed an unprecedented debt load. For instance, Lane and Milesi-Ferretti (2011) have documented that the variation in the size of recessions during 2008-2009, was significantly related to the scale of credit growth during the 2003-2008 period and the size of outstanding current account imbalances.

In related study, Lane and Milesi-Ferretti (2011) show that above-normal current account deficits during the pre-crisis period was significantly associated with major declines in domestic demand and sharp reversals in private capital flows over 2008-2010. Foreign capital inflows, in principle, are necessary because they complement the domestic resources of the economy and enhance economic

* Moses Tule is the Director, Monetary Policy Department of the Central Bank of Nigeria. The usual disclaimer applies.

development. Hence, capital flows could contribute to amplifying economic cycles, fuel credit booms, appreciating the exchange rate, and could be subject to sudden reversals (Calvo, et al., 2008). For capital-scarce developing countries like Nigeria, off-shore capital inflows are desirable as they help to stimulate investment, employment and growth.

Ernst and Young (2013) showed that Nigeria has consistently ranked among the largest recipient of foreign capital in Africa, particularly FDI, over the last decade with amount totaling about US$120 billion. It further estimated that FDI inflows to Nigeria will average about US$23 billion per annum over the next five years. A spectra of variables which had helped to shore up the growth of foreign investor activity in the country, included improved international perception of the country's strong macroeconomic performance, debt relief, the global commodity (particularly oil) boom, improved governance situation and political stability (Ernst and Young, 2013). Liberalisation of the foreign exchange market and the lifting of restrictions on investors had also encouraged the entry of foreign investors into government and corporate debt market, equities, and money market instruments.

The growth in the number of Pan-African funds primarily established to satisfy the demand for Nigerian and sub-Sahara African exposure to foreign investors is another important factor. The shift towards portfolio flows shows the growing prominence of this source of external funding, as institutional investors search for better yields in Nigerian and other frontier markets' treasury bills, bonds, equities and currencies and, as against the unattractive interest rate regime prevailing in developed markets.

The demand for Nigeria's local debt by foreign institutional investors has remained high since October 2011 due to the high yields that have averaged 15 per cent over the last 3 years. The enabling regulatory environment and willingness of the Federal government to guarantee infrastructural bonds, has attracted even higher foreign portfolio capital inflows into the country. Thus, while foreign capital provides an important source of external financing for the country, especially in supporting domestic investment, the economy could be vulnerable to the volatile and speculative nature of such short-term portfolio capital flows, which are potentially injurious to macroeconomic management and are a major source of financial instability. Private capital inflows, which go to private sector agents, could reverse at the shortest notice, given an external shock or investor pessimism about the state of the macroeconomy.

The volatility in short-term capital flows became clearly manifest during the sub-prime mortgage crisis in 2008, when foreign investors pulled out of Nigeria and other frontiers markets' equities. This led to a loss of over 50 per cent of the value in many of these markets – a loss far higher than the loss recorded in the less open BRIC markets, particularly China and India.

Foreign capital inflows have the capacity to crowd out domestic investment; thus, making growth less sustainable compared with growth driven by domestic investment resources. While the analysis of the existence and extent of the spillovers of international capital flows to domestic credit has been done, such studies with empirical content on the impact on domestic credit for developing economies like Nigeria are still evolving. Against this background, this paper addresses four questions: how important and what is the structure, size and composition of international capital flows to Nigeria?; does international capital flow produce significant spill-over effects on domestic credit supply?; what is the relationship between international capital flow and domestic credit growth?; and what should be the reaction of the monetary authority to managing international capital flow risks? It is pertinent to state that the macroeconomic policy framework and its credibility are important for managing risks from rapid capital inflows and possible reversals. This paper investigates the effect of foreign capital flows on domestic credit growth, specifically, and its implication for monetary policy. The paper is structured into 6 sections. Section 2 provides the review of related theoretical and empirical literature. Section 3 provides stylized facts on the structure and changing structure of domestic credit and international capital flows in Nigeria while section 4 deals with capital flows and the dynamics of monetary policy in Nigeria. Section 5 provides the empirical analysis, while section 6 concludes the study.

II. Review of Related Theoretical and Empirical Literature

II.1 Theoretical Literature

The theoretical link between international capital flows and bank credit can be found in the context of the lending or boom-bust cycles following McKinnon and Pill (1996) and Giannetti (2007) as well as Daniel and Jones (2007) which brought to the fore the issue of financial globalisation, including liberalisation of the current account. Given the financial intermediation role of the banking system, an immediate impact could be, for instance, a precipitation of banking crises with attendant distortions to investment flow.

As it would become evident from the empirical perspective, lending booms are orchestrated by episodes of increased capital inflows; and huge credit

expansions are associated with financial liberalisation processes (domestic and international). Caballero (2010) opined "that after a liberalisation process a surge in capital inflows may take place during … early stages of financial development, allowing banks a bigger pool of funds from which to provide lending, but at the same time magnifying the moral hazard and incentives problems in the banking industry".

Although these theoretical constructs are largely intuitive, an extension to the literature has been prompted due to the opaque nature of some of the empirical evidence in aiding our understanding of the nexus between international capital and domestic credit expansion. Such areas of extension as in Caballero (2010) are the apparent difficulty of empirics to offer strong evidence that surges in capital flows are systematically associated with lending booms. Its inability to suggest a direct link between the level of capital flows and domestic credit growth; which kind of capital flows are associated with credit growth; and do not attempt to identify surges in capital. Intuitively some studies link banking vulnerabilities to surges in capital flows, a fundamental theoretical channel with the view to identifying country-specific excessive capital surges.

The international capital flows literature is widespread and of different dimensions. It is evident as Reinhart and Reinhart (2009) and Cardarelli et al., (2010) showed that the periods of high capital inflow coincided with incidences of higher macroeconomic volatility. Furceri et al., (2011), Caballero (2010), Reinhart and Reinhart (2009) and Edwards (2007) also noted the amplified risk of financial and balance of payments fragility. Linking high capital flow episodes with credit and asset prices, Mendoza and Torrones (2008) showed its likely effect of engendering credit and asset price booms. Such studies such as Borio and Disyatat (2011), Gourinchas (2012), Obstfeld (2012a, 2012b) found that international capital inflows have a tremendous impact on the funding environment and alters the portfolio mix of financial assets of domestic banks and non-banks.

Furceri et al., (2011b) investigated the effect of capital inflow shocks on the growth of domestic credit using panel data of developed and emerging economies from 1970 to 2007. The study found that in the two years following the start of a capital inflow shock, the credit-to-GDP ratio rises by about 2 percentage points. They showed that this trend would reverse in the medium-term with the ratio declining by almost 4 percentage points, seven years after the initial shock. The paper found that the effect is different depending on the type of flows characterising the episode (debt vs. portfolio equity vs. FDI), with large capital inflows that are debt-driven having the largest effect. The paper suggested that the short-term effect of capital inflow shocks on domestic credit

depends on countries' macroeconomic policy stances. In particular, the study found that this effect is lower in countries with higher real exchange rate flexibility and fiscal policy counter-cyclicality.

Borio and Disyatat (2011) approached the issue of capital flows and credit growth by a re-examination of the view that current account surpluses in several emerging market economies drive credit booms and risk-taking in the major advanced deficit countries at the heart of the crisis, by significantly subduing world interest rates and/or by funding the booms in such countries. Consequently, they conjectured that the main contributing factor to the financial crisis was not "excess saving" but the "excess elasticity" of the international monetary and financial system: the monetary and financial regimes in place were unable to curtail the accumulation of unsustainable credit and asset price booms ("financial imbalances"). Thus, the authors identify credit creation, which characterises a monetary economy as playing a fundamental role as a mechanism of the transmission of international capital inflows to the domestic economy.

Specifically, the literature highlighted the link between international capital flows and domestic credit. To resolve whether surges in international capital flows are linked with a higher probability of banking crises, and if it could happen through a lending boom channel, Caballero (2010) found by applying data for over one hundred countries during 1973-2008 that episodes of higher surges in the previous year strongly propagate systemic banking crises and it was three times higher in the contemporaneous year. The author found that for intense surges they operated through a mechanism other than lending booms. However, mild surges that result in crises were shown to be mainly through their association with lending booms. The study found that capital flow surges in both debt and portfolio-equity flows are associated with future crises although, portfolio flows produce a higher chance of a crisis.

Lane and McQuade (2013) showed that the main covariation pattern is between net international debt flows and domestic credit growth, noting that international equity flows were inconsequential channel of impact to the domestic economy. Luca and Spatafora (2012) found that both net capital flows and domestic credit benefitted from reductions in the global price risk and low interest rates. They noted also that greater domestic credit as capital inflow surge could increase the extent to which capital inflow transmit beneficially into the domestic economy. Indeed, Shin (2012) showed that movement of capital between Europe and the United States was responsible for the US credit boom in the mid-2000s. This point was similarly underscored by Cetorelli and Goldberg (2012), where they

highlighted the role of cross-border internal funding in determining the behaviour of global banks.

Bruno and Shin (2012) examined the relationship between international banking-sector flows and domestic private credit, noting that global liquidity and the leverage cycle of global banks as a key driver of credit growth in the countries that the authors studied. Jorda, et al. (2011) found that time was of paramount importance in the international capital flows and domestic credit growth dynamics, noting that although the bilateral correlation between credit growth and the current account was less important historically, it turned significant after 1975.

According to Magud, et al (2012) capital flow surges have frequently resulted in dramatic credit expansions in the advanced and emerging market economies. Analysing the effect of exchange rate elasticity on credit markets in episodes of huge capital inflows, the authors found that bank credit expands more swiftly in the emerging markets. Their findings showed that credit composition inclines to foreign currency in economies with relative rigid exchange rate regimes, and not predicated on whether the latter attract more capital inflows than economies with more flexible regimes. This point to the fact that countries with relatively rigid exchange rate regimes might benefit more from regulatory policies that streamline banks' incentives to access external markets and to lend/borrow in foreign currency. Some of such policies according to the author include "marginal reserve requirements on foreign lending, currency-dependent liquidity requirements, and higher capital requirement and/or dynamic provisioning on foreign exchange loans".

The literature, however, is salient on how monetary policy should react to managing capital flow risks in an oil rich environment, since it is very clear that there are country-specific peculiarities. In addition, for a developing country like Nigeria, it is not clear whether such spillovers produce significant influence on domestic credit as studies in this area is still scanty and evolving. The empirical evidence is still inconclusive on whether the relationship between international capital flow and domestic credit growth holds conventionally. It is obvious that domestic policy conditions could blur this link and assuming this possibility away could be misleading.

II.2 Theoretical Framework

The extent of integration of international capital markets influences researchers' view of the global economy and how economic convergence has evolved or might yet proceed. Capital is believed to always flow in the direction of large

profit differentials, and economists suggest that the evidence of interest arbitrage provides the evidence for perfect capital mobility. Thus, for an open economy, capital would always move in the direction of highest profit margin.

Inflows from abroad are a normal and necessary part of economic activity because financial intermediation between lenders and borrowers improves the efficiency of resource allocation and growth. The economic rationale for investing overseas is that investors could earn a higher economic return than the cost of invested funds and that these economic returns are then translated into financial returns. Foreign inflow problems for governments arise if the absorption capacity of the capital receiving country does not keep pace with growth in capital flows, leading to shocks to the domestic economy.

Feldstein and Horioka (1980) observed that, if domestic savings were added to a world saving pool and domestic investment competed for funds in that same world savings pool, there would be no correlation between a nation's savings rate and its rate of investment. The statistical evidence showed that, on the contrary, the long-term saving and investment rates of the individual industrialised countries in the OECD were highly correlated. The data were consistent with the view that a sustained one-percentage-point increase in the savings rate induced nearly a one-percentage-point increase in the investment rate. They found that domestic investment and saving rates were highly correlated. Their result focused on a strong condition for perfect capital mobility: if national saving declined, it should not necessarily "crowd out" domestic investment if the current account were able to take up the slack through capital inflows.

From the literature, four major approaches have been used to explain the theoretical basis for capital flows. They are the Mundell-Fleming model, the Current Account Models and Saving-Investment Balance and the Absorption approach. We rely specifically on the Current Account Models and Saving-Investment Balance in the balance of payments framework, to generate the theoretical basis for this study.

The balance of payments comprises the current account, capital account plus the monetary account (changes in reserve assets) which is really a settlement account of the above two. The current account represents payments related to *current* economic activities such as output, consumption, investment, employment, use of capital, etc. It is the sum of trade in goods and services, factor payments across countries (wage, interest, rent, dividend), and unilateral transfers (ODA grants, workers' remittances, gifts, among others). The capital account on the other hand, deals with payments related to transfers. The current

account plus the capital account makes up the overall balance which shows the sum of all autonomous transactions (both private and official), which may be positive or negative. Generally, a current account surplus means that a country is producing more than it spends. It exports more than it imports, so the country is a *net lender* to the world. Conversely, a current account deficit means a country's spending exceeds its output i.e. imports are greater than exports, and the country is *borrowing from the world*. There are about four methods in the literature for determining the current account i.e. inter-temporal optimisation model; absorption approach; saving-investment balance approach and elasticities approach. However, the analysis in this study would be limited to two of these approaches - absorption approach and savings-investment balance approach.

II.2.1 Absorption Approach

The absorption approach is a macroeconomic-oriented approach which relies on macroeconomic identities. Its strength is simplicity and practicality, while the weakness is the lack of deep theoretical foundation. However, it is more useful for looking at the real conditions of a country.

Given the national income identity:

$$Y = C + I + G + X - M \quad \ldots\ldots 1$$

(Y: income, C: private consumption, I: private investment, G: government spending, X: exports and M: imports)

$$C + I + G \quad \ldots\ldots 2.\ldots$$

Equation 2, the so called "domestic demand" or "absorption" identity.

$$A = C + I + G \quad \ldots\ldots 3$$

The current account CA is $X - M$ (here, we ignore other items in the current account like ODA grants, factor income, etc).

$$CA = X - M \quad \ldots\ldots 4$$

From 4, we can see that

$$X - M = Y - A \quad \ldots\ldots 5$$

or simply, $CA = Y - A \quad \ldots\ldots 6$

The current account is an excess of a nation's production (=income Y) over absorption (=domestic demand or A). Y is what the country produces, A is what it spends (for consumption and investment), and the gap is CA.

Current account (CA) surplus means the country is saving part of its income, and a CA deficit means it overspends its income. If a country is experiencing a CA deficit, there are only two solutions provided by this model: increase Y or decrease A. Increasing Y is a supply-side problem. The IMF position is that

economic liberalisation (free trade, privatisation, deregulation, among others) would favour private sector investment and boost output.

Decreasing A is a demand-side problem. Usually, it means austerity--tight budget and tight money. This is the most traditional IMF conditionality. Thus, the classical solution is macroeconomic adjustment combined with economic liberalisation.

II.2.2 Saving-Investment Balance Approach

The saving-investment approach is very similar to the absorption approach, because it is based on one macroeconomic-oriented additional simple identity. Recall the previous national income identity on the *expenditure* side:

$$Y = C + I + G + X - M \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots 1$$

To this, we add the national income identity on the *disposal* side (how people earn income and allocate it to different uses):

$$Y = C + S + T \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots 2$$

(S: saving, and T: taxes)

This says that income is divided into consumption, saving and taxes. Combining equations 1 and 2, we have:

$$X - M = (S - I) + (T + G) \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots 3$$

Equation 3 is an identity. $CA = (X - M)$ is identically equal to *net private saving*$(S - I)$ plus *net government saving* $(T + G)$. The current account is the net savings of the two sectors combined. According to this view, a CA deficit means that either the private sector or the government (or both) have negative savings (called *dissaving*). In many cases, the government overspends its budget. Alternatively, maybe both sectors are dissaving (i.e., suffer from savings shortage). There are two possible ways to reduce the deficit in the current account: increase net private savings or increase net government savings. To increase net private savings (S - I), discouraging investment is generally undesirable (unless there is an investment bubble). The better solution is to encourage private savings. Various institutional adjustments (tax system, banking, housing, pension, social security and insurance, among others, could be carried out to strengthen incentives to save and remove incentives to consume more. To increase net government savings $(T + G)$, taxes must go up to increase revenue or a cut in expenditure is desirable.

In a closed economy, the national return on additional savings is the domestic marginal product of capital. The question of whether the government should pursue policies to increase the savings rate is therefore equivalent to deciding whether this domestic marginal product of capital offers a high enough reward to justify postponing consumption. Although taxes on capital income could

reduce the net yield that individual investors receive, the country as a whole receives both the after-tax yield and the tax revenue; it is this pre-tax marginal product of capital that should influence national saving policy in a closed economy.

In contrast, if capital is perfectly mobile between countries, most of any incremental saving will leave the home country (if it is already a capital exporter) or will replace other foreign source capital that would otherwise be invested in the home country (if it is already a capital importer). In this case, the yield to the home country on the additional savings is only the net-of-tax return received by the investor and not the pre-tax marginal product of capital. On the other hand, the foreign governments collect the additional tax revenue, if the additional savings is invested abroad. If the additional savings reduces capital imports into the home country, the tax revenue of the domestic government remains unchanged and national income rises only by the after-tax returns.

From the model, fixing the so-called investment-savings mismatch would require capital inflow from abroad to finance investment activity or to supplement domestic savings. Most developing economies view the need to attract foreign capital to supplement domestic resources as significant, in view of growing mismatch between their capital requirements and saving capacity. For many of them, foreign capital is a key element in their development strategy against the other forms of foreign financing like debt.

II.2.3 The Mundell-Fleming Model

The Mundell-Fleming model is an extension of the IS-LM model. Whereas the traditional IS-LM Model deals with economy under autarky (or a closed economy); the Mundell-Fleming model describes an open economy. Unlike IS-LM model which shows the relationship between interest rate and output in the short run, the Mundell-Fleming model portrays the relationship between the nominal exchange rate and an economy's output.

The model argues that an economy cannot simultaneously maintain a fixed exchange rate, free capital movement, and an independent monetary policy. The literature refers to this principle as “the Unholy Trinity," the "Irreconcilable Trinity," the "Inconsistent trinity" or the Mundell-Fleming "trilemma.". From the Mundell–Fleming model, when the global interest rate increases above the domestic rate, capital flows out to take advantage of this opportunity. The traditional model relies on the following equations:

$$Y = C + I + G + X - M \quad \ldots 1$$

Where Y is GDP, C is consumption, I is Investment, G is government spending and $X - M$ is net exports.

$$\frac{M}{P} = L(i, y) \quad \ldots 2$$

Where M is money supply, P is average price, L is liquidity, i is the interest rate and Y is GDP

$$BOP = CA + KA \quad \ldots 3$$

Where CA is the current account and KA, the capital account.

IS Components

$$C = C\big(Y - T, i - E(\pi)\big) \quad \ldots 4$$

Where C is consumption, Y is GDP, T is taxes, i is the interest rate, $E(\pi)$ is the expected rate of inflation.

$$I = I\big(i - E(\pi)\big), Y_{-1} \quad \ldots 5$$

Where I is investment, i is the interest rate, $E(\pi)$ is the expected rate of inflation, Y_{-1} is GDP in the previous period.

$$G = G \quad \ldots 6$$

Where G is government spending, an exogenous variable.

$$NX = NX(e, Y, Y*) \quad \ldots 7$$

Where NX is net exports, e, is the real exchange rate, Y, is GDP, $Y*$ is the GDP of a foreign country.

BoP Components

$$CA = NX \quad \ldots 8$$

Where, CA is the current account and NX is net exports.

$$KA = z(i - i*) + k \quad \ldots 9$$

Where z the level of capital mobility, i is the interest rate, $i*$ is the foreign interest rate, k is capital investments not related to i, an exogenous variable. KA, is the capital account.

An increase in the global interest rate under flexible exchange rate regime would cause an upward pressure on the local interest rate. The pressure subsides as the local rate closes in on the global rate. When a positive differential between the global and the local rate occurs, holding the LM curve constant, capital flows out of the local economy. This depreciates the local currency and helps boost net exports. Increasing net exports shift the IS curve to the right. This shift continues to the right until the local interest rate becomes as high as the global rate. A decrease in global interest rate causes the reverse to occur.

III. Structure and Dynamics of Credit and International Capital Flows in Nigeria

According to Broner et al., (2013a), gross capital flows, i.e. capital inflows by foreigners and capital outflows by domestic agents, are large and volatile both in absolute terms and relative to the size and volatility of net capital flows. While the size and volatility of net capital flows have remained unevenly constant over the last decades, both have increased significantly over time for gross capital flows reflecting an increasingly positive correlation between capital inflows by foreigners and capital outflows by domestic agents (Broner et al., 2013b). The literature has established that capital inflows are pro-cyclical and that related retrenchment towards home financial markets is particularly acute during crisis associated with information asymmetry of both foreign investors and domestic agents. The retrenchment during crises (banking, currency, and debt) affected all types of gross capital flows, including foreign direct investment (FDI) and portfolio investment (PI). However, reserves play an important role in the contraction of capital flows in low –income countries (Broneretal., 2013b).

Dell'Erba and Reinhardt (2013) suggested that unlike other sectors of an economy, FDI surges in the financial sector are accompanied by a boom-bust cycle in GDP growth and driven largely by global and contagion factors. They emphasised that financial-sector FDI is a less safe capital flow than other types of FDI contrary to other literature on the impact of capital controls such as Magud et al. (2011), which claimed that a shift in the composition towards FDI has been beneficial with respect to the riskiness of a country's external balance sheet. Furthermore, they argued that regulations restricting lending and borrowing in foreign currencies, reducing the prospect of surges in financial-sector FDI, might have implications for the design of future prudential regulation policies.

III.I Structure and Dynamics of Domestic Credit

Relative to other economies during the crisis years, there have being consolidation of loans to the private sector segment in Nigeria, from ₦2,303.70 billion or 52.1 per cent of GDP in 2006Q2 to ₦15,692.03 billion or 153.8 per cent of GDP in 2013Q2. However, credit to the Federal Government dropped by –₦2,758.31 billion, from ₦360.79 billion or 8.15 of GDP to a deficit of ₦2,397.52 billion or -23.49 per cent of GDP in the same period. In the peak years of the crisis, there was an increase in government lending, given its consistent budget deficits and the reluctance of banks to lend to businesses to minimise bad loans. But in recent years, government lending has decreased owing to increased government borrowing in foreign markets.

Table 1: Dynamics and Structure of Domestic Credit in Nigeria

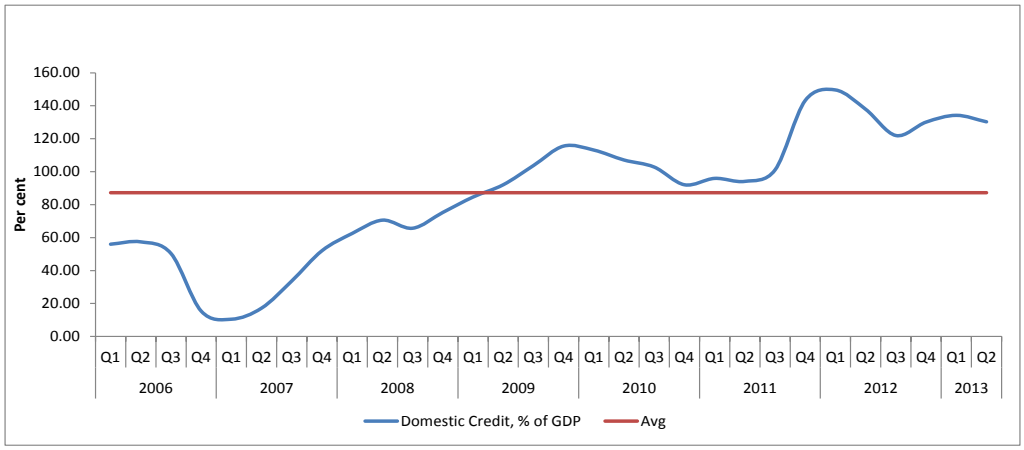
₦'Billion		Domestic Credit	%GDP	Of which, granted:			
				Fed Govt	% GDP	Private Sector	%GDP
2006	Q1	2,598.85	65.49	471.89	11.89	2,126.96	53.60
	Q2	2,664.49	60.20	360.79	8.15	2,303.70	52.05
	Q3	2,336.53	46.86	-235.14	-4.72	2,571.68	51.57
	Q4	714.21	13.83	-1,936.62	-37.49	2,650.82	51.32
2007	Q1	540.32	11.40	-2,508.63	-52.92	3,048.94	64.31
	Q2	888.71	18.31	-2,615.01	-53.88	3,503.72	72.18
	Q3	1,740.31	31.50	-2,462.86	-44.58	4,203.17	76.08
	Q4	2,688.24	48.54	-2,368.48	-42.77	5,056.72	91.30
2008	Q1	3,462.33	62.54	-2,502.00	-45.20	5,964.33	107.74
	Q2	4,038.24	70.60	-2,716.45	-47.49	6,754.68	118.08
	Q3	4,244.63	65.69	-3,230.04	-49.99	7,474.67	115.67
	Q4	4,951.86	75.28	-3,107.69	-47.24	8,059.55	122.52
2009	Q1	4,620.52	84.61	-3,605.92	-66.03	8,226.44	150.65
	Q2	5,406.93	92.07	-3,150.02	-53.64	8,556.94	145.71
	Q3	6,854.25	103.72	-2,957.11	-44.75	9,811.36	148.47
	Q4	7,917.04	115.54	-2,302.29	-33.60	10,219.34	149.14
2010	Q1	8,401.20	113.12	-1,649.47	-22.21	10,050.67	135.33
	Q2	8,612.94	107.08	-1,489.88	-18.52	10,102.82	125.61
	Q3	9,309.84	102.81	-1,026.28	-11.33	10,336.11	114.14
	Q4	8,708.55	92.06	-1,121.80	-11.86	9,830.34	103.92
2011	Q1	8,206.79	95.94	-1,240.16	-14.50	9,446.95	110.44
	Q2	8,889.64	94.12	-1,068.31	-11.31	9,957.95	105.43
	Q3	9,962.53	101.08	-1,148.21	-11.65	11,110.74	112.73
	Q4	13,686.73	143.24	-496.86	-5.20	14,183.59	148.44
2012	Q1	13,679.08	149.61	-440.81	-4.82	14,119.89	154.44
	Q2	13,567.43	137.88	-1,133.63	-11.52	14,701.06	149.40
	Q3	13,376.40	121.97	-1,377.60	-12.56	14,754.00	134.53
	Q4	13,782.53	130.10	-1,353.19	-12.77	15,135.71	142.87
2013	Q1	12,740.97	134.20	-2,520.97	-26.55	15,261.94	160.76
	Q2	13,294.51	130.28	-2,397.52	-23.49	15,692.03	153.77

Source: Authors' calculation based on CBN Monetary Survey for various years.

III.1.1 Dynamics of Total Domestic Credit

In absolute terms, the total domestic credit rose by ₦10,630.02 billion, from ₦2,664.49 billion or 60.2 per cent of GDP in 2006Q2 to N13,294.51 billion or 130.3 per cent of GDP in 2013Q2. Reasons for the increase was attributed to CBN's policies which promoted certainty in macroeconomic management and its interventions programmes such as funding of DFIs (Bank of Industry, among others) and establishment of Assets Management Corporation of Nigeria (AMCON) that enabled banks to regain financial capacity for credit.

Figure 1: Total Domestic Credit in Nigeria, percentage of GDP (2006Q1– 2013Q2)



The dynamic nature of domestic credit is relatively strong compared with the period up to 2009. Although higher than the value at the beginning of the crisis, total domestic credit recorded contraction of 6.3 per cent of GDP in 2010 compared to 31.9 per cent of GDP in 2009. Following the crisis period when the intermediary role of banks experienced decline, their lending capacity maintained a value above ₦13, 500 billion in 2011 and 2012.

III.1.2 Dynamics of Capital Flows: Stylized Facts

Nigeria has gradually been opening up its capital account, with increase in capital flows reflecting liberalisation and a relatively easy restrictive environment. One major factor for increase in private inflows is financial stability brought about by reform and improved macroeconomic environment. Moreover, a number of emerging and developing economies appeared relatively insulated from the first round effects of the crises that engulfed major financial centres and 'temporary safe havens' for international capital flows to take advantage of interest differentials.

With the financial reforms and macroeconomic stability, Nigeria has continued to receive substantial inflows in the form of portfolio inflows as investment in the bonds and equities markets since 2004. During the crisis period in 2008, inflows slightly recessed but recovered in 2010. The direction of net capital flows depends on many factors. Prasad and Rajan (2008) pointed to a variety of factors that make impact of capital account liberalisation less predictable. Some determinants of net flows are the domestic business cycle, growth prospects, world business cycle and financial sector liberalisation (Bayoumi and Ohnsorge, 2013).

Capital flows to Nigeria, measured by current account balance, decreased by US$1,902.71million or 23.7 per cent of GDP, from a surplus of US$8,039.23million or 21.7 per cent of GDP in 2007Q1 to US$6,136.52 million or 10.2per cent of GDP in 2013Q1.From 2007Q1 until 2013Q3, the current account averaged surplus of US$4,795.9 million, reaching a high of US$8,910.46 million in 2008Q4 and a negative of US$3,862.83 million in 2011Q3. During the crisis years, the capital flows slowed, averaging US$3,355.10million or 5.8 per cent and US$2,190.20million or 3.8 per cent in 2010 and 2011, respectively, compared with US$7.324.08 million on average or 8.6 per cent of GDP in 2009. Following improved macroeconomic performance and positive external developments, capital flows in Nigeria recovered to average of US$5,107.09 million or 7.8 per cent of GDP in 2012.

Table 2: Capital Flows in Nigeria, 2007Q1 – 2013Q2

Capital Inflows in Nigeria, US$ Million (2007Q1 - 2013Q2)																										
	2007				2008				2009				2010				2011				2012				2013	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Foreign Direct Investment	667.88	1,070.11	1,689.54	854.05	1,225.24	1,746.31	712.43	977.30	1,451.34	793.70	424.16	657.19	73.93	212.21	299.29	143.50	553.73	469.53	340.18	389.90	524.76	214.24	421.16	839.71	561.42	400.91
Equity	643.89	1,068.09	1,684.53	847.02	1,188.52	1,725.88	706.95	976.33	1,449.69	793.17	412.26	650.56	66.43	197.17	294.28	110.46	536.76	427.34	177.46	357.34	512.26	195.36	412.06	812.33	541.31	400.80
Other capital	23.99	2.02	5.01	7.02	36.71	20.44	5.49	0.97	1.65	0.53	11.91	6.64	7.50	15.04	5.01	33.04	16.97	42.20	162.72	32.56	12.51	18.89	9.10	27.37	20.11	0.11
Portfolio Investment	469.63	681.62	970.97	1,572.25	1,562.42	744.73	638.21	484.34	286.54	451.10	451.23	351.14	1,052.18	820.05	903.01	1,091.67	1,015.09	1,364.12	1,094.65	1,039.26	2,955.64	2,301.56	3,413.90	4,816.41	5,750.51	4,487.50
Equity	337.25	271.36	786.08	1,093.77	892.02	457.53	516.77	483.64	285.14	408.23	401.23	348.64	927.58	580.58	691.95	842.89	940.30	1,068.32	812.12	870.77	2,634.50	1,991.04	2,982.28	4,213.00	4,930.55	3,994.21
Bonds	131.52	410.00	116.90	399.68	307.57	60.16	52.32	-	-	12.62	-	-	-	0.07	-	-	0.10	13.30	33.75	19.34	74.41	131.81	10.16	368.80	599.42	150.74
Money Mkt Instrumts	0.86	0.26	68.00	78.80	362.82	227.04	69.12	0.70	1.40	30.25	50.00	2.50	124.60	239.40	271.06	248.78	74.69	282.51	248.78	149.15	246.74	178.71	421.46	234.61	220.54	402.55
Other Investments	361.62	275.59	341.31	618.61	1,436.02	803.10	538.48	301.11	84.52	187.51	259.44	306.02	633.97	307.54	297.93	160.42	238.11	732.21	176.92	490.06	135.81	315.93	288.40	388.35	288.64	729.25
Trade credits	-	-	-	82.72	-	15.00	-	-	-	7.41	-	0.51	-	-	0.15	-	-	-	-	1.37	43.67	-	0.87	-	-	-
Loans	350.45	275.51	339.93	535.50	1,348.22	593.47	492.78	301.11	84.52	179.90	252.74	299.51	633.27	306.54	297.32	160.35	213.74	732.21	176.92	488.42	85.45	315.06	277.54	355.07	286.27	690.61
Currency deposits	-	-	-	-	-	-	-	-	-	-	3.20	6.00	-	-	-	-	-	-	-	-	-	-	-	30.03	1.73	-
Other claims	11.17	0.08	1.37	0.39	87.80	194.63	45.70	-	-	0.20	2.51	-	0.70	1.00	0.45	0.07	24.37	-	-	0.27	6.69	0.87	9.99	3.29	0.64	38.64
Current Account Balance	8,039.23	9,213.47	1,300.29	9,327.54	8,447.46	9,681.33	1,366.32	9,801.19	4,029.34	4,617.88	651.72	4,675.05	1,360.84	3,705.43	1,941.34	6,412.79	4,716.87	5,413.99	(3,862.83)	2,492.76	4,601.06	1,987.76	8,910.46	4,929.08	6,136.52	N/A
Intl. Investment Position																										
Assets				77,498.53				88,463.64				83,928.45				83,668.50				101,690.91				N/A		
Liabilities				66,289.60				75,622.12				84,652.42				94,054.42				106,420.90				N/A		
Net				11,208.93				12,841.52				(723.97)				(10,385.92)				(4,729.99)				-		

Source: CBN Statistical Bulletin for various years

In terms of the composition of capital inflows, FDI declined by US$266.97 million, from US$667.88 million or 1.8 per cent of GDP in 2007Q1 to US$400.91 million or 0.6 per cent of GDP in 2013Q2. Although FDI value has recovered to an average of US$499.92 million or 0.8 per cent of GDP in 2012, from the crisis period of US$182.23 million average or 0.3 per cent of GDP in 2010, it remained modest compared with the pre-crisis period. In contrast, portfolio investment increased by US$9,719.31million, from US$3,694.47million or 2.3 per cent in 2007 to US$13,413.78 million or 5.6 per cent of GDP in 2012. Portfolio investment (PI) share of private capital flows to Nigeria has been on a phenomenal increase that by 2010, PI has surpassed every other type of capital inflows into Nigeria with FDI and Trade Credits declining in absolute terms. This is attributable to the positive effect of the CBN's policy on foreign investment in short-term instruments and the relatively high yield on those instruments.

Given these developments, Nigeria's net international investment position has recovered significantly by -US$15,938.92million, from US$11,208.93million or 25.7 per cent of GDP in 2007 to negative of US$4,729.99million or -7.8 per cent of GDP in 2011, reflecting an increase in external financial liabilities of the economy. During the crisis period, the net international investment position declined to negative of US$10,385.92million or -16.5 per cent of GDP in 2010.

IV. Empirical Presentation and Analysis

IV.1 Methodology

This section presents the data sources and methodology adopted. Domestic credit growth was measured as the quarterly ratio of credit to private sector to GDP. In terms of aggregate net flows, the current account balance (CAB) was included. Aggregate net flows between net debt flows and net equity flows were splitted. Quarterly data from the first quarter of 2000 to the second quarter of 2013 was used. In relation to other possible covariates of domestic credit growth, net domestic credit was examined, which was taken from the Central Bank of Nigeria's Monetary Survey. The data were sourced mainly from the Central Bank of Nigeria.

A dummy variable (E) was constructed to capture the role of net flows. The deviation of the credit to GDP ratio from its historical trend was used, where the dummy takes a value of 1, if the trend deviation is higher than the standard deviation of the de-trended levels. The trend level is obtained using the Hodrick-Prescott (HP) Filter, while the trend deviation is the standard deviation of the trend. Essentially, this measure captures the impact of large episodes of inflow on the change in the credit to GDP ratio and in particular, how persistent changes in the credit ratio had been. The study adopted the ordinary least square estimation method for the empirical analysis. Prior to estimation, unit root tests were conducted to test for the statistical properties of the data by leveraging on the Augmented Dickey Fuller (ADF) test, for the existence of unit roots. Using co-integration technique the study assessed the long-run stability of the model. The study used two measures of domestic credit namely; the ratio of private sector credit to GDP and net domestic credit. Capital flows was measured by current account balance (CAB), foreign direct investment (FDI) and foreign portfolio investment (FPI). Net debt and net equity flows were removed because of incomplete data series.

IV.2 Estimation Technique and Model Specification

The literature on capital flows contains three main classes of models explored to investigate the impact of foreign capital inflows on domestic credit. They include

the multi-equation model; vector auto-regressive (VAR) models and simple linear models. Estimations based on VAR models captured the dynamic inter-relations between domestic credit growth and international capital flows. As Okpanachi (2012) observed, VAR based and other multi-equation models typically endogenise capital flows (Christensen, 2004) and other variables that may not in reality belong to the system (Kwack 2001, Glick and Hutchison, 2000).

IV.2.1 The Model

In the wake of rising capital inflows and the possibilities of sudden stops, borrowing in the international credit markets by credit creating institutions to lend in the domestic credit markets to close the loan gap, has become a sort of a concern in the macro-prudential literature. Although, it is not yet established if Nigerian banks are hugely leverage to foreign institutions and it is not in doubt that capital flows in addition to other market related factors constitute drivers of domestic credit expansion. In Nigeria, monetisation of oil receipts impact domestic liquidity through the creation of net foreign assets, and in recent times, the country has received significant inflows that require the understanding of their impact on credit growth. Overleveraging of domestic financial institutions could result in a financial crisis in the face of sudden capital reversals prompting corrective measures and the placement of trigger thresholds such as cap on credit to GDP ratio for policy interventions. Thus, following Lane and Mcquade (2012), this study specify the credit cycle to include both short-and long- run dynamics of relevant capital inflow variables such as FDI, FPI and CAB given the observed link between capital flows and domestic credit growth. Other factors include money supply, output growth and GDP per capita. This paper adopts the single equation approach given the generally unidirectional causality of other factors to credit to GDP ratio and the near absence spillover of capital flows and domestic credit growth. Other factors include: money supply, output growth, and GDP per capita. This paper adopts the single equation approach, given the generally unidirectional causality of other factors to credit to GDP ratio and the near-absence spillover of credit to other economies as a small open price taking country. The algebraic representation of the model is of the form:

$$CRDT_{it} - CRDT_{it-w} = \phi_0 - \phi_q CRDT_{it-w} + \phi_q \ln(GDPPC_{it-w}) + \phi_q M2_{it-w} +$$

$$\phi_q \mathrm{GDP} + \phi_q * \sum_{k=t-(w+1)}^{k=t} \mathrm{INTFLOWS_{ik}} + \mathrm{e}_{iw} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 5.1$$

Where, $CRDT_t$ is the level of domestic credit to the private sector (expressed as a ratio of GDP), NDC is net domestic credit, and measures of international financial flows (INTFLOWS), namely, current account balance (CAB), foreign direct investment (FDI) and foreign portfolio investment (FPI). The inclusion of the

lagged level of credit $CRDT_{t-1}$ and the lagged level of GDP per capita ($GDPPC$) is to capture convergence dynamics.

IV.3 Empirical Analysis

Table 1: Correlation Results

	CPGDP	LFDI	LFPI	LGDPPC	LM2	LNDC	LNGDP	LCAB
CPGDP	1							
LFDI	0.031367	1						
LFPI	0.734214	0.206404	1					
LGDPPC	0.742707	0.354797	0.786981	1				
LM2	0.876089	0.262165	0.828028	0.965728	1			
LNDC	0.838256	0.12853	0.684737	0.868628	0.899841	1		
LNGDP	0.760561	0.343555	0.79846	0.999259	0.971656	0.879068	1	
LCAB	0.227888	0.52538	0.403361	0.589264	0.486582	0.375442	0.581177	1

Examining the different measures of capital flows, the correlation analysis shows that foreign portfolio investment has a significant correlation with ratio of private credit to GDP (0.73) and net domestic credit (0.68), whereas, the correlation between foreign direct investment and these same variables were clearly insignificant recording, (0.03) and (0.13) respectively. The correlation analysis between foreign direct investment and nominal GDP showed a weak relationship (0.34). The outcome is in line with the theoretical linkage between credit and output, suggesting that whatever impacts on credit also affect domestic production. Another striking feature is the weak correlation pattern observed between current account balance (CAB) and domestic credit, which suggests that, unlike other jurisdictions, the CAB, is not a significant determinant of the level of domestic credit. This result is in tandem with Lane and Mcquade (2012) who in their study on domestic credit and international capital flows found that the CAB is inadequate for measuring capital flows.

Table 2: Unit Root Tests

Variable	First Difference	Included Constant	Order of Integration
Current Account Balance	-10.75407	a	I(1)
Credit to the private sector	-4.692426	a	I(1)
Foreign Direct Investment	-4.491409	a	I(1)
Foreign portfolio investment	-6.674672	a	I(1)
GDP Per Capital	-2.950762	a	I(I)
Broad Money Supply	-8.050618	a	I(1)
Net capital flows	-3.375716	a	I(1)
Nominal GDP	-7.680868	a	I(1)
Net Domestic Credit	-4.739160	a	I(1)
Credit to GDP ratio	-5.655079	a	I(1)
Credit to GDP ratio(2)	-3.746064	a	I(1)

Augmented Dickey Fuller critical values: 1.0 per cent: **-3.568308**; 5.0 per cent: **- 2.921175**; 10.0 per cent: **-2.598551**. The parameter a is the included constant in the ADF model

Table 3: Pairwise Granger Causality Tests

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
LFDI does not Granger Cause CPGDP	52	0.66582	0.5186
CPGDP does not Granger Cause LFDI		0.96151	0.3897
LFPI does not Granger Cause CPGDP	52	2.53226	0.0903
CPGDP does not Granger Cause LFPI		0.47075	0.6274
LGDPPC does not Granger Cause CPGDP	52	4.27033	0.0198
CPGDP does not Granger Cause LGDPPC		0.87031	0.4255
LM2 does not Granger Cause CPGDP	52	2.86434	0.0670
CPGDP does not Granger Cause LM2		0.87864	0.4221
LNDC does not Granger Cause CPGDP	52	0.10869	0.8972
CPGDP does not Granger Cause LNDC		3.50102	0.0383
LNGDP does not Granger Cause CPGDP	52	4.27525	0.0197
CPGDP does not Granger Cause LNGDP		0.76262	0.4721

IV.3.1 Time Series Properties

Results from the Granger causality test reveal that one-way causality exists from foreign portfolio investment, per capita income, money supply and nominal GDP to credit growth measured by credit to the private sector-GDP ratio. However, there is no evidence of causality between foreign direct investment and credit to GDP ratio.

The unit root test using Augmented Dickey Fuller (ADF) test shows that all the variables, namely; current account balance, credit to the private sector, foreign direct investment, foreign portfolio investment, GDP per capita, broad money supply, net capital flows, nominal GDP, credit to GDP ratio and credit to the core private sector to GDP ratio were non-stationary series of order 1 i.e I(1). This implies that linear combination between credit growth and its determining factors is stationary, an indication of the existence of a long-run relationship. The intuition of the unit root results is that credit flows to domestic economy can be explained in the long-run by these variables and the adjustment process can be represented by an error correction from where the speed it takes for any distortion in the credit flows to return to its steady state could be inferred. If this holds, then it is possible for policy to target the explanatory variables and achieve desired stimuli to domestic credit conditions.

The result from the Engle-Granger cointegration test confirms that the residuals generated from the long-run equation (Table 4) is stationary using the ADF-test. Inclusion of the current account balance (CAB) in the equation yielded no significance in the error correction model and therefore was excluded from the static long-run equation to eliminate plausible noise in the final short-run dynamic model. This is obvious, given that our economy is less dependent on grant inflows as it is obtainable in other jurisdictions and resource inflow within the period used are devoid of any sudden shocks. Thus, credit was modeled as an error-correction adjustment process that enabled the determination of not only the short-run dynamics, but also enabled the assessment of the contemporaneous and long-run impact on credit, arising from both domestic and external factors, including sources of capital inflows.

IV.3.2 Analysis of the Error-Correction Estimates

Estimates from the static equation suggest the absence of contemporaneous effects from two measures of international capital flows: foreign direct investment and foreign portfolio investment that is not significantly different from zero. The domestic factors, namely, per capita GDP, broad money supply and nominal GDP show strong significance in explaining the movement in credit. Since the errors from this equation are mean reverting i.e. being able to return to their

means after a distortion, a model that includes both dynamic distributed lags of differenced variables and the long-run variables were estimated to include an error-correction term.

First, from the short-run dynamic model, the coefficients are semi-elasticities. Aside the dependent variable, credit to GDP ratio, all other variables were log-transformed. The signs of the variables are appropriate and consistent with theoretical expectations. All determinants, including the predetermined variable (lag of credit to GDP ratio), which measures how persistence credit growth has evolved, were all significant at the 1.0 per cent level.

A sensitivity analysis was conducted on the estimates, by including a dummy (E) to capture the role of net flows. The dummy variable constructed was by taking the deviation of the credit to GDP ratio from its historical trend where the dummy takes a value 1 if the trend deviation is higher than the standard deviation of the de-trended levels. Essentially, this measure captures the impact of large episodes of inflow on the change in the credit to GDP ratio and in particular, how persistent changes in the credit ratio had been. The coefficients are generally stable and the level of significance remains robust but the dummy was insignificant. The import of such evidence implies that episodes of large capital inflows have not been relatively huge and are inconsequential in affecting domestic credit. It could also mean that the nature of the Federation Account defines such flows as of a short-term nature when they eventually get deposited in the DMBs. Perhaps, rather than improve financial intermediation; banks prefer to invest in short-term government instruments and the CBN standing deposit facility.

The final model includes both short- and long- run dynamics. The error-correction coefficient shows a speed of adjustment of 28.0 per cent, which indicate how much of the disequilibrium that occurs in the previous quarter is corrected contemporaneously. The adjusted R-squared shows approximately 70.0 per cent explanatory power of the regressors. The variables are significant at 5.0 per cent, except foreign direct investment and the dummy. There is a weak form of long-run impact elasticity of foreign direct investment on the credit to GDP ratio. However, the relationship with FDI is positive.

The short-run effect of foreign portfolio investment is positive suggesting that a 1.0 per cent change in foreign portfolio investment leads to an increase of approximately 0.00027 per cent in the credit to GDP ratio. This shows that FPI is an important channel for domestic banks liquidity as this is an important entry window for foreign investors. The growing patronage of equities and bonds also

could be a fundamental reason for the significance of the FPI in explaining credit to GDP ratio. The result also shows that the contemporaneous credit to GDP ratio changes by 0.0032 per cent following a 1.0 per cent change in its one period lagged levels. On per capita GDP, its net effect on credit to GDP ratio is negative and is as much as 0.0033 per cent if it changes by 1.0 per cent. It suggests the sensitivity of the growth in per capita levels to the demand for bank credit. The demand for credit tends to be sluggish and elastic as per capita income levels expand. In terms of short-run effect, broad money supply is positive and a 1.0 per cent change in its level leads to approximately a change of 0.003 per cent in the credit to GDP ratio.

The long-run determinants are largely from foreign direct investment, broad money supply and nominal GDP. A 1 per cent change in the foreign direct investment results in a 0.00032 per cent change in the credit to GDP ratio in the long run. For the money supply, the coefficient is positive and results in a 0.001 per cent change in credit to GDP ratio. Nominal income surprisingly in the long term negatively influences the credit to GDP ratio to about 0.0012 per cent. However, it is intuitive to suggest that the level of credit has not expanded at concomitant pace with the growth in nominal GDP.

Table 4: Static Equation

OLS		
	(i)	(ii)
LFDI	-0.0290(0.02)	0.4255
LFPI	-0.0240(0.01)	0.1940
LGDPPC	-2.9635(0.74)	0.0002
LM2	0.9102(0.08)	0.0000
LNGDP	1.9277(0.70)	0.0082
C	-11.5535(2.46)	0.0000
Observations	54	
R-squared	0.94	
Adjusted R-squared	0.93	
Durbin-Watson	0.63	

Dependent variable is CPGDP from 2000Q1 to 2013Q2. The figures in parentheses are standard errors.

Table 5: Short-run Dynamic Model

OLS		
	(i)	(ii)
D(CPGDP(-1))	0.4457 (0.11)	0.0003
D(LFDI(-2))	-0.0086 (0.01)	0.5419
D(LFPI(-4))	0.03120 (0.01)	0.0112
D(LGDPPC)	-0.7723 (0.10)	0.0000
D(LGDPPC(-1))	0.3846 (0.12)	0.0022
D(LM2)	0.3645 (0.06)	0.0000
ECM(-1)	-0.2921 (0.11)	0.0105
Observations	49	
R-squared	0.72	
Adjusted R-squared	0.67	
Durbin-Watson	1.98	

Dependent variable is CPGDP from 2000Q1 to 2013Q2. The figures in parentheses are standard errors.

Table 6: Short-run Dynamic Model - Sensitivity to Net Flow Episodes

OLS		
	(i)	(ii)
D(CPGDP(-1))	0.4661 (0.11)	0.0002
D(LFDI(-2))	-0.0074 (0.01)	0.6225
D(LFPI(-4))	0.0325 (0.01)	0.0091
D(LGDPPC)	-0.7630 (0.11)	0.0000
D(LGDPPC(-1))	0.4027 (0.12)	0.0025
D(LM2)	0.3977 (0.10)	0.0003
E	-0.0091 (0.02)	0.6003
ECM(-1)	-0.2955 (0.11)	0.0104
Observations	49	
R-squared	0.72	
Adjusted R-squared	0.67	
Durbin-Watson	2.03	

Dependent variable is CPGDP from 2000Q1 to 2013Q2. The figures in parentheses are standard errors.

Table 7: Short- and Long- run Impact Model

OLS			
	(i)		(ii)
D(CPGDP(-1))	0.3181	(0.15)	0.0389
D(LFPI(-4))	0.0278	(0.01)	0.0446
D(LGDPPC)	-0.6733	(0.09)	0.0000
D(LGDPPC(-1))	0.3462	(0.16)	0.0341
D(LM2)	0.2972 (0.13)		0.0288
LFDI	0.0320	(0.02)	0.1056
LM2	0.0961 (0.04)		0.0218
LNGDP	-0.1195 (0.05)		0.0202
E	-0.0110 (0.02)		0.5553
ECM(-1)	-0.2814 (0.13)		0.0347
Observations	49		
R-squared	0.72		
Adjusted R-squared	0.67		
Durbin-Watson	2.03		

Dependent variable is CPGDP from 2000Q1 to 2013Q2. The figures in parentheses are standard errors.

IV.4 Policy Responses to Foreign Capital Inflows

Several studies have investigated the link between vulnerabilities and capital inflows. As a result, central banks globally have adopted a spectrum of measures to curb the tide especially, as it relates to overheating the system in terms of an economy's capacity to absorb such flows, real currency appreciation, and sudden stop or sharp reversal of inflows. Some of the measures canvassed in the literature (Cardarelli, 2009), include exchange rate intervention, sterilisation of the inflows, fiscal policy, and capital controls.

Against the background of the "impossible trinity" doctrine, a major guiding factor for ascertaining an appropriate exchange rate strategy to pursue would be to establish the quantum of inflows and its implications for the appreciation of the domestic currency. Thus, the size and structure of the inflows should guide the

decision of whether or not to intervene in the market. A major consideration for intervention is the concern that massive capital inflows may induce a steep exchange rate appreciation in a short period, damaging the competitiveness of export sectors and potentially reducing economic growth (Cardarelli, 2009). Moreover, if net capital inflows take place in the context of a current account deficit, the real appreciation could exacerbate the external imbalances, heightening the vulnerability to a sharp reversal of capital inflows. To stem this trend, some central banks accumulate reserves in order to keep the exchange rate from appreciating. This policy may lead to lax monetary conditions, thus creating the potential for overheating the economy and craeting financial system vulnerabilities. In this case, real appreciation could occur via higher inflation, rather than through an increase in nominal exchange rates. This is why some authors have argued that it is more beneficial to allow the exchange rate to fluctuate to discourage short-term speculative capital inflows by introducing uncertainty on the changes in the value of the currency (Calvo et al., 1996).

Another area is the sterilisation of foreign receipts. The central bank could sterilise the monetary impact of intervention through open market operations and, change in the cash reserve requirement or transferring government deposits from the banking system to the central bank as was done by the CBN in July 2013. While the motives for sterilisation are clear, its effectiveness is less so and it could entail substantial costs. Often times, sterilisation measures are designed to prevent a decline in interest rates and maintain the incentives for continuing capital inflows, thus perpetuating the problem. Moreover, sterilisation often implies quasi-fiscal costs, since it generally involves the central bank exchanging high-yield domestic assets for low-yield reserves. Implementing sterilisation policy by increasing unremunerated bank reserve requirements shifts the cost to the banking system, thus, promoting financial disintermediation.

Thirdly, the use of fiscal policy to lessen the effects of capital flows on aggregate demand and the real exchange rate during a surge of inflows and its repercussions was examined. Kaminski et al, (2004), observed the pro-cyclical nature of fiscal policy in emerging markets. They noted that a fast growing economy generates revenues that feed into higher government spending, thus aggravating the problem. By contrast, greater restraint on expenditure growth has at least three benefits. First, by dampening aggregate demand during the period of high inflows, it also allows lower interest rates than otherwise and could therefore reduce incentives for inflows. Fiscal restraint alleviates the appreciating pressures on the exchange rate directly, given the bias of public spending toward non-traded goods (Calvo, Leiderman and Reinhart, 1996). Third, to the extent that it helps address or forestall debt sustainability concerns, it might provide

greater scope for a counter-cyclical fiscal response to cushion economic activity when the inflows stop. While discretionary fiscal tightening during a period of capital inflows might be problematic due to political constraints and implementation lags, the avoidance of fiscal excesses—holding the line on spending—could play an important stabilisation role. In particular, fiscal rules based on cyclically adjusted balances could help resist the political and social pressures for additional spending in the face of large capital inflows.

Fourthly, is the case for enforcing controls over cross-border flows. In an attempt to restrict the net inflow of capital, some jurisdictions have either imposed controls on capital inflows or removed controls on capital outflows. The argument in the literature is that some countries employ such control measures to attain a variety of policy objectives; one of which is to discourage capital inflows in order to reduce any tendency for the domestic currency to appreciate. Controls also reduce the risk associated with the sudden reversal of inflows, and maintaining some degree of monetary policy independence.

V. Conclusions

This study set out to explore the links between international capital flows and domestic credit growth, with a particular focus on understanding the Nigerian experience. The study covered the period 2006-2012. This period witnessed an unprecedented loosening of global monetary conditions, resulting in a rapid decline in interest rates and spreads in most developing countries. It also coincided with a rapid increase in capital inflows, domestic credit, and capital-market valuations throughout the developing world. The presence of large, exogenous financial shocks suggests that it might be possible to estimate with some confidence any underlying causal relationships. It is suggested that future research in this area should investigate the link between foreign capital flows and productive investment in developing countries.

The investigation revealed that the current account balances is not a reliable variable in understanding the impact of foreign capital inflows and domestic credit growth, in view of the strong asymmetry between net debt flows and net equity flows. However, it is striking that portfolio flows appears to be the relevant measure during the review period. This confirms the age long argument that FDIs, especially multinational corporations, are by their nature, not designed to benefit the recipient country. Rather, the FDI benefits more from the recipient country as they provide employment and market outlets for their home countries. The results are suggestive of leakages. For instance, some authors have argued that financial-sector FDIs is substituted as debt inflows when a country is implementing bond-inflow controls (Reinhardt and Deli'Erba, 2013). The fact that FDI and CAB

were a less significant capital flow than other types of foreign capital inflows in this study, puts an interesting twist on previous studies in this area that have argued that FDI flows into the financial sector may be related to macroeconomic instability in the receiving countries (Ostry et al., 2011).

Despite the apparent empirical evidence of the relationship between portfolio flows and domestic credit growth in Nigeria, the literature does not properly capture the exact nature of this relationship. There is thus the need for more empirical studies in this regard. Of importance, is the need to clearly appreciate better, both the direct link between international debt flows and domestic credit growth (for instance, through the international funding activities of domestic banks) and the indirect relation (the impact of portfolio flows on domestic macroeconomic and financial variables that can affect both supply and demand factors influencing domestic credit. In turn, these findings have implications for macro-prudential policy frameworks and the monitoring of '*hot money*'. In particular, the finding indicates that there is strong evidence that foreign capital inflows influence domestic credit growth. In terms of the appropriate monetary policy response, it is recommended that policy-makers should interpret domestic credit growth and external imbalances holistically.

References

Asogwa, F. O., O. I. Monday and S. M. Urama (2013). "The Impact of Exchange Rate Dynamics on Capital Inflows in Nigeria (1970-2010)", *IISTE's Information and Knowledge Management* Vol. 3, No. 8.

Bayoumi T. (1990). "Saving-Investment Correlations", *IMF Staff Papers* 37:2, June.

Bayoumi T. and F. Ohnsorge (2013). "Do Inflows or Outflows Dominate? Global Implications of Capital Account Liberalization in China", *IMF Working Paper* No.WP/13/189.

Bercuson K. B. and L. M. Koeing (1993). "The Recent Surge in capital Inflows to Three ASEAN Countries: Causes and Macroeconomic Impact", *SEACEN Occasional Paper* No 15.

Bernanke B. S. (2005). "Monetary Policy in a World of Mobile Capital", *Cato Journal*, 25 (1): 1-14.

Borio C. and P. Disyatat, (2011). "Global Imbalances and the Financial Crisis: Link or No Link?", *BIS Working Paper* No. 346.

Broner F. T. Didier A. Erce, and S. Schmukler (2013). "International capital flows during crises: Gross matters", http://www.voxeu.org/article/international-capital-flows-during-crises-gross-matters.

Broner F., T. Didier, A. Erce, and S. Schmukler (2013a). "Gross capital flows: Dynamics and crises", *Journal of Monetary Economics* 60, 113-33.

Bruno V. and H. S. Shin (2013b). "Capital Flows, Cross-Border Banking and Global Liquidity", *NBER Working Paper* No. 18942.

Caballero J. (2010). "Do Surges in International Capital Flows Influence the Likelihood of Banking Crises", *Economics Department Working Paper*, University of California Santa Cruz.

Calvo G., Leiderman L. and Reinhart C. (1993). "Capital flows and real exchange rate appreciation in Latin America", *IMF Staff Papers* 40(1):108-151.

Calvo G., A. Izquierdo and L-F Mejia (2008). "Systemic sudden stops: the relevance of balance-sheet effects and financial integration", *NBER Working Paper* 14026.

Cardarelli R., S. Elekdag and A. Kose (2010). "Capital inflows: Macroeconomic Implications and Policy Responses", *Economic Systems*, 34 (4), 333 - 356.

Cetorelli N. and L. Goldberg (2012). "Banking Globalization and Monetary Transmission, *Journal of Finance* 67(5), 181 - 1843.

Christensen J. (2004). "Capital Inflows, Sterilisation, and Commercial Bank Speculation: The Case of the Czech Republic in the Mid-1990s", *IMF Working Paper* No. 218, International Monetary Fund, Washington DC.

Daniel B. and Jones, J. (2007). "Financial liberalisation and banking crises in emerging economies", *Journal of International Economics*, 72 (1), 202-221.

Dell'Erba S. and D. Reinhardt (2013). "Not all capital waves are alike: A sector-level examination of surges in FDI inflows", *Bank of England Working Paper* No. 474.

Edwards S. (2007). "Capital Controls, Sudden Stops and Current Account Reversals", In S. Edwards (ed.), Capital Controls and Capital Flows in Emerging Economies, University of Chicago Press.

Eniekezimene F. A. (2013)."The impact of foreign portfolio investment on capital market growth: evidence from Nigeria", *Global Business and Economic Research*, Vol 2, No 8

Ernst and Young (2013). "Attractiveness Survey for Africa -Getting down to business", Available at http://www.ey.com/Publication/vwLUAssets/Africa_Attract_2013_Getting_down_to_business/$FILE/Africa_attractiveness_2013_web.pdf

Feige E. L. (2003). "The Dynamics of Currency Substitution, Asset Substitution and Defacto Dollarization and Euroization in Transition Countries", *Proceedings 8th Dubrovnik Conference Volume on Monetary Policy and Currency Substitution in Emerging Markets*

Feldstein M. and C. Horioka (1980). "Domestic Saving and International Capital Flows", *The Economic Journal*, Vol. 90, (June 1980), pp. 314-329

Furceri D., G. Guichard and E. Rusticelli (2011a). "Medium-Term Determinants of International Investment Positions: the Role of Structural Policies", *OECD Economics Department Working Papers* No.863.

Furceri D., G. Guichard and E. Rusticelli (2011b). "Episodes of large capital inflows and the likelihood of Banking and currency crises and sudden stops", *OECD Economics Department Working Papers* No. 865.

Giannetti M. (2007). "Financial liberalization and banking crises: The role of capital inflows and lack of transparency", *Journal of Financial Intermediation*, 16 (1), 32 (63).

Glick R. and M. Hutchison (2000). "Capital Controls and Exchange Rate Instability in Developing Economies", *Federal Reserve Bank of San Francisco Center for Pacific Basin Studies Working Paper* No. PB00-05 (December).

Gourinchas P. O. (2012). "Global Imbalances and Global Liquidity", *Mimeo*, UC-Berkeley.

Gross S. J. and L. Weiss (1983). "A transaction-based model of the monetary transmission mechanism", *America Economic Review*, Vol. 73, 981-880.

International Monetary Fund (2008). Regional Economic Outlook: Sub-Saharan Africa, April.

Jorda O., S. Moritz and T. M. Taylor (2011). "When credit bites back: leverage, business cycles, and crises", *Federal Reserve Bank of San Francisco Working Paper Series* 27.

Kose M., Prassad E., Rogoff K. and Wei S. (2007). "Financial globalization: beyond the blame game", *Finance and Development* 44 (1).

Kwack, Sung Yeung (2001). "An Empirical Assessment of Monetary Policy Responses to Capital Inflows in Asia before the Financial Crisis", *International Economic Journal, Taylor and Francis Journals*, Vol. 15(1), pages 95-113.

Lane P. R. and G. M. Milesi-Ferretti, (2011). "The Cross-Country Incidence of the Global Crisis", *IMF Economic Review*, Vol. 59, No. 1, pp. 77-110.

Lane P. R. and P. Mcquade, (2013). "International Capital Flows and Domestic Credit Growth", *IIIS Discussion Paper* No. 428.

Loana C. S. and A. C. Tiberiu (2009). "The Capital Flows Impact on the Stability of the Financial Systems", *Available at http://steconomice.uoradea.ro/anale /volume/2009/v3-finances-banks-and-accountancy/88.pdf*

Luca O. and N. Spatafora (2012). "Capital Inflows, Financial Development, and Domestic Investment: Determinants and Inter-Relationships", *IMF Working Papers* 12/120, International Monetary Fund.

Magud N., C. Reinhart and E. Vesperoni (2012). "Capital Inflows, Exchange Rate Flexibility, and Credit Booms", *IMF Working Paper* 12/41, (Washington: International Monetary Fund).

McKinnon R. I. and H. Pill (1998). "International Overborrowing: A Decomposition of Credit and Currency Risks", *World Development Report*, Elsevier, vol. 26(7), pages 1267-1282, July.

Mendoza E. and Terrones, M. (2008). "An Anatomy of Credit Booms: Evidence From Macro Aggregates and Micro Data", *Working paper* 08/226, International Monetary Fund.

Obstfeld M. (2012a). "Financial Flows, Financial Crises, and Global Imbalances", *Journal of International Money and Finance* 31, 469-480.

Obstfeld M. (2012b). "Does the Current Account Still Matter?", *American Economic Review*.

Obstfeld M. and K. Rogoff (1996). Foundations of International Macroeconomics, MIT Press.

Okpanachi, U. M. (2012). "An Assessment of Monetary Policy Response to Capital Inflows in Nigeria", *CBN Journal of Applied Statistics* Vol. 3 No. 2, pp. 75-98

Ostry J. D, A. R, Ghosh, K Habermeier, L. Laeven, M, Channon, M.S Qureshi and A. Kokenye (2011). Managing Capital Flows: What Tools to Use?", *IMF Staff Discussion Note*.

Prasad E. and R. Rajan (2008). "A Pragmatic Approach to Capital Account Liberalization", *Journal of Economic Perspectives*, Vol. 22, No3, pp. 149–72.

Reinhart C. and V. Reinhart (2009). "Capital Flow Bonanzas: An Encompassing View of the Past and Present", In NBER Macroeconomics Annual, University of Chicago Press.

Reinhardt D. and Dell'Erba (2013). Not all Capital waves are alike: A sector-level examination of surges in FDI Flows. Vox. A Research-based Policy Analysis and Commentary from Leading Economists.

Rotenberg J. J. (1984). "A monetary equilibrium model with transactions costs", *Journal of Political Economy*, Vol.92, 40 - 58.

Saidu F. (2013). "Capital Flows, Trade Openness and Economic Growth Dynamics: New Empirical Evidence from Nigerian Economy", Available at https://umsbe.wufoo.com/cabinet/m7z8a3/.../p159_update.pdf

Shin H. S. (2012). "Global Banking Glut and Loan Risk Premium", *Proceedings of IMF annual Research Conference*, Mundell-Flemming.

Spiegel M. (1995). "Sterilisation of capital inflows through the banking sector: evidence from Asia", *Economic Review* 3, Federal Reserve Bank of San Francisco.

Stiglitz J. (2002). Globalisation and its Discontents, W. W. Norton & Co., New York.

Yinusa D. O. and A. E. Akinlo (2008). "Exchange Rate Volatility and the Extent of Currency Substitution in Nigeria", *MPRA Publication*, Available at http://mpra.ub.unimuenchen.de/16257/1/MPRA_paper_16257.pdf

Managing the Downside Risks of Surging Capital Flows on Financial Stability for Sub-Saharan African Countries

Veronica Kalema*

I. Introduction

Private capital flows to sub-Saharan Africa have shown two clear trends since the early 2000s: a substantial increase and a diversification away from foreign direct investment to portfolio and cross-border bank lending (captured in other private financial flows)[1]. Following a net outflow in 2008-2009 due to the global financial crisis, capital flows have improved strongly. Net private capital flows are estimated by the IMF to exceed the pre-crisis peak of US$21bn in 2008, reaching US$30bn in 2013.

As in emerging markets with a much longer history of surging capital flows, the increased inflow reflect structural factors in Africa – improved fundamentals and good growth prospects – that are likely to continue drawing capital inflow in future. Cyclical factors – extremely low interest rates, excess liquidity and weak growth in developed countries, and still relatively high commodity prices – are also contributing to inflow.

As in emerging markets with a much longer history of surging capital flows, the increased inflow reflect structural factors in Africa – improved fundamentals and good growth prospects – that are likely to continue drawing capital inflow in future. Cyclical factors – extremely low interest rates, excess liquidity and weak growth in developed countries, and still relatively high commodity prices – are also contributing to inflow.

Capital inflow typically brings many economic and financial benefits to receiving countries. However, they can present macroeconomic and financial stability risks (Suchanek et al, Milhalkel, IMF and BIS various reports). Due to the risk of reversal or sudden stops, portfolio and cross-border lending carry more challenges and risks than direct investment inflow.

*Veronica Kalema is the Head of Africa Credit Strategy, Nedbank Capital. The usual disclaimer applies

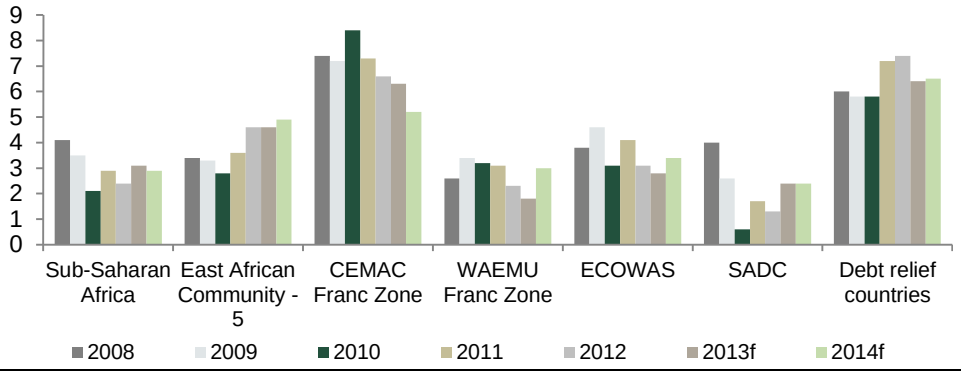
[1]On net basis private financial flows are impacted by African assets such as official reserves bank deposits placed offshore.

II. Recent Trends in Capital Flows to Sub-Saharan Africa

II.1 Direct Investment

Direct investment flows are by far the largest share of private capital inflow. In the past decade foreign direct investment (FDI) has increased for many countries in sub-Saharan Africa (SSA), going into recently discovered minerals, infrastructure and other investment. Although direct investment inflow can bring real appreciation pressure if they persist, they have less downside risk as they are stable and tend to finance capital import and thus, have a smaller effect on the exchange rate and financial stability.

Figure 2: SSA net FDI inflow (% of GDP)



Source: IMF Regional Economic Outlook, Sub-Saharan Africa, October 2013

II.2 Portfolio Investment

The majority of portfolio capital flows in SSA are attributable to South Africa[2] owing to its deep and liquid capital markets. At end-2012, South Africa's equity market capitalisation was 159.0 per cent of GDP while debt market capitalisation was 47.0 per cent of GDP. Over the years, South Africa has devised ways of managing the downside macroeconomic and financial stability risks of capital flows, which involve prudential measures and macroeconomic policies. For example, a flexible exchange rate and inflation targeting were introduced in February 2000 and, during portfolio inflow surges, the South African Reserve Bank (SARB) intervened to increase buffers and reduce appreciation pressures. Micro and macro-prudential measures have kept South Africa's financial system stable and sound during the previous capital flow cycles and global financial shocks. As

[2] South Africa is an emerging market with different challenges in terms of capital flows. While South Africa is used as an example and for comparison, in this report we address financial stability issues of capital flows to SSA countries outside South Africa.

capital markets develop in other SSA countries, they will be able to draw on South Africa's experience.

Figure 3: SSA Net Portfolio Equity Inflow (US$m)

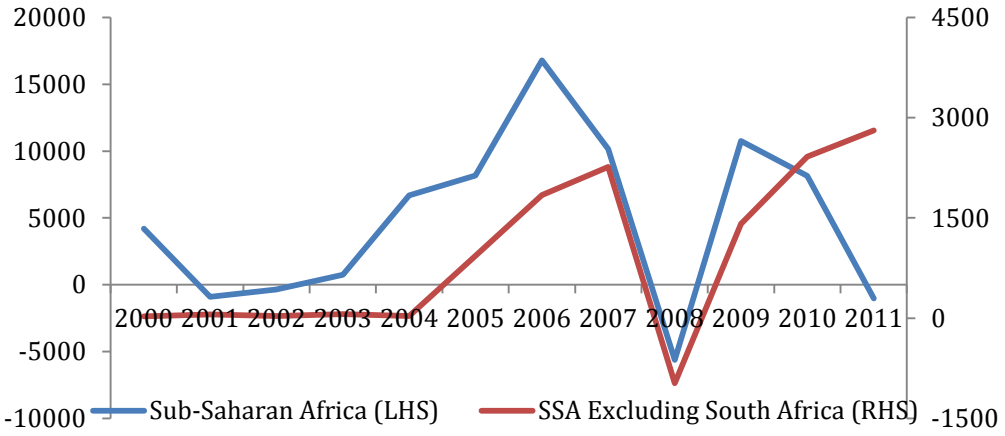


Table 1: Net portfolio equity inflow (US$m)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Sub-Saharan Africa	4 198.3	-908.1	-354.5	745.8	6 694.1	8 161.9	16 799.6	10 165.7	-5 625.5	10 754.3	8 159.18	-1 026.5
SSA excluding South Africa	29.6	54.1	33.5	60.5	32.8	931.9	1 840.3	2 265.5	-975.4	1 411.3	2417.3	2 811.8

Source: World Bank Development Indicators Data

Portfolio inflow to local debt and equity markets in the rest of sub-Saharan Africa increased significantly, particular, SSA countries making effort to develop their local equity and bond markets; and improve capital markets access – the frontier markets[3].

Equities are by far the largest component of portfolio inflow in Africa, resulting in a rapid rise in market capitalisation. Total equity market capitalisation of 13 key frontier markets[4] captured by the World Bank development indicators had risen 4.4 times to US$120bn in 2012 from US$27bn in 2003. Of this total, almost half of equities capitalisation is attributable to Nigeria (US$56.4bn), followed by Kenya

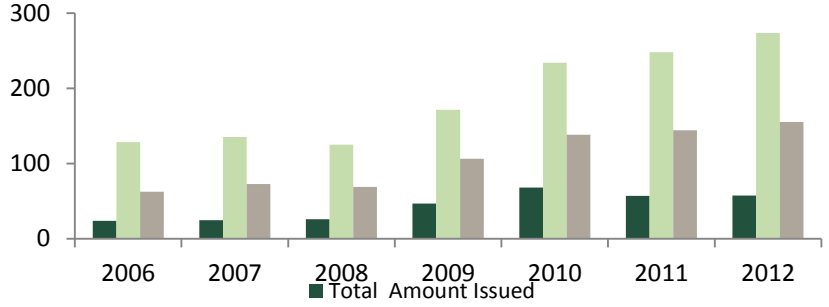
[3] The classification of frontier markets may vary slightly. A recent list by the IMF includes Angola, Ghana, Nigeria, Kenya, Mauritius, Mozambique, Senegal, Tanzania, Uganda, Zambia and Zimbabwe.
[4] This list also includes Botswana, Cote d'Ivoire, Namibia and Malawi.

(US$14.8bn). Portfolio equity inflow by foreigners peaked at around US$2.3bn in 2007, although about US$1bn reversed in 2008, the upward trend resumed in 2009, reaching US$2.8bn in 2011. Portfolio equity inflow including South Africa peaked at US$17bn in 2006.

Issued local bond securities in Africa[5] (including North Africa, but excluding South Africa) were US$155bn in 2012, up from US$62bn in 2006. Issued local treasury bills in Africa in 2011 were US$99bn.The biggest market in SSA after South Africa (US$125bn of bonds outstanding, US$33bn treasury bills in December 2012) is Nigeria, with US$29.4bn of treasury bonds and US$16bn of treasury bills in September 2013 and around 86 per cent of debt issued in local currency. About one-half of public debt in Kenya, Ghana and Zambia debt is in local currency. Since the mid-2000s, non-residents have been increasingly active in local debt markets, driven by yield and improved capital market access. Debt flows are very volatile, fluctuating in line with the interest rate cycle in the recipient country as well as global financial shocks/risk aversion[6]. Surges have also been influenced by inclusion in global indexes, for example Nigeria's inclusion in the JP Morgan Government Bond Index – Emerging Market (GBI-EM) in October 2012 contributed to a rise in non-resident holdings of all government securities from 1.7 per cent or US$500m at the end of 2011 to 10.3 per cent or US$5.1bn in December 2012 and 16.1 per cent or US$7.2bn in June 2013.

[5] Aggregated data is difficult to obtain. This aggregated data set, which includes North African countries, is from the African Financial Markets Database published by the African Development Bank.
[6] For example, non-resident holdings of Zambia's government debt rose from just 1 per cent in early 2005 to a peak of 18% in 2006 and dropped to 12.5% in July 2008 (Muhanga et al, 2008). In Uganda foreign investor participation in the treasury bills market rose to 17% in 2011 and had fallen back to 3.2% in October 2013 due to the interest rate cycle. For the bond market, the numbers are 5.4% in 2011 rising to 8.8% in September 2013 (BoU). Ghana does not allow foreign investment in the treasury bills market. Foreign participation in the bond market had risen to 27.5% in June 2013 from 19% in December 2010 due to very high interest rates (BoG).

Figure 4: Domestic bonds in Africa (including northern African countries) (US$ bn)



Source: African Development Bank data portal

Table 2: Share of Non-resident Holdings of Domestic Debt (per cent of outstanding)

	2008	2009	2010	2011	2012	2013 latest
Ghana T-bills	0	0	0	0	0	0
Ghana T-bonds			19.0	19.2	26.6	27.5
Uganda T-bills	7.2	1.5	0.6	17.0	4.6	3.2
Uganda T-bonds	5.6	4.6	1.5	5.4	5.7	8.8
Nigeria T-bills						
Nigeria T-bonds*				1.7	10.3	16.1

** includes t-bills and t-bonds*

Sources: Various Central Banks, Nigerian Debt Management Office.

Portfolio bond inflow also took the form of bond issues on international markets. South Africa has been a regular issuer on the Eurobond market since 1994. Since 2007, SSA sovereigns have also started issuing international bonds. After a lull, during the global financial crisis, issuance of sovereign bonds by SSA countries resumed in 2011. To date, US$10.6bn in international bonds have been issued by 11 sovereigns (US$19.4bn outstanding, including South Africa). Four Nigerian banks and two African multilaterals have also tapped the Eurobond market for a total of US$3.5bn. International bond issuance promises to be a potentially important source of financing for governments and other entities in Africa. Three more African countries – Kenya, Ethiopia and Uganda – plan to access the Eurobond market for the first time over the next two years, while some plan to return. Kenyan[7] corporates have also recently announced their intention to

[7] Kenya Power, ARM Cement Ltd (Kenya) are considering issuing Eurobonds according to Bloomberg reports in November 2013

access the Eurobond market. During 2012 and 2013, a number of African countries have issued international bonds on favourable terms. Since these bonds are issued offshore, concerns will be on market access and refinancing these bonds once global interest rates rise. However, at present, overall SSA (including South Africa) Eurobond issuance is small, about 2.5 per cent of SSA GDP, and has minimal implications for financial stability. Nonetheless, Eurobonds are in the main, being issued to finance wider deficits. To the extent that bond flows finance capital imports for infrastructure development, this will mitigate their macroeconomic impact.

African Eurobonds, alongside emerging markets Eurobonds experienced a sell-off during global risk aversion. This would normally delay access until the situation normalises, but is not destabilising to local economies.

Africa Eurobonds

African Sovereigns	USDm	Coupon	Maturity	Moody's	S&P	Duration	DV01/MM	Bid PX	Ask PX	Bid YTM	Ask YTM	Bid Z	Ask Z
REPUBLIC OF GHANA	530	8.5	04/10/2017	NR	B	3.23	354	107.5	108.5	6.27	5.98	534	506
REPUBLIC OF GHANA	1000	7.875	07/08/2023	B1	B	6.48	660	98	99	8.18	8.02	566	551
GABONESE REPUBLIC	774	8.2	12/12/2017	NR	BB-	3.37	413	116.5	118	3.75	3.38	276	240
REP OF ANGOLA (NORTHERN	1000	7	16/08/2019	Ba3	BB-	4.72	368	108.375	109.375	5.29	5.1	367	347
UNITED REP OF TANZANIA	600	6.3921	09/03/2020	NR	NR	0.29	N/A	105	105.75	5.41	5.27	507	493
MOZAMBIQUE EMATUM FINAI	500	6.305	11/09/2020	NR	B+	5.3	N/A	94.5	95.5	7.35	7.15	540	520
REPUBLIC OF NIGERIA	500	5.125	12/07/2018	NR	BB-	4	423	102.5	103.25	4.52	4.34	327	309
REPUBLIC OF NIGERIA	500	6.75	28/01/2021	NR	BB-	5.58	624	108	109	5.39	5.22	332	316
REPUBLIC OF NIGERIA	500	6.375	12/07/2023	NR	BB-	7	751	103.5	104.5	5.89	5.76	332	319
REPUBLIC OF SENEGAL	500	8.75	13/05/2021	B1	B+	5.52	620	111	112	6.84	6.68	476	459
REPUBLIC OF NAMIBIA	500	5.5	03/11/2021	Baa3	NR	6.36	664	103	104	5.04	4.88	276	260
IVORY COAST	2519	5.75	31/12/2032	NR	NR	7.41	696	88.25	89.25	7.58	7.43	478	463
REPUBLIC OF ZAMBIA	750	5.375	20/09/2022	NR	B+	6.66	596	87.5	89	7.33	7.07	487	462
REPUBLIC OF RWANDA	400	6.625	02/05/2023	NR	B	6.78	645	94	96	7.52	7.22	501	470
African FI's		**Coupon**	**Maturity**	**Moody's**	**S&P**	**Duration**	**DV01/MM**	**Bid PX**	**Ask PX**	**Bid YTM**	**Ask YTM**	**Bid Z**	**Ask Z**
GTB FINANCE BV	500	7.5	19/05/2016	NR	BB-	2.23	237	105	106	5.3	4.88	484	442
GTB FINANCE BV	400	6	08/11/2018	NR	BB-	4.18	418	98.375	99.375	6.39	6.15	504	480
ACCESS FINANCE BV	350	7.25	25/07/2017	NR	BB-	3.07	320	99.5	101.5	7.4	6.77	656	593
FIDELITY BANK PLC	300	6.875	09/05/2018	NR	B	3.7	355	93.5	95.5	8.67	8.1	751	694
FBN FINANCE CO BV	300	8.25	07/08/2020	NR	B	3.74	397	102	104	7.61	7.23	650	598
EASTERN & SOUTHERN AFRICA	300	6.875	09/01/2016	Ba1	NR	1.9	205	104	106.5	4.85	3.63	445	324
AFRICAN EXPORT-IMPORT BA	300	8.75	13/11/2014	NR	NR	0.92	99	106.5	107.25	1.8	1.04	153	77
AFRICAN EXPORT-IMPORT BA	500	5.75	27/07/2016	Baa2	BBB-	2.42	264	106	107	3.36	2.98	285	247
AFRICAN EXPORT-IMPORT BA	500	3.875	04/06/2018	Baa2	BBB-	4.02	412	100	101	3.87	3.63	267	242

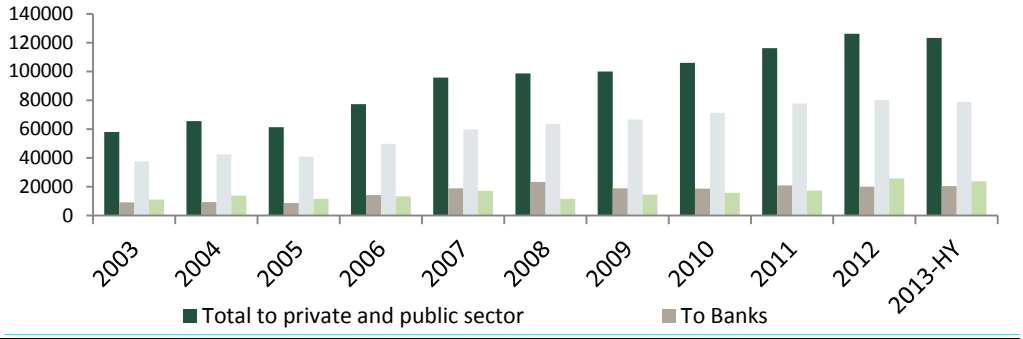
Source: Nedbank Global Markets, Bloomberg 27/11/2013

III. Cross-border Bank Flows

Sub-Saharan African countries have also recorded a surge in cross-border bank lending, comprising majorly gross loans and trade credit. According to BIS data, consolidated cross-border lending surged from US$61bn in 2000 to US$96bn in 2007. After stabilising over the period, 2007-2009, it grew more gradually, reaching US$123bn in the second quarter of 2013. However, a breakdown of these flows

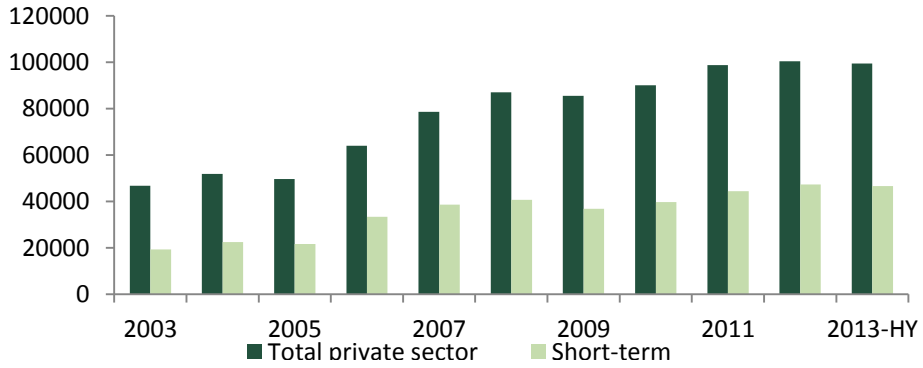
show that cross-border lending to the banking sector is yet to recover, declining to US$20.4bn in second quarter of 2013 from a peak of US$23.5bn in 2008. Cross-border lending to the non-bank private and public sectors was less affected and maintained a steady growth during the global financial crisis. Short-term lending, though affected by the crisis, had recovered since 2010 reaching US$47bn in second quarter of 2013, up from US$40.7bn in 2008.

Figure 5: Cross border lending to SSA (US$m)



Source: BIS Data, September 2013

Figure 6: Cross Border Lending to SSA - Private Sector and Short-Term (US$m)



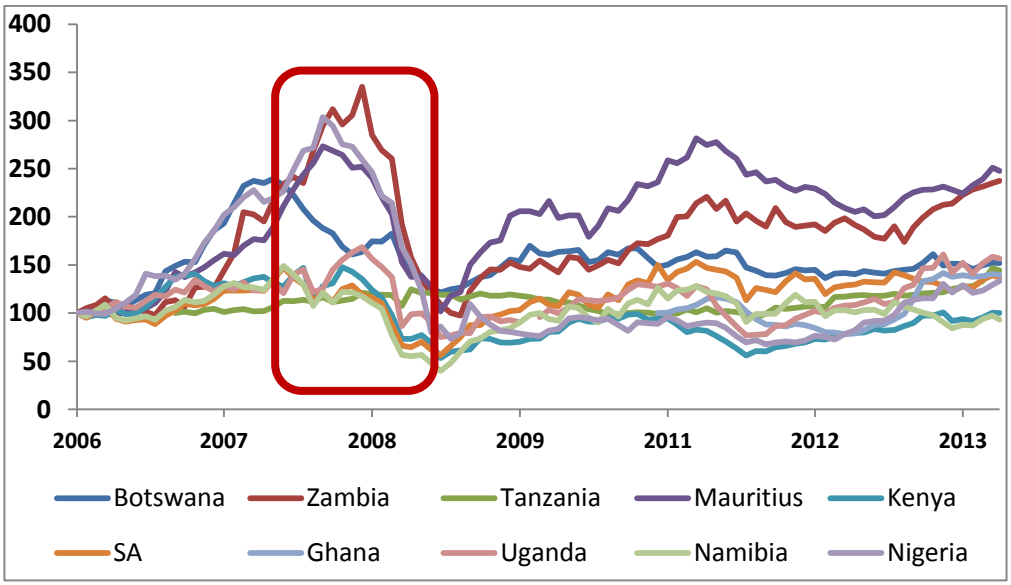
Source: BIS Data Analysis, September 2013.

IV. Financial Stability Implications

Financial stability risks – credit booms and increases in asset prices that can lead to bank crises – are associated mainly with portfolio and cross-border bank lending (Claessens et al, 2013, and various reports of IMF and BIS). As with other emerging markets, portfolio flows to Africa could impact African economies in several ways: lowering of bond yield; cause appreciation pressures; and trigger sharp asset movements. However, in Africa, the shallowness of markets and size of flows relative to the recipient country's capital markets and monetary base

amplify these movements. When capital flows reverse, they cause sharp capital market movements and currency depreciation, which can spill over into financial stability. Following the first surge of portfolio inflow in 2004-2007, African frontier markets have already experienced destabilising macroeconomic effects[8]. They all recorded a reversal of inflow in 2008 and, due to the thinness and illiquidity of markets, experienced sharp currency depreciations and/or pressure on and falls in equity asset prices. In the case of Nigeria, the fall in equity prices exacerbated a financial crisis. Due to the potential for surging capital flows to propel stock and bond markets, especially in countries with shallower capital markets (IMF, 2011), the portfolio flow impact currently presents the greater source of risk to financial stability for African countries. In Kenya (market capitalisation 39.6 per cent of GDP in 2012), Nigeria (22 per cent of GDP), Uganda (36.7 per cent of GDP) surges in portfolio inflow caused a sharp increase in stock prices in 2012 and 2013[9].

Figure 7: SSA Stock Market Performance in US$ terms (normalised)
2006 = 100

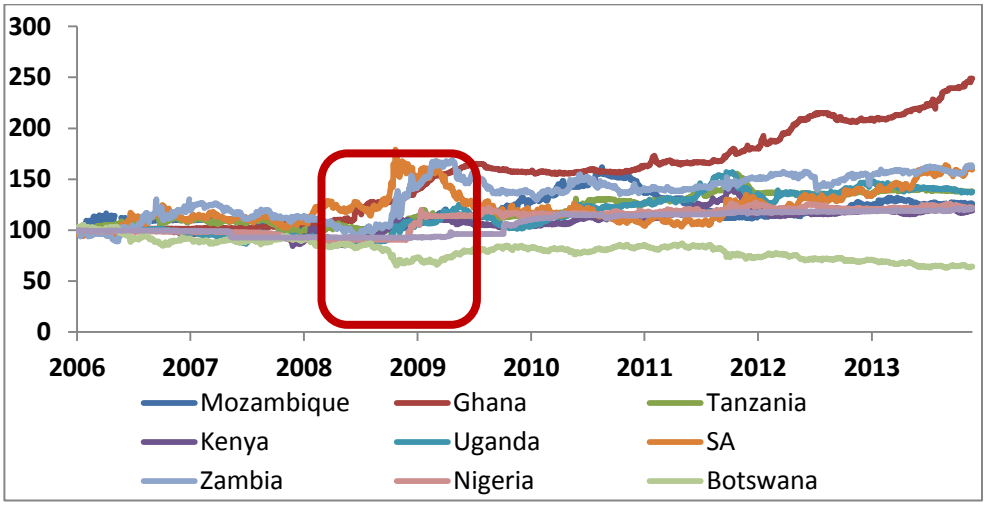


Source: Bloomberg.

[8] The frontier markets in Francophone Africa are not affected because they have no exchange rate risk due to the currency peg of the West African Economic and Monetary Union (WAEMU) and Economic and Monetary Community of Central Africa (CEMAC) zones to the euro.

[9] In Kenya, net foreign investor inflows in equity markets rose 9 769.7 per cent to US$250m in 2012 and by another US$260m in the first nine months of 2013 (US$3m in 2011, US$178m in 2010). Foreign investors held 22.4 per cent of the Nairobi Stock Exchange in September 2013, up from 7.9 per cent in December 2008. Market capitalisation in US$ terms rose 44 per cent in 2012 to US$14.8bn and 39 per cent in the first nine months of 2013 to US$20.7bn (Capital Markets Authority Kenya, Central Bank of Kenya).

Figure 8: SSA Currencies Performance against the US$ 2006=100



Source: Bloomberg.

To the extent that they are intermediated through the domestic banking system, cross-border capital flows can lead to excessive credit growth, asset/liability currency mismatches and asset booms, increasing financial fragility (Moreno, 2011). In addition, there are risks from possible reversals and sudden stops in bank-intermediated capital flows while the short-term concentration of capital flows significantly raises the probability of crisis due to high volatility. Countries with a large number of foreign-owned banks have the most pronounced risk, for example Central and Eastern Europe during the 2008-2009 financial crisis (Mihaljek, 2008). This channel is less prevalent in Africa where, although foreign ownership of banks is large in some cases for historical reasons[10], it is not the dominant model and even in countries where it is, banks rely on domestic deposits to fund lending. BIS data shows that cross-border lending to Africa by BIS reporting banks did experience a surge prior to the crisis, albeit from a low base. The data also shows that flows to the banking sector reversed mildly in 2009 and 2010 and have since been constrained, staying below their pre-crisis peak. This reflects tighter regulation and deleveraging in advanced countries. Flows to the non-bank and public sectors were less affected by the crisis and have continued to rise, albeit more gradually than before. Despite the surge, cross-border lending, particularly to the banking sector which reached a high of US$23bn in 2008 or about 2 per cent of SSA GDP (about 10 per cent of SSA GDP for all cross-border lending), is still very small and thus, the risk to financial stability from this source

[10] Foreign banks accounting for over 30 per cent of deposits are Barclays (in Botswana and Seychelles); HSBC (Mauritius). These and several other banks account for at least 20 per cent of deposits in a number of other countries. Portuguese banks account for over 60 per cent of deposits in Mozambique and Angola and 80 per cent in Cape Verde. IMF REO April 2012 Appendix 2.4.

remained low with potential to change with increased global financial integration.

V. Limiting the Financial Stability Risks

Responses have typically involved macroeconomic policies which mainly deal with challenges such as exchange rate appreciation pressures and depreciation on reversal of capital flows, managing the impact of excess liquidity and credit growth on inflation, etc and prudential policies with a focus on micro prudential policies to ensure the soundness and resilience of financial institutions. These are often complemented by capital flow management measures (CFM) aimed at managing capital surges and sudden outflow. These worked very well for African frontier markets (except Nigeria) in the 2008-2009 financial crisis; despite some pressures, banking systems remained resilient due to strong capital buffers and liquidity and low non-performing loans but also because of their low integration with global financial markets, particularly relatively low capital inflow through the banking system limited the impact of global financial shocks on their banking systems. South Africa's banking system also remained resilient, in contrast to other emerging markets which showed varying degrees of stress, partly because South Africa started to adopt macro-prudential policies as far back as the early 2000s[11]. For example, a national credit act introduced in 2006 slowed credit growth and prevented potential stresses due to excessive build-up of credit.

V.1 Prudential Policies

V.1.1 Micro-prudential

Micro prudential policies that promote healthy banking systems through strong buffers and maintaining the quality of credit are usually a good starting point. These have more or less been adopted in Africa after the fallout from liberalising banking sectors in the 1990s when the region went through a series of banking crises. Policies on financial soundness indicators promote strong capital adequacy ratios, low non-performing loans (NPLs), loan loss provisioning requirements, stringent requirements on foreign lending and limits to net open positions of financial institutions and strengthen supervision capacity to enable supervisors to enforce compliance.

V.1.2 Capital Flow Management Measures

Capital flow management (CFM) measures, which are intended to manage inflow and outflow, are part of the toolkit of prudential measures. Capital controls

[11] A financial stability department was set up in SARB in 2001. Financial stability reports are published semi-annually.

are typically residency-based (essentially capital controls) or non-residency based (on the basis of currency). They take the form of taxes on certain flows and restrictions on investments, minimum holding periods and restrictions on capital outflow. They do have costs – which can be wide-reaching for the country such as reducing investment attractiveness, impeding financial market development and increasing costs of international trade (IMF, 2011, 2012) – and need to be assessed vis-à-vis the benefits. The IMF suggests they should be temporary, in response to a surge or to contain an outflow.

Frontier markets have used a range of CFM measures. The main one is restrictions on non-resident purchases of government securities (Tanzania, (all non-residents), Ghana (securities less than three years), Kenya and Nigeria (selective restrictions)). Tanzania has used the most measures, including a minimum holding period of three months for local investors on all shares and securities, limits on direct and indirect foreign exchange exposure, maximum on shares purchased by individual investors, maximum of total share of national companies held by non-residents (also applied by Kenya and Zimbabwe) and presentation of audited accounts or compliance with tax obligations before repatriation (also applied by Zambia) (IMF, REO Oct 2013).

The experience of the 2008-2009 financial crisis showed that micro prudential regulation is not enough to ensure financial stability. For instance, for most countries that felt the crisis, financial soundness indicators were robust in the months prior to the global liquidity crunch, giving no sign of how easily a systemic financial crisis could be triggered. This emphasises the need to use macro-prudential policies that consider financial stability risk from a system-wide rather than individual point of view (Moreno, 2011). These macro-prudential policies focus on preserving the stability of the financial system over the economic cycle and preventing the build-up of systemic financial risks. They complement macroeconomic and micro prudential policies, although there can also be some overlap depending on the purpose of the measure. For example, measures to prevent excessive credit growth could be a macroeconomic response to address inflation pressures or a macro-prudential response to reduce financial sector vulnerabilities.

V.1.3 Macro-prudential

Macro-prudential policies address threats from excessive credit expansion and asset bubbles fuelled by capital inflow by using counter-cyclical requirements. These could include increased reserve requirements when capital inflow cause excess liquidity in the banking system; increased loan loss provisioning requirements or increased risk weights for certain sectors; and tightening various

ceilings on credit growth (loan-to-value and debt-to-income rules can all be part of this toolkit). Systemic risks arising from foreign currency lending fuelled by surges in capital inflow could be addressed by capping foreign currency lending, limiting the net foreign open position and maturity mismatches that go further than normal micro prudential policies by targeting affected sectors.

The use of macro-prudential policies, however, requires a further strengthening of supervisory capacity, including the capacity to collect high-frequency data on the balance of payments for the composition and destination of flows, on asset prices including housing and developing analytical tools to assess systemic risks (IMF, 2012). Strengthening macro-prudential supervision is also increasingly needed for cross-border banking supervision of pan-African banks [12] and to include the increasingly important non-bank financial institutions.

Some SSA frontier markets, including Nigeria, Uganda, Ghana, Kenya and Mauritius, have started strengthening their capacity to assess systemic risk, establishing a financial stability department in the central bank and/or publishing semi-annual or annual financial stability reports. Some are starting to strengthen data collection and implement macro-prudential regulation. For example, since 2011, Uganda is compiling quarterly real estate indices for residential property, land and commercial property rent to facilitate the analysis and reduction of risks from real estate booms. New regulations to allow the Bank of Uganda to impose a countercyclical capital charge to dampen volatility in credit cycles and additional capital charges on domestically systemically important banks were introduced in May 2013 (BoU, June 2013).

VI. Summary

Capital flows to SSA have surged and diversified over the past decade to include a much greater portion of portfolio flows and cross-border lending, which create the greatest potential risks to financial stability due to volatility. Currently in SSA, portfolio flows present more risk due to the thinness and illiquidity of capital markets, which accentuates the impact of surges and reversals of capital flows. Cross-border flows are still relatively low and experienced mild instability in the last financial crisis. A combination of low integration and conservative regulation shielded African financial systems from the destabilising impacts of contagion in the 2008-2009 financial crisis.

[12] Kenyan, South African and Nigerian banks have expanded regionally. For Kenyan banks, expansion to date is focused on East Africa. Ecobank Transnational Incorporated (ETI) (registered in Togo) has subsidiaries in 34 countries in Africa.

Nonetheless, Nigeria's experience of financial instability in 2008-2009, exacerbated by a fall in equity prices, and other frontier markets that experienced sharp currency depreciations when investors exited their equity and bond markets have already resulted in strengthened supervision and regulation to take into account systemic financial risks. Growing financial integration, the emergence of pan-African banks and increasing complexity of domestic financial systems makes it imperative for adopting a system-wide approach to complement macroeconomic and micro prudential policies to mitigate and respond to global shocks.

The biggest source of vulnerability in the short-term (i.e. one-year horizon) is tapering. To date, African markets' response to talk of tapering by the Fed (which triggered a sell-off in emerging market currencies, stock and bond markets) has been muted, partly due to being illiquid and because risk aversion was temporary. This is unlikely to be sustained once tapering actually starts and a sell-off/risk aversion persists.

Frontier markets authorities will need to always prepare for tapering and apply a mix of policies depending on country specific situations. Countries with large current account and budget deficits and/or that have experienced capital flow surges recently were impacted the most.

References

Bank of International Settlements (2013). Data Analysis, October.

Bank of Ghana (2013). Fiscal Development Report, July.

Bank of Uganda (2013). Financial Stability Report, June.

Capital Markets Authority Kenya (2013). *The CMA Capital Markets Bulletin*, Third Quarter.

Central Bank of Kenya (2012). Financial Stability Report, December.

Claessens Stijn and R. Ghosh Swati (2013). "Capital Flow Volatility and Systemic Risk in Emerging Markets: The Policy Toolkit", Chapter 3 in "Dealing with the Challenges of Macro Financial Linkages in Emerging Markets", a World Bank publication, January.

Claessens Stijn, Ghosh Swati R, and Mihet Roxana (2013). "Macro-prudential Policies to Mitigate Financial Vulnerabilities in Emerging Markets", Chapter 5 in "Dealing with the Challenges of macro Financial Linkages in Emerging Markets", a World Bank publication, January.

Hahm Joon-Ho, Mishkin Federic S, Shin Hyun Song and Shin Kwanho (2012). "Macroprudential Policies in Open Emerging Economies", *NBER Working papers* 17780, January.

Hou Zhenbo, Keane Jodie, Kennan Jane, Massa Isabella and Willem te Velde Dirk (2013). "The Changing Nature of Private Capital Flows to Sub-Saharan Africa", *ODI Working Paper*, 376, March.

IIF (2013). Capital Flows to Emerging Market Economies, October.

IMF (2011). "Recent Experience in Managing Capital Inflow – Cross-Cutting Themes and Possible Policy Framework", Strategy, Policy and Review Department, February.

IMF (2012). "The Liberalization and Management of Capital Flows: An Institutional View", November.

IMF (2012). Regional Economic Outlook: Sub-Saharan Africa, Chapter 2: The Impact of Global Financial Stress on Sub-Saharan African Banking Systems, May.

IMF (2011). Regional Economic Outlook: Sub-Saharan Africa Chapter 2: Capital Inflow to Frontier Markets in Sub-Saharan Africa, April.

IMF (2013). Regional Economic Outlook: Sub-Saharan Africa, Chapter 3: Issuing International Sovereign Bonds: Opportunities & Challenges for Sub-Saharan African countries, May.

IMF (2013). Regional Economic Outlook, Sub-Saharan Africa, Chapter 3: Managing Volatile Capital Flows: Experiences and Lessons for Sub-Saharan African Frontier Markets, October.

Machanga Isaac and Soteli Kombe (2008). Foreign Portfolio Investors in Africa, the Case of Zambia, BIS, *IFC Bulletin* No 31.

Milesi-Ferretti Gian-Maria, Tille Cedric (2010). The Great Retrenchment: International Capital Flows during the Global Financial Crisis, Centre for Economic Policy Research.

Milhaljek Dubravko (2008). "The Financial Stability Implications of Increased Capital Flows for Emerging Market Economies", *Bank of International Settlements Papers* No. 44, December.

Moreno Ramon (2011). "Policymaking from a Macroprudential Perspective in Emerging Markets Economies", *Bank of International Settlement Working Papers*, No. 336, January.

Suchanek Lena and Vasishtha Garima (2009). "The Evolution of Capital Flows to Emerging-Market Economies", *Bank of Canada Review*, Winter.

World Bank (2013). World Development Indicators.

Policy Space for Capital Controls and Macroeconomic Stability: Lessons from Emerging Economies

Christiana E. E. Okojie[*]

I. Introduction

Foreign capital flows consist of movement of financial resources from one country to another. Capital inflows can help a developing country to fill resources gap where savings are inadequate to finance investment. Since the 1990s, there has been an increase in the volume of private capital flows to and from emerging market economies. This has been due to increasing financial openness and strong growth prospects and positive interest differentials in these economies (Mohan and Kapur, 2010). However, most sub-Saharan African countries which critically need foreign exchange have been relatively marginalised by foreign investors. While capital flows provide liquidity to recipient countries, they make monetary and exchange rate policy more challenging. Capital flows affect a wide variety of macroeconomic variables such as exchange rates, interest rates, external reserves, domestic savings and investment (Sumanjeet, 2009). In a world of increasingly integrated financial markets and high financial mobility, the volatility of capital flows and sudden loss of confidence have often resulted in severe financial crises with significant domestic and international effects.

Furthermore, capital inflows can involve the loss of local control over economic decision-making, for example, with respect to majority-owned foreign direct investment. A decline in capital inflows can slowdown growth rate or lead to loss of foreign reserves. Sustainable growth, low inflation, steady growth of employment, low levels of unemployment and a balanced public finance are usually regarded as the main indicators of macroeconomic stability. However, since the 2008-09 global financial crisis, the importance of the financial sector has been recognised. It is now realised that there is need to maintain financial and macroeconomic stability concurrently and these remain major policy challenges. How do capital controls contribute to achieving macroeconomic and financial stability?

[*] Christiana Okojie is a Professor of Economics and Statistics, University of Benin, Benin City Nigeria. The usual disclaimer applies.

The 1990s witnessed a number of capital account crises in emerging market economies (EMEs). The crises which were a result of sudden reversals of capital inflows, occurred against the background of financial market deregulation, capital account liberalisation, and financial sector opening. While deregulation and liberalisation yielded benefits such as increased financial resource mobilisation for domestic investment and economic growth, it created new sources of macroeconomic vulnerabilities. The high frequency of crises in emerging economies (East Asia, Russia, Latin Americas) led policymakers in these countries to question the virtue of unrestricted capital mobility in an increasingly globalising and potentially volatile world economy. Therefore, large swings in foreign capital flows and their potential volatility necessitated measures to manage capital flows by emerging and developing countries.

Furthermore, as countries recovered from the recent global financial crisis, capital began to flow in and out of emerging market economies. Despite the benefits of capital flows, many EMEs are now concerned that the new surge in capital inflows, many of which are deemed transient, can cause problems for their economies. Their concern is that these massive capital inflows can lead to strong appreciations of their exchange rates and complicate economic management; inflate asset price bubbles which can amplify financial fragility and crisis risk (Ostry et al.., 2011). After the crisis, policymakers are reconsidering the idea that unfettered capital flows are a fundamentally benign phenomenon and that all financial flows are a result of rational agents' decisions. There is increasing concern that foreign investors are subject to herd behaviour and suffer from excessive optimism and that capital flows can contribute to damage such as assets bubbles. Such concerns have led to renewed interest in capital controls (Ostry et al.., 2011). With low interest rates likely to persist for some time in the advanced countries, emerging market economies are likely to attract capital inflows for some years; the rapid appreciation of interest rates has generated concern for potential "currency wars".

Many of the EMEs have accumulated increasing foreign reserves with the result that the external financial constraint of the1990s is no longer an issue for them. Large capital inflows emerged as a problem in the years 2003-2007 for major EMEs and created new challenges for macroeconomic management and financial stability. Since the 1980s, about 15 per cent of episodes of large capital inflows have ended in crisis (Mohan and Kapur, 2010). Thus, to protect their economies from undue volatility, some EMEs have responded and adopted various measures to manage their capital accounts. Issues of interest in this paper include a review of the policy options for managing capital flows. What is the place and relevance of capital controls for addressing macroeconomic stability concerns in

an environment of increasing capital inflows? What policy space is available for adoption of capital controls in an environment of global financial market volatility? Does implementation of capital controls create policy space for independent monetary policy to address macroeconomic instability concerns? How have emerging market economies addressed the challenges?

Section two of the paper discusses the concept of policy space and the factors influencing policy space in developing economies. Section three addresses policy options for managing capital flows with focus on capital controls, it also discusses changing attitudes towards capital controls by researchers and agencies with emphasis on the International Monetary Fund (IMF). Section four discusses the experiences of a few emerging economies, their use of capital controls, with assessments of the impacts and effectiveness of capital controls, and raises lessons for other developing counties. Section five concludes the paper.

II. Conceptualising Policy Space

II.1 Financial Integration and Policy Space

A stable macroeconomic environment is regarded as being conducive to long-term growth. However, there is disagreement over whether price stability should be a central objective of macroeconomic policies or whether these policies should target broader development goals (Ocampo and Vos, 2008). Until the 1970s, macroeconomic policies in developing countries were mainly growth-oriented national development strategies. However, severe macroeconomic instability faced by many developing countries since the 1980s has narrowed the focus of macroeconomic policies to lowering inflation and the avoidance of major fiscal and external imbalances. Although many developing countries were able to reduce inflation and restore fiscal balance by applying such policies, many did not achieve sustained economic growth. This has called for a return to a broad developmental approach by macroeconomic policies. Proponents of this view argue that macroeconomic policies should be growth-centred with full employment as the ultimate objective (Ocampo and Vos, 2008). It is also argued that because of differences in development levels, quality of institutions, and degree of vulnerability to global macroeconomic and financial instability, the policy framework for developing countries should differ from that in advanced countries. Thus, a critical question is how much "policy space" do developing countries have to adopt autonomous and effective counter-cyclical macroeconomic policies which are consistent with their long-term development objectives? Many policy analysts are of the view that with increasing integration of global markets, developing countries have lost such policy space (Ocampo

and Vos, 2008). Small developing countries are often seen as "rule-takers" in the global economy (Molina, 2013). They have little influence in formulating the rules of international cooperation and often have little bargaining power within these rules, although some authors believe that despite these power imbalances, developing countries can find room to manoeuvre within global governance rules (Molina, 2013). What is "policy space" and why the concern with policy space?

II.2 What is Policy Space?

A number of authors have defined the concept of "policy space". In Molina (2013, policy space is defined as "the degree of autonomy that states have to shape their development ends and means. This includes both *de jure* policy space (describing the language of multilateral agreements and treaties), and *de facto* policy space (as evidenced by room to maneuver within or outside existing rules). He added that not all multilateral policy rules affect a country's policy space.

According to Martinez-Diaz (2006), the concept of "policy space" is most often used in debates about how certain rules in the global economy, especially those emanating from the World Trade Organisation (WTO) and its subsidiary agreements, constrain countries' policy options for medium and long-term economic development. It refers to the need for poor countries to have enough space to craft their own economic policy and adequate room for policy autonomy and experimentation. Similarly, it could connote the freedom of developing countries to pursue among other things, the kinds of development policies used in the past by what today are the world's advanced economies.

Koivusalo, et al. (2009) defined policy space as the "freedom, scope and mechanisms that governments have to choose, design and implement public policies to fulfil their aims". Their concern was with how globalisation and the processes that comprise it are influencing the availability of such space. They added that concerns with policy space have been raised mainly in the context of economic, trade and development policies.

Although it did not define the concept of "policy space", the United Nations Conference on Trade and Development also discussed the idea of policy space in its 2004 and 2008 Conferences. In its 2004 Conference, the Sao Paulo Consensus Document recognised that:

> *The increasing interdependence of national economies in a globalising world and the emergence of rule-based regimes for international economic relations have meant*

> *that the space for national economic policy, i.e., the scope for domestic policies, especially in the areas of trade, investment and industrial development, is now often framed by international disciplines, commitments and global market considerations. It is for each Government to evaluate the trade-off between the benefits of accepting international rules and commitments and the constraints posed by the loss of policy space. It is particularly important for developing countries, bearing in mind development goals and objectives, that all countries take into account the need for appropriate balance between national policy space and international disciplines and commitments*.

The 2006 UNCTAD Report states that:

> *There are widespread concerns that the international trade rules and regulations, which are emerging from multilateral trade negotiations and a rising number of regional and bilateral trade arrangements, could rule out the very policy measures that were instrumental in the development of today's mature economies and late industrialisers. This would imply a considerable reduction in the flexibility of national governments to pursue their development objectives. Another concern is that these rules and commitments, which in legal terms are equally binding for all countries, in economic terms might impose more binding constraints on developing than on developed countries, because of differences in their respective structural features and levels of industrial development.*

The current debate on the role of national policies in economic development concerns the concept of "policy space", and focuses on the tension between international economic integration and the autonomy available to nation states to pursue policies that effectively support their development. He emphasised

that much of the debate on "policy space" is confined to trade policy and revolves around the Uruguay Round Agreements, especially as the UR agreements restrict sovereignty of nation states to make their own policy decisions. Thus international economic integration affects national policy space by reducing policy options available to policy makers. International economic integration weakens *de facto* control over national economic development by allowing foreign actions to influence national macroeconomic targets. Furthermore, multilateral rules and commitments reduce *de jure* policy control over policy instruments.

II.3 Constraints/Limits on National Policy Space

Constraints on national policy space arise from inequalities in resources and bargaining power between developing and industrialised countries. Major factors limiting policy space are:

- The multilaterally negotiated rules and obligations in trade and finance as embodied in various agreements in the World Trade Organisation,
- The Structural conditionality attached to lending by the Bretton Woods Institutions (BWIs) which constitutes the second most important source of multilateral constraints over development policy (Akyuz, 2007).
- In addition, for countries dependent on official financing, the policy space is also eroded by conditions attached to loans and grants by multilateral financial institutions and bilateral donors (Akyuz, 2007). Commitments made by developing countries in bilateral or regional agreements with major industrial countries not only extend WTO disciplines in industrial tariffs, services and intellectual property rights, they also add new obligations in areas left out of multilateral legislation such as capital account regimes, foreign direct investment and enforceable environment or labour standards (Akyuz, 2007). Hundreds of regional trade agreements (RTAs) and bilateral investment agreements are presently in place. Bilateral and regional agreements often try to incorporate intellectual property rights that go beyond those in WTO agreements (Koivusalo, et al., 2009).

Akyuz (2007) pointed out that in a world where national economies are closely integrated, multilateral rules and obligations are needed to contain negative externalities such as financial contagion and environmental degradation. They are also needed to prevent discriminatory and beggar-my-neighbour policies. While multilateralism is valuable to smaller and weaker countries, an appropriate balance should be struck between national policy space and international disciplines and commitments.

However, reviewing the WTO in particular, Akyuz (2007) observed that some trade agreements, for example, the General Agreement on Trade in Services (GATS) contain statements that recognise the rights of governments to make regulations aimed at achieving set objectives. He noted that although many of the policy instruments used by today's industrialised countries are no longer available to developing countries because of multilateral rules and obligations such as the WTO, these multilateral rules and practices permit wider policy space than is usually assumed, for example:

- Many areas of policy remain outside the multilateral disciplines, for example, no rules force a country to adopt a particular exchange rate or capital account regime. There are also no strict rules in areas such as foreign direct investment, trade in services and competition policy. Existing constraints in these areas are a result of loan conditionality by the Bretton Woods institutions as well as bilateral or regional agreements and multilateral commitments.
- Except for countries depending on official assistance, many constraints arise from deliberate policy choices or from domestic policy failures to resolve deep-seated structural problems.
- There is policy diversity among developing countries because of differences in willingness to fully adopt financial integration or to exploit the policy space allowed by existing multilateral rules and practices.

Contributing to the discussion on constraints to public space, Griffith-Jones and Stallings (1995) described the constraints on policy space created by financial markets as "implicit conditionality" as contrasted with "explicit conditionality" attached to loans from multilateral financial institutions. Such constraints are effective because countries are unwilling to incur penalties attached to non-compliance or risk while implementing policies they feel will be viewed negatively by sources of external finance.

Also of interest is the capacity to use available policy space effectively by better articulation of their domestic priorities within existing multilateral rules and commitments. To what extent is available policy space effectively utilised by policy makers? Furthermore, while the possibility of exit from multilateral agreements has been considered by some developing countries, such options are rarely exercised because of their relative weaknesses in bilateral relations with major economic and political powers (Aykuz, 2007).

III. Capital Controls For Macroeconomic Stability

III.1 Background - Financial Integration and Capital Account Management

At the 2013 annual IMF conference with the theme "Rethinking Macro Policy II: First Steps and Early Lessons", De Gregorio (2013) in his presentation stated that international financial integration and capital account management have become central issues in policy discussions in recent years, although the issues are not new in emerging market economies. He added that some had disastrous experiences with financial crises which were often caused by poor management of financial integration and weak macroeconomic policies. Since the 1970s, the Bretton Woods Institutions had advocated the benefits of financial integration, - the liberalisation of capital flows across all borders. While some countries have gained significantly from capital inflows, several have encountered financial crises. This experience had encouraged the adoption of capital controls by some emerging and developing countries. Until recently, some economists, financial institutions and industrialised countries have been hostile to regulating capital movements. However, the IMF has now recognised that capital flows can be destabilizing – causing currency appreciation, asset bubbles, and volatility in developing countries (Gallagher, 2011). This change in attitude has been reflected in its recent annual meetings.

III.2 Capital Controls - Concepts and Debate

III.2.1 Concepts – Definitions, Types, and Objectives of Capital Controls

Ostry et al. (2010, 2011) discuss various macroeconomic policy measures for addressing surges in capital inflows, they include exchange rate appreciation, reserve accumulation, sterilisation, fiscal and monetary policy changes, and capital controls. Capital controls are now recognised as part of the policy toolkit for financial stability. According to Ostry et al. (2010, 2011), capital controls "limit the rights of residents or non-residents to enter into capital transactions or to effect the transfers and payments associated with these transactions". They are, however, of the view that capital controls, because of their discriminatory nature, should only be used after other macroeconomic tools have been adjusted in response to the capital inflow surge.

Capital controls have been highly stigmatised and the IMF proposed a new nomenclature for capital controls, suggesting that they should be called "capital flow management measures" (Gallagher, 2011). Some others have also suggested the term "capital management techniques" (Ocampo, et al., 2008). "Capital management techniques" is a term used to describe a combination of

capital and exchange controls plus financial prudential regulations that indirectly affect these flows and their impacts (Epstein, 2009). Gallagher et al. (2011) referred to them as "capital account regulations" to underscore the fact that they belong to the broader family of financial regulations. What are capital controls?

Definitions of capital controls: Some authors define capital controls as "regulations on capital flows" (Gallagher et al., 2011). Capital controls are residency-based measures which limit the rights of residents or non-residents to enter into capital transactions or to effect transfers and payments associated with these transactions (Ostry, et al., 2011). They are limits on the level or composition of foreign private capital that can enter or leave a nation (Gallagher, 2011). Capital controls can be economy-wide, sector–specific, or industry-specific. Gallagher et al. (2011) emphasised that capital controls (capital account regulations) should be seen as an essential part of macroeconomic policy toolkit and not as a mere measure of last resort, they are part of policy options used to manage the capital account.

Types, Objectives and benefits of capital controls: Capital controls are often used to manage exchange rate volatility, avoid maturity mismatches, limit speculative activity in an economy, and provide the policy space for independent monetary policy (Gallagher, 2011).
In Engel (2011) four potential objectives of capital controls are identified as:

- Reduce the volume of capital flows,
- Alter the composition of capital flows towards longer maturities,
- Reduce real exchange rate pressures, and
- Allow for a more independent monetary policy.

Capital controls can target inflows or outflows of capital, they can be price or quantity based, direct or indirect. Petkovski and Georgieva (2012), also distinguished between permanent and temporary capital controls. Permanent controls are usually part of long-term development strategies while temporary measures are usually introduced in exceptional situations, for example, in situations of large inflows of "hot money".

Price versus quantitative measures: Some controls work through price measures, for example, taxes on inflows or outflows. Other controls work through quantitative channels, for example, restrictions or caps on sales or purchase of assets, bans on sales of assets, limits on buying equity in some industries or shares in domestic firms, etc.

Direct versus indirect controls: We can also distinguish between regulations that impact directly on capital flows from those that impact indirectly. Direct measures aim at directly affecting the volume of cross-border financial transactions through outright prohibitions, quantitative limits, or government approval procedures. Indirect measures try to make cross border flows more costly, for example through reserve requirements (Anderson, 2009).

Arguments for capital controls: Arguments in favour of capital controls include the following:

- Capital controls can represent an optimal macro-prudential policy that reduces the risk of financial crises.
- Global economic growth was on average higher during the Bretton Woods period when capital controls were widely used.
- Capital controls which limit residents from owning foreign assets can ensure that domestic credit is available more cheaply than would otherwise be the case.
- Economic crises have been more frequent since the Bretton Woods capital controls were relaxed.

Disadvantages of capital controls: Petkovski and Georgieva (2012) identified some disadvantages of capital controls as:

- Capital controls limit free flows of capital and deny depositors from earning the best possible returns and firms from borrowing under the most favourable conditions. As a result, both savings and investment suffer with negative impacts on growth and long-term development.
- In emerging markets, outward capital controls are not very efficient during periods of crises as they can be evaded.
- Capital controls encourage corruption by government officials who allow domestic residents to take money out of the country for a kick-back.
- Sometimes, capital controls are used as substitute for other appropriate domestic policies for managing the financial system or financial crises.

Studies show that large uncontrolled capital inflows have often destabilised development in some countries by: causing appreciation of the domestic currency, contributed to rising inflation, and causing unsustainable economic booms which often precede financial crisis, that is, when there is a reversal of foreign inflows and capital flight out of the country.

Considerations in adopting capital controls

In the IMF Position Paper on capital controls, Ostry et al. (2010) highlighted some factors which should be considered in adopting capital controls, they are:

- Effectiveness: How effective will the capital control measures be? They are likely to be effective where the administrative apparatus to implement them is already in place. It will be easier to implement where countries have a substantially closed capital account, although such countries have less need of further capital controls.
- Controls on outflows: Although focus tends to be on inflows, controls on outflows can also have an impact on aggregate net inflows. For example, assurances that capital can be repatriated can make the country an attractive destination for investors.
- Multilateral considerations: Decisions to adopt capital controls need to take account of their multilateral implications. The concern is that widespread use of capital controls by emerging economies can have negative impacts on efficient allocation of investment across countries. Adoption by one country may lead others to follow in what is identified as a "beggar-my-neighbour" policy.

Overall, according to Ostry et al. (2010), during large capital inflows that can fuel credit booms, macroeconomic policies and prudential regulations can be complemented by appropriately designed capital controls, especially during temporary inflow surges.

III.3 Restrictions on Use of Capital Controls

As mentioned already, the major restrictions on capital controls are the various international, bilateral and other agreements which restrict the use of capital controls. These international arrangements erode the policy space provided for under the Articles of Agreement of the IMF. (see appendix 3 for details).

III.4 Evolution of Attitudes towards Capital Controls

Until recently, the Bretton Woods institutions were hostile to the use of capital controls. This was in spite of the fact that the Articles of Agreement establishing the IMF permitted the use of capital controls by member countries. Thus, Article VI, Section 3 of the IMF Articles of Agreement permitted the use of capital controls by member countries, it states that (IMF, 2011):

Members may exercise such controls as are necessary to regulate international capital movements, but no member country may exercise those controls in a manner which will restrict payment for current transactions, or which will unduly delay transfer of funds in settlement of commitments, except as provided in Article VII, Section 3(b) and Article XIV, Section 2.

The negotiations for the establishment of the IMF after World War II and the Great Depression were influenced by British economist John Maynard Keynes who stated that "*control of capital movements, both inward and outward, should be a permanent feature of the postwar system*". Before World War I, the industrialised economies of Europe and the United States were characterised by a high degree of global financial integration, with a large role for markets (Epstein, 2009). Many counties' financial systems were based on the gold standard. This system of free capital mobility collapsed, along with many economies, during the Great Depression. Studies showed that a major contributor to the collapse was the approach to markets which resulted in the accumulation of debts and highly speculative investments, many of which failed. International capital flows also contributed to worsening the crisis (Epstein, 2009). Thus, in creating the IMF after the Second World War, governments were allowed to adopt capital controls as advocated by John Maynard Keynes.

Over time, however, there was a relaxation of these financial controls and a return to global financial integration with free capital mobility. This era was marked by the frequency and severity of banking and financial crises which affected emerging and developing countries primarily such as the Asian financial crisis in 1997-98. This was followed by the Russian crisis in 1998. The Asian crisis affected many emerging economies such as Thailand, South Korea and Malaysia. In spite of this, the IMF continued to support and advocate financial liberalisation and the elimination of capital controls. During the Asian financial crisis, countries which imposed capital controls, such as China and India, were less negatively affected than countries which did not impose or had few capital controls (Epstein, 2009; Gallagher, 2011). In the 1990s, credit rating agencies would downgrade the credit ratings of nations that imposed capital controls, the concept of "capital controls" was stigmatised (Gallagher, 2011). In the 1990s, the IMF tried to amend the Article of Agreement to require nations to fully liberalise their capital accounts and only allowing capital controls as temporary safeguards under extreme circumstances (Gallagher, 2011). However, the recent Global Financial Crisis brought a change of attitude by the IMF towards the use of "capital controls". First in 2011 and again in 2013, the IMF held its annual conferences with the theme "Rethinking Macroeconomics" where it was highlighted that the global financial crisis had shattered many of their preconceived views on macroeconomic policies.

At the 2013 IMF Conference, Subbarao (2013) in his presentation on capital account management noted that the change in capital account management is one of the most remarkable intellectual shifts arising from the 2008 Global Financial Crisis. He identified three big issues on which pre-crisis consensus had

dissolved, they are: movement towards a fully open capital account, the use of capital controls as a short-run stabilisation tool, and the desirability of foreign exchange intervention.

- Movement towards a fully open capital account: Before the crisis, the consensus was that all countries should move towards a fully open capital account, this consensus is now broken. Thus, although there is consensus that free trade in goods enhances welfare, opinion is now divided on the virtues of financial openness.
- Capital controls as a stabilisation tool: Before the crisis, consensus was that capital controls are not a desirable policy tool. The debate was on effectiveness of capital controls and whether price or quantity controls should be used.
- Foreign exchange interventions: The pre-crisis consensus at least among the advanced countries, was that intervention in the foreign exchange market is suboptimal. The consensus no longer holds.

In what has been described as the "end of an era in finance" by some economists (Rodrik, 2010; Gallagher, 2010), the about-face by the IMF was discussed. In 2010 the IMF published a staff position note which showed that capital controls not only work, they were also associated with avoiding some of the worst growth outcomes of the current financial crises (Gallagher, 2010). The paper concluded that the "use of capital controls – in addition to both prudential and macroeconomic policy – is justified as part of the policy toolkit". One justification for imposing capital controls is to prevent massive inflows of "hot money" that can appreciate the exchange rate, undermine competitiveness and threaten macroeconomic stability (Gallagher, 2010; Rodrik, 2010).

The position paper noted that: *"if the economy is operating near potential, if the level of reserves is adequate, if the exchange rate is not undervalued, and if the flows are likely to be transitory, the use of capital controls is justified as one element of the policy toolkit to manage inflows" (Ostry et al., 2010)*. Various studies conducted while preparing the position note showed that capital controls on inflows can make monetary policy more independent, alter the composition of capital flows and reduce real exchange rate pressures (Gallagher, 2011). The IMF (2011) in discussing policy tools for addressing capital inflow surges concluded that:

- Capital controls can be useful in addressing both macroeconomic and financial stability concerns in the face of inflow surges.
- Regardless of the purpose of capital controls, countries should first exhaust their macro policy options before implementing capital controls (or prudential measures that act as capital controls).
- Prudential regulations and capital controls can help to reduce distortions as well as create distortions, for example, by reducing good as well as bad financial flows.
- Capital control measures should target the specific risks at hand. A combination of prudential regulations and capital controls may be appropriate.
- There is no one-size-fits- all in designing capital controls, capital controls should be country- specific if they are to be efficient and effective.

The IMF (2011) suggests that capital controls should be: used as a last resort and as a temporary measure, only after a nation has accumulated sufficient reserves, adjusted her interest rates, and allowed the currency to appreciate. It also suggested that such controls should preferably be price-based, although quantity-based controls should be used in the face of uncertainty where price-based controls may be inappropriate (Gallagher, 2011). It has been pointed out that more important than setting out guidelines, the IMF should focus on helping nations to enforce such controls when they deem them appropriate (Gallagher, 2011). However, without the advice of the IMF, many emerging market economies have implemented capital controls as will be discussed in the next section.

IV. Policy Space for Capital Controls – Experience of Emerging Economies

IV.1 What are Emerging Economies?

In the 1970s, the term "less developed countries" (LDCs) was used to refer to markets that were less developed than the "developed" countries such as the United States, Japan, and countries in Western European, etc. The term "emerging markets" was coined in reference to countries undergoing rapid economic growth and industrialisation. Some authors use the term interchangeably with "emerging and developing countries", while some use it to replace the term "emerging economies". Several other definitions have been provided. For example, some reason that "Emerging market country is a society transitioning from a dictatorship to a free market-oriented economy, with increasing economic freedom, gradual integration with the global marketplace and with other members of the Global Emerging Market (GEM), an expanding

middle class, improving standards of living, social stability and tolerance, as well as an increase in cooperation with multilateral institutions".
Emerging economies are sometimes deemed to have the following characteristics:

- *Intermediate income:* Its PPP (Purchasing Power Parity) per capita income lies between 10 per cent and 75 per cent of the average EU per capita income,
- *Catching-up growth:* During at least the last decade, it has experienced a brisk economic growth that has narrowed the income gap with advanced countries, and
- *Institutional transformation and economic opening:* During the same period, it has undertaken profound institutional transformation which has facilitated its integration more deeply into the world economy. Thus, emerging economies appear to be a by-product of the current industrialisation.

IV.2 Policy Space for Capital Controls – Emerging Economies' Experience

Over the years, in spite of hostility by international financial institutions, many emerging economies have used various capital management techniques targeted at both capital inflows and outflows, especially in the wake of various financial crises they have experienced. Generally, in the aftermath of the Asian crisis, there has been increased support of controls on capital inflows to prevent future crises. Following the 1990s currency crisis, "the single most important factor leading to the troubles that several of the East Asian countries encountered in the late 1990s – the East Asian crisis – was the rapid liberalisation of financial and capital markets" (Anderson, 2009). Controls on inflows can protect emerging economies from international speculation and allow them to undertake an independent monetary policy (Edwards, 1999). A few country case studies are discussed here, they are: Chile, Malaysia, Colombia, Brazil and Thailand. Some others have been discussed in the literature; they include China, India, Croatia, and South Korea.

IV.2.1 Case Study: Malaysia

There were surges in capital inflows into Malaysia in the late 1980s reflecting Malaysia's increasing attractiveness as a manufacturing centre in Asia. These surges posed several challenges: risk of the economy overheating, loss of monetary policy independence, appreciation of the ringgit, growth of bubbles in the asset market, and financial sector instability (Cordero and Montecino, 2010).

A number of policy tools have been utilised over the years to regain control over monetary policy and slow down capital inflows.

In the early phase, Malaysia used capital controls targeted at capital inflows. Since Malaysia started off with a low inflation rate, it was in a better position to discourage short-term inflows by loosening monetary policy and lowering the interest rate that was attracting the capital inflows. The measures adopted succeeded in reversing the volume of short-term flows. Malaysia's controls on inflows were designed to be short-term measures and were removed as soon as the objectives were achieved.

After the Asian financial crisis, by 1998, the Malaysian authorities were concerned with the adverse impacts of high interest rates on economic recovery. They adopted measures which would enable stabilisation of the exchange rate and reduction of interest rates to aid economic recovery. Thus, the controls adopted targeted capital outflows and were aimed at: facilitating economic expansion, defending the foreign exchange rate, reducing capital flight and preventing further drain on foreign reserves (Cordero and Montecino, 2010).

Overall, the controls were able to reduce the volatility of the interest rate and foreign exchange rates. The controls insulated Malaysia from some of the prevailing external shocks at the time and provided more policy space to pursue economic recovery (Cordero and Montecino, 2010). Furthermore the Malaysian experience with capital controls showed that controls on outflows can help to stabilise an economy during a crisis. In assessing the benefits of these controls to Malaysia during the Asian crisis, authors have concluded that the controls appeared to have helped Malaysia to avoid turning to the IMF as other Asian countries did, namely, South Korea, Indonesia, Thailand and the Philippines. At that time, the IMF was imposing all kinds of conditionality which some countries saw as intrusive and bad for their economic development. The implementation of capital controls enabled Malaysia to avoid making unwanted commitments to the IMF (Cordero and Montecino, 2010). It provided policy space for Malaysia to adopt independent policies to address national development objectives.

IV.2.2 Case Study – Colombia

1993-1998: During the 1990s, Colombia implemented various structural reforms – trade liberalisation, privatisation of public enterprises, etc. These reforms in addition to low interest rates in the developed countries encouraged capital inflows into Colombia. The surge in capital inflows put upward pressure on the exchange rate and raised concerns about export competitiveness. Initially,

sterilisation interventions were attempted, but these were insufficient to avoid currency appreciation. Starting in 1993, Colombia implemented the URR – unremunerated reserve requirements. This was applied to any foreign exchange credit with a maturity below 18 months. It was later extended to cover some trade credits (Ostry et al., 2010). Majority of the reviewers of the Colombian use of the URR conclude that the URR was effective only in increasing the independence of monetary authorities.

2007-08: During this period, Colombia again implemented the URR at the rate of 40 per cent on foreign borrowing and portfolio inflows. Limits were also imposed on the currency derivative positions of banks (500 per cent of capital). Reviews show that these were insufficient to reduce the volume of inflows, but were able to alter the composition of inflows (Ostry et al., 2010).

IV.2.3 Case Study – Chile

Chile's experience of capital controls has attracted attention from economists, policy advisers, it has been argued that Chile's use of capital controls has helped the country to achieve a remarkable record of growth and stability by discouraging short-term capital flows while attracting longer-term funds (Edwards, 1999).

Chile implemented controls on capital inflows in 1978-82 and 1991-98. Controls were first imposed in 1978 as a result of massive capital inflows leading to exchange rate appreciation. This phase ended when as a result of the Latin American debt crisis, capital began to move out of the country. Controls were reintroduced in June 1991 when there was a new surge in capital inflows partly due to reduction in the country risk premium at the end of Pinochet dictatorship. According to Edwards (1999), Ostry et al., (2010), and Cordero and Montecino (2010), the main capital control measures adopted during these two periods were:

- Prohibition of inflows with maturities below 24 months.
- URR for inflows with maturities between 24 to 66 months ranging from 10 to 25 per cent of the value of the inflows.
- FDI was regulated throughout the period. In 1990, minimum stay requirements and profits repatriation rates for FDI. In 1990, minimum stay requirement was set at three years, but was lowered to one year in 1992. Repatriation restrictions were eliminated in 1992.
- In 1991, URR rate of 20 per cent applied only to foreign loans and fixed income securities. The credits were to remain at the Chilean Central Bank for up to one year without remuneration.

- In 1992, the URR rate was raised to 30 per cent and was extended to trade credits and loans related to FDI.
- In 1995, the URR was extended to apply to bonds, Chilean stock traded in the New York Stock Exchange.
- In June 1998, to reduce the risk that capital flows to Chile would decline as part of contagion from the East Asian financial crisis, the URR rate was reduced to 10 per cent and reduced to zero in September.

Review of Chile's experience with capital controls suggests that controls on capital inflows were able to influence domestic interest rates. Controls on inflows enabled Chile to undertake a more independent monetary policy. However, rising domestic interest rates increased the cost of capital for domestic firms.

IV.2.4 Case Study – Thailand

Thailand has also implemented capital controls in the Asian financial crisis period as well as in the global crisis era (Ostry et al., 2010).

1995-96: Measures implemented include:

- Imposition of URR on banks' nonresident baht accounts.
- Introduction of asymmetric open-position limits to discourage foreign borrowing.
- Imposition of reporting requirements for banks on risk-control measures in foreign exchange and derivatives trading.

2006-08: The following measures were implemented:

- Imposition of URR of 30 per cent on foreign currencies sold or exchanged against baht with authorised financial institutions (except for FDI and amounts not exceeding US$20,000).
- Equity investments in companies listed on the stock exchange were exempted from the URR.

Ostry et al., (2010) showed that the controls were effective in reducing inflows and changing their composition as well as reducing pressures on the real exchange rate..

IV.2.5 Case Study – Brazil

1993 – 1997: At the beginning of the 1990s, Brazil faced persistently high inflation and a large fiscal deficit. During the 1990s, Brazil regained access to international credit markets from which she was cut off during the debt crisis of the 1980s. There was a large surge of capital inflows desiring to take advantage of the interest

rate differential (between domestic and international rates). From 1992, the real effective exchange rate appreciated markedly while the composition of capital inflows was increasingly short-term. A number of measures were adopted (Ostry et al., 2010):

- Explicit tax on capital flows on stock market investments, foreign loans and some foreign exchange transactions.
- Administrative controls – outright prohibitions against or minimum maturity requirement for certain types of inflows.

2009 – 2011: In the post Global Financial Crisis era, Brazil experienced large capital inflows and strong appreciation pressures between 2009 and 2011. Various capital management techniques were implemented during this period as shown in Table 1 below.

Table 1: Brazil – Capital Management Techniques after Global Financial Crisis

Date	Type	Measure
October 2009	Capital controls	▪ 2 per cent financial transactions tax on non-resident equity and fixed income portfolio inflows by the Ministry of Finance.
October 2010	Capital controls	▪ Increase in financial transactions tax from 2 per cent to 4 per cent ▪ Introduction of limitations on foreign investors' ability to shift investment from equity to fixed income investments
January 2011	Prudential financial regulations	Noninterest reserve requirement equivalent to 60 per cent of banks' short dollar positions in the FX spot market that exceeds US$3 billion or their capital base which- ever is smaller.
March 2011	Capital controls	Increase in financial transactions tax to 6 per cent on new foreign loans (banking loans and securities issued abroad) with maturity of up to one year
July 2011	Prudential financial regulation	Mandatory noninterest reserve requirement for amounts over US$1 billion or their capital base, whichever is smaller
December 2011	Capital controls	Reduction of financial transactions tax on equity and fixed income portfolio inflows to 0 per cent

Source: Fritz and Prates (2013)

Reviews of the Brazil experience during the 1993-97 period suggest that capital controls were effective in reducing both the volume and composition of capital inflows (Ostry et al., 2010). In the post global crisis period, a combination of

prudential financial regulations and capital controls were used. In Brazil, prudential regulation emerged as a key instrument for addressing the main cause of external vulnerability and currency appreciation (Fritz and Prates, 2013).

IV.3 Lessons Learnt from Emerging Economies' Experience

The idea of restricting capital mobility as a means of reducing macroeconomic instability is not new to emerging economies. The literature contains several reviews of the use of capital controls by emerging economies since the 1970s. Despite hostility to capital controls by international financial institutions, emerging economies had gone ahead and implemented capital controls to address their vulnerability to financial crisis, especially Asian and Latin American countries which experienced the Latin American debt and the Asian financial crises. While in the 1990s, emphasis was on capital controls, in the post-global financial crisis and the change in attitude by the IMF, the focus is now on the new nomenclature – capital management techniques (measures) which combine capital controls and prudential financial regulations. What can we learn from the experiences of the emerging economies that have implemented capital controls? Is there policy space for adoption of capital controls?

In addition to the few case studies described above, several other emerging countries have also implemented capital controls; they include China, India, South Korea, Croatia, etc. What lessons can be learned from the experiences of emerging economies?

1. **Is there policy space for capital controls?** The IMF Articles of Agreement created the policy space for governments to implement capital controls, although the Bretton Woods institutions for decades promoted financial integration. Several emerging economies have implemented capital controls despite the stigma associated with it for several decades. The policy space has broadened since the turn-around by the IMF in 2010. The IMF has agreed that capital controls are a legitimate part of the toolkit for managing capital inflows in certain circumstances. That is, it is part of the policy options available to governments to counter the potential negative economic and financial effects of sudden surges in capital flows. However some bilateral agreements still restrict the policy space for use of capital controls, for example, bilateral agreements with the United States penalise the use of capital controls.

2. **Do capital controls expand policy space for independent policy making?** With respect to capital management measures, it has been argued by some authors that policy makers face what is referred to as ***the impossible***

trinity (Sumanjeet, 2009)**.** The argument is that it is impossible for a nation's economic policy to simultaneously deliver more than two of the following three desirable macroeconomic goals: a fixed exchange rate, an independent monetary policy, and free movement of capital. For example, monetary authorities may want to lower domestic interest rates to reduce cost of borrowing and increase investment and employment. At other times, they may want to raise interest rates to reduce inflation. Free capital mobility can undermine such policies because foreign investors will move capital away from countries with low interest rates to countries with higher interest rates. Thus lowering domestic interest rates may encourage capital flight, while raising interest rates may attract inflows of capital driving down interest rates, in both cases counteracting the domestic policy (Epstein, 2009). Reviews of the experiences of emerging economies showed that for many of them, capital controls provided the space for independent monetary policy. Malaysia was able to avoid going to the IMF for assistance and to pursue her independent development policy to meet her development objectives.

3. **Are capital controls effective?** One of the earlier arguments against capital controls is that they are ineffective. However, studies since the global financial crisis show that the use of capital controls helped countries to avoid some of the worst growth outcomes of the crisis. While capital controls did not always reduce the volume of capital inflows, they altered the composition of inflows away from shorter-term inflows.

4. **Capital controls and prudential regulations – are they stand-alone measures?**: In a majority of the countries reviewed in the literature, domestic financial stability concerns associated with large capital inflows have often been addressed by introducing prudential financial regulations in addition to capital controls, that is, by adopting capital management techniques instead of using either of them as stand-alone measures.

5. **Greater use of controls on capital inflows than on outflows:** Many of the capital controls have focused on capital inflows, some countries have also targeted capital outflows. Controls on outflows can be "preventive controls", for example, taxes on funds remitted abroad or outright prohibition on transfers of funds abroad. Such measures are expected to reduce rundown of foreign reserves. In reality, these measures have often been ineffective as the private sector has found ways to circumvent them. It has sometimes led to outright corruption. In some cases where

controls on capital outflows were used, there had been an increase in capital flight after the controls were imposed. It is also suggested that if inflows are properly managed, there may be less need to target outflows although the IMF has supported controls on outflows in Iceland, Ukraine, and Latvia (Gallagher, 2011). In the post global crisis era, while conditions vary across emerging and developing economies, weaker growth and risks of capital outflows raise new policy challenges.

6. **Country-specific design of capital management techniques:** Studies show that design of capital controls and prudential regulations should be country-specific, there is no one-size-fits-all instrument for all countries. Countries have adopted measures that suited their situations. Although the URR (unremunerated reserve requirements) has been popular in many emerging economies, the coverage and rates have varied between countries, for example. Some countries have tightened their instruments to block loopholes and reduce evasion. Furthermore, the country experiences also showed that the effectiveness of capital controls and prudential regulations in terms of reducing inflows, altering their compositions, or achieving the desired macroeconomic objectives depend on country's implementation capacity.

7. **Are capital controls a last resort policy option?** The IMF had suggested that capital controls should be implemented only after a number of other policies have been implemented, that is, capital controls should be used as a last resort and should be temporary. However, the experiences of China and India during the 1990s East Asian crisis suggest that the two countries already had capital controls in place and were therefore able to avoid the worst consequences of the crisis. Similar studies of the recent global financial crisis also suggest that countries with capital controls in place before the crisis hit avoided the worst growth outcomes. This suggests that capital controls should not be imposed as a last resort measure but should be part of the policy options to be considered for addressing surges in capital inflows or outflows. They may be ineffective if introduced after the crisis has hit.

8. **Reducing evasion of capital controls:** Reviews of use of capital controls show that the private sector has always found ways to evade controls. Ways of doing this include over-invoicing of imports, under-invoicing of exports, mislabelling of the nature of the capital movement, resorting to illegal methods including bribery, etc. (Edwards, 1999). Some studies show that the effectiveness of capital controls diminishes over time as the

private sector invests in avoidance techniques. There will be need for effective supervision of financial institutions as well as revisions (tightening) of regulations to block loopholes which can be exploited by the private sector. This implies that the regulatory and supervisory frameworks in emerging economies may need to be strengthened.

V. Conclusion

Although the Article of Agreement of the International Monetary Fund allowed countries to impose capital controls, the IMF and the World Bank have been advocates of liberalisation of financial markets and until recently were hostile to the use of capital controls by emerging economies. However, despite this hostility, many emerging economies have utilised the policy space provided by the Articles of Agreement to impose capital controls to address the negative impacts of surges in capital movements in and out of their economies. Reviews of the use of capital controls have focused on the experiences of emerging market economies especially those in East Asia and Latin America which had experienced financial crisis – the Latin American debt crisis and the East Asian financial crisis respectively. The recent global financial crisis led to a rethinking on some long-held views relating to financial liberalisation and the use of capital controls. The IMF has now included capital controls as one of the policy options to address surges in capital movements, thus expanding the policy space for the use of capital controls as may be necessary. It proposed a new nomenclature for capital controls given the stigma associated with it in the past, suggesting that they be referred to as "capital flow management measures". Thus the focus of recent reviews is on the use of capital management measures – capital controls plus prudential regulations – by emerging market economies. However, some bilateral agreements still restrict the use of capital controls to protect their investments.

Reviews of the emerging market experiences have shown that while capital controls may not reduce the volume of inflows, they have helped to alter the composition away from short-term flows towards longer-term and more stable flows. They also provide more leeway for authorities to implement independent monetary and other domestic policies that address other objectives of the government.

While the IMF's change of attitude towards capital controls was welcomed by emerging and developing countries, they were less receptive of the IMF guidelines regarding when capital controls should be used. Brazil's Finance Minister told an IMF Steering meeting – "We oppose any guidelines, frameworks or codes of conduct that attempt to constrain, directly or indirectly, policy

responses of countries facing surges in volatile capital inflows" (Gallagher, 2011). There is need to give countries the flexibility to deploy capital controls to prevent or mitigate crisis. This is important in the post global crisis era where growth has slowed down. The July 2013 IMF Survey showed that financial market volatility increased globally in May and June 2013 after a period of calm and emerging market economies have been the hardest hit. Some of the rise in volatility may reverse, however, if the underlying volatilities persist and financial market volatility remains high, it could lead to increase in capital outflows and lower growth in emerging economies. It is, therefore, important for emerging market economies to make adequate use of the existing policy space for capital controls to protect their economies from financial market volatilities which lead to macroeconomic instability. They should also pay greater attention to provisions of bilateral/multilateral agreements which restrict policy space for use of capital controls.

References

Akyuz Y. (2007). "Global Rules and Markets: Constraints Over Policy Autonomy in Developing Countries", UNCTAD, Geneva, March

Anderson S. (2009). "Policy Handcuffs in the Financial Crisis – How US Trade and Investment Policies Limit Government Power to Control Capital Flows", Institute for Policy Studies – IPS-DC.org. Washington DC

Cordero J. A. and J. A. Montecino (2010). "Capital Controls and Monetary Policy in Developing Countries", Centre for Economic and Policy Research, Washington. April

De Gregorio J. (2013). "Capital Flows and Capital Account Management", Paper presented at the "Rethinking Macro Policy II: First Steps and Early Lessons" Conference, IMF, Washington DC, April 16-17

Edwards S. (1999). "How Effective are Capital Controls?", NBER Working Paper Series, Working Paper 7413, National Bureau of Economic Research, Cambridge, Massachusetts, November

Engel C. (2011). "Capital controls: what have we learned", Address at the BIS-sponsored high-level panel "Responding to capital flows: what have we learned" at the LACEA Meetings, Santiago, Chile, November

Epstein G. (2009). "Should Financial Flows be Regulated? Yes", DESA Working Paper No. 77, ST/ESA/2009/DWP/77.

Fritz B. and D. Prates (2013). "The New IMF Approach to Capital Account Management and its Blind Spots – Lessons from Brazil and South Korea", DesiguALdades.net Working Paper Series, Working Paper No. 35

Gabor D. (2011). "Paradigm Shift? A critique of the IMF's new approach to capital controls", Working Paper No. 1109, Department of Accounting, Economics and Finance, Bristol Business School, University of the West of England, Bristol, June

Gallagher K. P. (2010). "Capital Controls Back in IMF Toolkit", The Guardian, March 1

Gallagher K. P. (2011). "The IMF, Capital Controls and Developing Countries", Economic and Political Weekly, Vol. XLVI, No. 19, May 7

Gallagher K. P., S. Griffith-Jones and J.A. Ocampo (2011). "Capital Account Regulations for Stability and Development: A New Approach", Issues in Brief, The Frederick S. Pardee Center for the Study of the Longer-Range Future

Griffith-Jones S. and B. Stallings (1995)."New global financial trends: Implications for development", In B. Stallings (ed), *Global change, regional response: The new international context of development,* pp. 143 – 173. Cambridge: Cambridge University Press

IMF (2011). Articles of Agreement of the International Monetary Fund. IMF, Washington DC

Koivusalo M., T. Schrecker and R. Labonte (2009). "Globalisation and Policy Space for Health and Social Determinants of Health", WHO Commission on Social Determinants of Health. Globalisation and Health Knowledge Network Research Papers,

Martinez-Diaz L. (2006). "Pathway through Financial Crisis: Indonesia", *Global Governance* 12, pp. 395-412. Global Economic Governance Programme at Oxford University

Mohan R. and M. Kapur (2010). "Liberalisation and regulation of capital flows: Lessons for emerging market economies", Asian Development Bank Institute Working Paper Series, No. 186, January

Molina G. G. (2013). "Global Government Exit: A Bolivian Case Study", GEG WP 2013/84, The Global Economic Governance (GEG) Programme, University College, Oxford

Ocampo J. A. and R. Vos (2008). "Policy Space and the changing paradigm in conducting macroeconomic policies in developing countries", BIS Paper 136, Initiative for Policy Dialogue at Columbia University, February

Ostry J. D., A. R. Ghosh, K. Habermeir, M, Chamon, M. S. Qureshi, and D. B. S. Reinhardt (2010). Capital Inflows: The Role of Controls", IMF Staff Position Note, February 19 SPN/10/04

Ostry J. D., A. R. Ghosh K. Habermeir L. Laeven, M. Chamon, M. S. Qureshi, and A. Kokenye (2011). "Managing Capital Inflows: What Tools to Use?", IMF Staff Discussion Note, SDN/11/06. April 5

Pasricha G. K. (2012). "Recent trends in measures to manage capital flows in emerging economies", *The North America Journal of Economics and Finance,* Vol. 23, Issue 3, pp. 286-309.

Petkovski M. and V. Georgieva (2012). "The impact of capital controls on maintaining macroeconomic and financial stability in emerging market economies", Turkish Asian Centre for Strategic Studies, May 25

Rodrik D. (2010). "The Era of an Era in Finance", March 11

Subbarao D. (2013). "Capital Account Management". Paper presented at the "Rethinking Macro Policy II: First Steps and Early Lessons", Conference, IMF, Washington DC, April 16-17

Suttle P., R. Koepe and J. Mazzacurati (2010). "Capital Flows to Emerging Countries", IIF Research Note, Institute of International Finance, October 4

Sumanjeet (2009). "Foreign Capital Flows into India: Compositions, Regulations, Issues and Policy Options", Working Paper No. 155, Asia Research Centre.

Appendix 1: Objectives and Types of Capital Controls (Capital Management Measures)

	Objectives	Price Based	Quantity Based	Prudential
Inflows	• Keep a stable and competitive exchange rate • Limit excessive debt and maturity or locational mismatch to prevent financial instability. • Alter composition of inflows to attract desired inflows. • Limit foreign ownership of assets for sovereign purposes or to protect domestic industries	• Tobin tax (tax on foreign exchange transactions). • Reserve requirements on inflows, for example, Unremunerated Reserve Requirements (URR). • Taxation of capital inflows.	• Quantitative limits on foreign ownership of domestic companies' assets. • Reporting requirements and quantitative limits on borrowing from abroad. • Limits on ability to borrow from offshore entities.	•Keynesian tax (tax on domestic financial transactions). •Reporting requirements and limitations on maturity structure on liabilities and assets. •Reserve requirements on deposits. •Capital requirements on assets and restrictions on off-balance sheet activities and derivatives contracts.
Outflows	• Protect tax base by reducing capital flight. • Maintain stability of exchange rate. • Preserve savings to finance investment. • Help in credit allocation mechanism in order to support industrial policy and investments for social objectives. • Enhance the autonomy of monetary policy in order to reduce inflation or expand employment and economic growth.	• Tobin tax • Multiple exchange rates	• Exchange controls. • Restrictions on purchase of foreign assets including foreign deposits. • Limits on currency convertibility.	•Limits on asset acquisition. •Asset backed reserve requirements.

Source: Epstein (2009)

Appendix 2: Capital Account Management Measures

Inflows	Outflows
• Unremunerated reserve requirements (a proportion of new inflows are kept as reserve requirements in the Central Bank). • Taxes on new debt inflows, or on foreign exchange derivatives. • Limits or taxes on net liability position in foreign currency of financial intermediaries. • Restrictions on currency mismatches. • End use limitations: Borrowing abroad only allowed for investment and foreign trade. • Limits on domestic agents that can borrow abroad (e.g. only firms with net revenues in foreign currency). • Mandatory approvals for all or some capital transactions. • Minimum stay requirements.	• Mandatory approval for domestic agents to invest abroad or hold bank accounts in foreign currency. • Mandatory requirements for domestic agents to report on foreign investments and transactions done with their foreign accounts. • Prohibitions or limits on sectors in which foreigners can invest. • Limits or approval on how much non-residents can invest, e.g., on portfolio investments. • Restrictions on amounts of principal or capital income that foreign investors can send abroad. • Limits on how much non-residents can borrow in the domestic market. • Taxes on capital outflows.

Source: Gallagher et al.., (2011)

Appendix 3: International Arrangements Restricting the Scope for Capital Controls

Several countries have assumed legal obligations to liberalise capital movements under different international arrangements. These obligations may the country's ability to use capital controls. But prudential regulations that do not discriminate between residents and non-residents (and as such, do not constitute capital controls) may still be available.

World Trade Organisation/General Agreement on Trade and Services (WTO/GATS): Members only incur obligations to remove restrictions on capital flows if they have made commitments in the financial services sector. But even then, these constraints are limited in scope, the commitments are subject to periodic rounds of negotiation, may be of a qualified nature, and there are prudential carve-outs. There is also a general balance-of-payments clause that allows the use of capital controls under specific circumstances.

Bilateral Investment Treaties (BITs) and Free Trade Agreements (FTAs): There are about 2,500 BITs as well as bilateral and regional trade agreements that provide legal protection for foreign investments. These agreements usually liberalise inward investments and provide for free repatriation of such investment. They typically include: "most-favoured-nation" clauses. Most BITs and FTAs either provide temporary safeguards on capital inflows and outflows to prevent or mitigate financial crises, or defer that matter to the host country's legislation. However, BITs and FTAs to which the United States is a party (with the exception of NAFTA) do not permit restrictions on either capital inflows or outflows.

Organisation for Economic Cooperation and Development (OECD): The OECD's *Code of Liberalisation of Capital Movements* is the only legally binding instrument focusing comprehensively and exclusively on international capital movements. It covers all types of capital flows, but its framework enables members to remove restrictions on capital movements in a progressive manner. The members are permitted to lodge reservations with respect to specific transactions at the time of joining the OECD (and in the case of a number of transactions considered short-term in nature, these reservations can be reintroduced at any time). The Code also provides a very broad level of temporary derogation for capital flows (for reasons arising from "serious economic and financial disturbances" and for balance of payment reasons).

European Union (EU): Members of the EU are prohibited from imposing any restrictions on cross-border movements of capital among EU members and third countries. There are safeguards that allow for the temporary imposition of restrictions. But once an EU member joins the currency union, these safeguards may only be imposed by the EU Council and are limited to nonmembers.

Source: Ostry et al., (2011)

Appendix 4: Lists of Emerging Economies by Different Agencies

Agency/Year	No. of countries	Names of Countries
IMF (July 2012)	22	Argentina, Brazil, Bulgaria, Chile, China, Estonia, Hungary, India, Indonesia, Latvia, Lithuania, Malaysia, Mexico, Pakistan, Peru, Philippines, Poland, Romania, Russia, South Africa, Thailand, Turkey, Ukraine, Venezuela
Emerging Market Global Players (EMGP) project at Columbia University (April, 2013)	16	Argentina, Brazil, Chile, China, Hungary, India, Israel, South Africa, South Korea, Mexico, Poland, Russia, Slovenia, Thailand, Taiwan, Turkey
FTSE Group:	22	Advanced Emerging Markets: Brazil, Czech Republic, Hungary, Malaysia, Mexico, Poland, South Africa, Taiwan, Thailand, Turkey Secondary Emerging Economies: Chile, China, Colombia, Egypt, India, Indonesia, Morocco, Pakistan, Peru, Philippines, Russia, United Arab Emirates
MSCI (June 2013)	19	Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Malaysia, Mexico, Morocco, Peru, Philippines, Poland, Russia, South Africa, Thailand, Turkey
The Economist	22	Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Malaysia, Mexico, Morocco, Peru, Philippines, Poland, Russia, South Africa, Thailand, Turkey, Hong, Singapore, Saudi Arabia
Standard and Poor's List	20	Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Malaysia, Mexico, Morocco, Peru, Philippines, Poland, Russia, South Africa, Taiwan, Thailand, Turkey (United Arab Emirates, Qatar, and Jordan under consideration)
Dow Jones list (September 2011)	22	Argentina, Brazil, Chile, Colombia, Mexico, Peru, China, India, Indonesia, Malaysia, Philippines, Thailand, Czech Republic, Hungary, Poland, Russia, Turkey, Egypt, Morocco, South Africa (Greece, South Korea and Taiwan are on the watchlist)
Frontier Strategy Group (F10) –	10	China, Brazil, India, Mexico, Russia, Indonesia, Colombia, Argentina, Chile, Turkey

July 2011		
Emerging and Growth Leading Economies (EAGLES)	9	China, India, Indonesia, South Korea, Taiwan, Brazil, Mexico, Russia, Turkey
NEST - Expected Incremental GDP	15	Argentina, Bangladesh, Chile, Colombia, Egypt, Mexico, **Nigeria,** Pakistan, Peru, Philippines, Poland, Thailand, South Africa, Ukraine, Vietnam
Next eleven	11	Bangladesh, Egypt, Iran, Mexico, **Nigeria,** Pakistan, Philippines, South Korea, Turkey, Vietnam
Other Emerging Markets	20	Bahrain, Bulgaria, Czech Republic, Estonia, Hungary, Kuwait, Latvia, Lithuania, Jordan, Mauritius, Morocco, Oman, Qatar, Romania, Slovakia, Sri Lanka, Sudan, Tunisia, United Arab Emirates, Venezuela
Emerging Markets Index (2008)	32	Argentina, Brazil, Bulgaria, Chile, China, Colombia, Dominican Republic, Ecuador, Egypt, Hungary, India, Indonesia, Kenya, Lebanon, Malaysia, Mexico, Morocco, Pakistan, Peru, Philippines, Poland, Romania, Russia, Senegal, South Africa, Thailand, Tunisia, Turkey, Ukraine, Uruguay, Venezuela, Vietnam

Appendix 5: Use of Capital Controls in Malaysia

Period	Policy Tools
1989-1995 Control on Capital Inflows	• Ban on the sale of money market securities with a maturity of less than one year to foreigners • Limits on domestic banks' foreign borrowing intended for portfolio and non-trade related investment • An unremunerated reserve requirement (URR) which required that part of a foreign ringgit deposit would not receive interest. • Prohibiting commercial banks from offering non-trade related forward or swap options in order to limit currency speculation. • Ceilings on banks' net liability position • Implementation of capital controls was supplemented by several prudential regulations
1998-2001 Controls on Capital Outflows	• Closure of offshore ringgit market • Prohibition of all ringgit credit to foreigners that are not related to trade or FDI • 12 month moratorium on repatriation of foreign funds held in Malaysia • Mandatory repatriation of all ringgit held abroad

Sources: Cordero and Montecino (2010) and Ostry et al., (2011).

Coping With Capital Flow Volatility: Policy Consideration for Nigeria

Mike I. Obadan, Ph.D, FNES, FIMC*

I. Introduction

Over the past three decades, there has been remarkable growth in international capital flows, especially to the developing countries/emerging market economies (EMEs). Such international financial flows allow for the efficient allocation of savings and investment thereby promoting growth. Indeed, in the recipient economies of capital flows, foreign resources complement domestic savings in financing domestic investment and also contribute to the development of domestic financial markets. Capital flows provide additional financing to countries with limited domestic savings and make local financial markets deeper and more liquid. As summarised by Obadan (2004: 84), "in the developing countries, where domestic resources tend to be in short supply, capital inflows can lead to increased investment, fasten economic growth, improved living standards, and the deepening and broadening of domestic financial markets". Despite these benefits, foreign capital flows have, from time to time, elicited deep concerns and debates because of their tendency to be volatile besides various macroeconomic and other related effects. Huge surges in capital flows to the emerging market economies have often been accompanied by crises as witnessed during the Mexican financial crisis of 1994-1995, East Asian and Russian crises of 1997-1998, Turkey in 2000-2001, and Argentina in 2001 - 2002.

Generally, the volatility of capital flows, especially in the form of huge surges pose significant risks and raise concerns about excessive exchange rate appreciation and the corresponding adverse impact on exports and growth. Besides, large capital inflows may contribute to an unsustainable expansion of credit, generate asset price bubbles and, consequently, increase financial fragility (Sidaoui, Ramos-Francia and Cuadra, n.d). Concerns are also raised about the recipient economies' vulnerability to sudden reversal in capital flows and the resulting implications for financial and economic activities. Sudden reversals of capital flows have an adverse impact on domestic economies as witnessed in the East Asian financial crisis of 1997 – 1998 (Obadan, 2004: 207-240).

* Mike Obadan is a Professor of Economics at the University of Benin and Chairman, Foundation for Education and Development Benin City, Nigeria. The usual disclaimer applies.

In light of the risks associated with foreign capital flows, it is desirable to have appropriate policy responses to such flows, taking cognizance of the determinants of capital flows volatility, the composition of capital flows and the flows that are more susceptible to high volatility.

II. Stylised Facts On Capital Flows Volatility

II.1 Capital Flows to Emerging Market Economies

One major aspect of capital flows that attracts a high risk of volatility is the 'hot money' variety or temporary short-term flows that could be reversed at short notice, and possibly lead to domestic financial crisis. "Temporary" capital flows tend to be associated with the phenomenon of reversibility – the risk that capital pulled in by certain temporary factors could flow out once the attractions waned. Empirical evidence showed that capital flow reversals, known as 'sudden stops' in the literature, have an adverse impact on domestic economies through contractions of domestic expenditure and production, collapses in real exchange rate, and reductions in both asset prices and credit to the private sector.

- Capital flows to the emerging market economies (EMEs) have been more volatile than those to the developed countries. In their study, Broner and Rigobon (2004) found the percentage of greater volatility to be 80.0 per cent. But this decreased when controlled for a series of macroeconomic variables, and then non-fundamental variables such as outliers, lags, and contagion effects. In the same way, the volatility of each component of net capital flows is lower for the industrialised countries than for the developing countries. While the volatility of each component of capital has decreased for the developed countries, the volatility of net flows of capital has increased for the developing countries (Alfaro, Kalemli-Ozean and Volosovych, 2004: 14).

- Both the poor and middle-income developing countries experience a high degree of volatility, particularly outflows. But while capital outflows from the poor countries are more volatile than the outflows from the middle-income countries, inflows are less volatile (very likely because the poor countries receive little of the more volatile capital market flows) (World Bank, 2002: 70). The implication is that many poor countries face the same issues surrounding capital flows volatility and the consequences for macroeconomic stabilisation as the middle-income countries. Overall, the poor countries face higher levels of volatility. It is more costly for them,

and they are less equipped to deal with it, compared with the middle-income countries.

- The possible explanations for the greater volatility of capital flows to EMEs are as follows:

    - Likelihood that EMEs are hit by fundamental shocks that have different stochastic properties than those that affect the developed countries and the capital flows might just reflect those properties;

    - Different responses of capital flows to EMEs and developed countries to similar fundamental shocks;

    - Tendency of EMEs to be subject to larger sources of non-fundamental shocks, such as crises, persistence, and contagion.

- Generally, the factors that can cause capital flows volatility include: macroeconomic variables, reflecting fundamental factors such as terms of trade shocks, time preference shocks, and initial endowments. Others are bad policies, weak institutions, underdevelopment of the domestic financial markets, level of development, external factors, and non-fundamental factors such as crises, persistence, lags, and contagion. In a study of a panel of 48 countries, Broto, et al., (2008) found that the development of the domestic financial system tends to reduce the volatility of portfolio and banking flows, while it is also relevant for the other types of flows. Global factors were found to have become more important in determining the volatility of capital flows, particularly in the case of FDI flows. Also, FDI was found to be the flow whose volatility is more associated with macroeconomic soundness. Higher per capita GDP, the ratio of reserves to imports (a measure of self-insurance) and lower inflation in the countries all reduce the volatility of FDI. Broner and Rigobon (2004) similarly found underdevelopment of the domestic financial markets, weak institutions and low per capita income as being associated with capital flows volatility. In other words, financial development, good institutions, and high income per capita are all associated with lower volatility. Finally, bad policies, represented by inflation, inflation volatility, government consumption – fiscal deficit, have an important role in explaining the high volatility of different forms of capital flows (Alfaro, Kalemli-Ozean, and Volosovych, 2004: 40). The authors also found the level of development as an important variable in

explaining the volatility of capital flows. Increases in GDP per capita reduced the volatility of capital flows.

- On the volatility of the components of capital flows, the literature suggests a hierarchy of volatility and that long-term capital flows (particularly foreign direct investment – FDI) are more stable than other flows. FDI flows are in general less volatile than portfolio flows as they normally tend to be driven by long-term considerations. An empirical study by Turner (Griffith-Jones, 1998) concluded that a stability ranking can be established in the following order:

    - Long-term bank loans;
    - Foreign direct investment;
    - Investment in bonds;
    - Investment in shares; and
    - Short-term credits

II.2 Volatility of Nigeria's Capital Flows

Estimates of measures of volatility of components of Nigeria's capital flows support the finding in the literature relating to the greater stability of FDI flows (Table 1).

FDI inflows are far less volatile than portfolio investment inflows. The coefficient of variation measure of volatility is much lower for total FDI inflow at 0.25, compared with 0.69 for portfolio investment inflow. Also, while the coefficient of volatility of net FDI flow is 0.23 that of net flow of portfolio investment is 3.99 and that of equity securities is - 4.36. The volatility measures of FDI outflow are higher than those for inflow. Other investment inflows relating to loans, and currency and deposits are far more volatile than the other inflows.

Table 1: Volatility of Components of Nigeria's Foreign Capital Flows*

Capital Flows Items	CV of Inflow+	CV of Outflow	CV of Net Flow	Mean of Inflow ($'mn)	Mean of Outflow ($'mn)	Mean of Net Flow ($'mn)
1. Foreign Direct Investment	0.25	0.63	0.23	6,839.26	794.13	6,045.13
Equity Capital	0.27	0.63	0.26	4,223.18	784.05	3,439.13
Re-investment Earnings	0.25	0.61	0.25	2,553.60	11.72	2,543.55
2. Portfolio investment	0.69	0.70	3.99	2,447.27	1,871.19	576.08
Equity Securities	1.01	0.66	-4.36	1,185.57	1,669.74	-484.17
Debt Securities	0.79	1.08	0.85	1,261.69	201.47	1,060.22
Long-term debt securities	0.79					
Short-term Debt Securities	0.91					
3. Other Investment	-2.04	-0.56	-042	-4,320.35	9,922.65	-14,243.00
Loans	-1.73			-4,891.48		
Currency and deposits	-3.18			207.59		

Notes: * Period covered is 2005 – 2011.
+ CV is Coefficient of Variation
Source: Underlying data are from CBN, Annual Report and Statistical Bulletin, Various Issues.

III. Overview Of Policy Responses To Capital Flows

In light of the macroeconomic effects and concerns (including volatility) of capital flows in relation to the potential benefits of higher investment and growth, policy makers must find the right balance between accommodating the beneficial effects of the inflows and the overheating/volatility effects. The policy responses to capital flows depend not only on the macroeconomic effects and concerns, but also on the need to achieve objectives such as:

- Maintaining international competitiveness;
- Avoiding over-reliance on short-term capital flows;
- Encouraging more long-term capital flows;
- Avoiding the risk of future debt or foreign exchange crisis; and
- Complementing increased external savings with higher domestic savings, thereby avoiding a displacement of domestic savings by external savings.

Besides, the policy responses to capital inflows fashioned out by the policy makers depend on whether such inflows are likely to be sustained or temporary, and whether the inflows carry the potential for improvements in investment and growth. The appropriate policy responses are also a function of the nature and causes of the inflows, degree of flexibility allowed by the domestic institutional structure, persistence of the inflows, the nature of the domestic credit and financial markets, as well as availability of different instruments and the extent of credibility enjoyed by the authorities. Thus, for example, when surges in capital inflow are clearly attracted by sustainable improvements in competitiveness or potential productivity, the policy response could be focused on improving the absorptive capacity of the economy than on containing the destabilizing effects. This means that unless the inflows are caused by temporary changes in external circumstances, domestic credit conditions, or bandwagon effects, the thrust of the policy response should be on creating the conditions for the inflow to be used productively. But where the effects of the inflows may be destabilising, policies need to focus on how to contain the inflows or neutralise their effects.

Policy makers have at their disposal the following policy measures:

- Countercyclical macroeconomic policy measures – monetary policy, fiscal policy and nominal exchange rate flexibility;
- Structural measures (trade policy, banking and supervision and regulation);
- Foreign reserve accumulation; and
- Macro-prudential policy.

Each of the policy tools has its benefits and costs which must be taken into account when assessing the appropriate policy mix to deal with volatility of capital flows.

Generally, where the capital flows are mainly driven by fundamental factors, the corresponding real exchange rate (RER) appreciation and the consequent change in relative prices could reflect the need to re-allocate resources in the economy. The danger is the possibility of excessive expansion of domestic demand that could lead to inflationary pressures in the non-tradable sector, which in turn, would lead to a further appreciation of the RER. In this case, policy actions should facilitate rather than impede the reallocation of resources from tradable to non-tradable sectors. Policy makers should allow a nominal (and real) appreciation caused by stable and long-term capital flows. However, measures

could be adopted to mitigate the appreciation pressures if the magnitude of capital inflows leads to a sharp appreciation of the RER. Here, the macroeconomic policy stance would need to be adjusted.

III.1 Macroeconomic Policy: Fiscal Policy

Appreciation pressures relating to massive capital inflows can be handled with fiscal consolidation. It could work to attenuate RER appreciation. As a significant part of public expenditures involves non-tradable goods, fiscal consolidation exerts downward pressure on the price of these goods. And the decline in the relative price of non-tradable goods and services tends to depreciate the RER, or ease appreciation pressures in the least.

A fiscal consolidation programme and a prudent monetary policy lead to stronger macroeconomic fundamentals, which helps to improve investors' confidence and induce long-term and stable capital flows. However, the additional sources of external funding associated with better fundamentals may also lead to further appreciation pressures and may require additional fiscal measures. Therefore, fiscal and monetary policies aimed at strengthening macroeconomic fundamentals and improving investors' confidence should be accompanied with structural reforms to take full advantage of the benefits related to capital inflows. Over the medium-term, a tightening of fiscal policy may be needed to control increases in absorption to prevent an excessive appreciation of the RER and to contain inflation and external deficit.

Nevertheless, there are some limitations in the use of fiscal tightening as a response to capital inflows.

- ✓ As fiscal measures usually require legislative approval, they are often executed with a lag; they may also be a difficult political task;

- ✓ A tight fiscal policy is somewhat unwieldy for short-term demand management because of the lags associated with the formulation and implementation of specific measures.

Where the capital inflows are driven by short-term considerations, the fiscal response may take the form of taxes on short-term borrowing abroad or tighter fiscal stance in the face of persistent capital inflows. This is necessary against the backdrop of unbalanced macroeconomic policies (most often an excessively expansionary fiscal policy compensated for by a tight monetary policy). Taxes on short-term borrowing are effective in the short term. But the private sector may be

quick in finding ways to dodge the taxes through over-and under-invoicing of imports and exports, and through increased reliance on parallel financial and foreign exchange markets.

And prolonged taxes on inflows to the banking system could weaken bank profits and encourage disintermediation. Overall, a tight fiscal policy stance may not stop the capital inflow. But it may lower aggregate demand and curb the inflationary impact of capital inflows. In this respect, lower government expenditure may be more effective than higher taxes.

III.2 Macroeconomic Policy: Monetary and Exchange Rate Policy

Under conditions of surges in short-term capital inflows monetary policy can be relaxed or tightened. Relaxing monetary policy stance can narrow the differentials between domestic and foreign interest rates, and hence reduce the incentives for the inflows. This may be good policy where there are no inflation expectations. But reducing the monetary policy rate would contribute to stimulating aggregate demand, which could generate pressures on inflation and RER appreciation. On the other hand, tightening monetary policy to address an inflation problem could attract further capital inflows through increase in domestic interest rates. In this circumstance, the monetary authorities would face a difficult of trade-off and may require the support of fiscal consolidation measures – to relieve upward pressures on interest rates and prices.

Generally, the monetary policy instrument of sterilisation (sterilised intervention) could be used in the early stages of the capital inflow. Sterilised intervention involves accumulating reserves and sterilising the monetary effects on money supply. The idea is to insulate the money stock from fluctuations stemming from the free inflow of capital. Usually, through sterilised intervention, the country's central bank buys foreign exchange (often issuing securities at high interest rates) to pay for it, and thus, adding to its reserves (often at lower interest rates). Thus, sterilisation entails fiscal costs, which may be large, resulting in a large quasi-fiscal deficit (the difference between the interest earned on the reserves and the costs of financing the sterilization). Also, the ability to sterilise the effects of capital inflows on the monetary base may be limited if suitable instruments are not available to the central bank and the domestic financial markets are not well developed. Besides, aggressive sterilisation through OMO maintains the pressure on domestic interest rates, perpetuating the conditions that attracted large inflows in the first place.

In some countries, as inflows persisted and the costs associated with different types of sterilization became exorbitant, particularly the fiscal costs, successful

policies began to rely on exchange rate flexibility to discourage capital inflows, especially of the portfolio type. Adjusting the exchange rate in a timely manner may preempt the inflationary impetus of the inflows and floating makes the money supply and domestic credit exogenous to capital inflows. But floating has its own disadvantages too.

III.3 Foreign Reserve Accumulation

The most common motivation for accumulating large reserves in emerging economies is to self-insure against external shocks such as abrupt reversals in capital flows, especially flows driven by short-term factors. A sudden burst of capital outflows can be painlessly met by a corresponding loss of reserves without affecting credit meant for the private sector. Besides being a buffer to absorb adverse external shocks, foreign reserves are also perceived to be a tool to reduce the probability of self-fulfilling speculative attacks. A country with large foreign reserves is less likely to suffer from such attacks. Thus, foreign reserves allows a country a larger margin of manoeuvre to cope with various attacks and hence help to mitigate their impact on the economy.

But there are costs associated with accumulating foreign reserves.

- Reserves accumulated through purchases of foreign currency via open market operations entails a fiscal cost as noted above.

- The resources used to finance foreign reserve accumulation could alternatively be used to finance either public or private investment projects. This implies a high opportunity cost of foreign reserve accumulation.

Overall, the potential benefits of foreign reserve accumulation need to be compared with the costs when considering increasing the level of foreign reserves.

III.4 Macro-prudential Regulation and Supervision

The financial consequences of short-term capital inflows can be addressed with some prudential macro-prudential tools (Sidaoui, Ramos-Francia and Cuadra, n.d). These include:

- Reserve requirements or credit ceilings. These can be used to prevent unsustainable credit expansions;

- Limits on currency mismatches and improved credit information. Aimed at improving the quality of loans;

- Capital requirements. Can be used to enhance the financial system's resilience to adverse shocks.

A technical problem that may arise though relates to the possible difficulty in calibrating the appropriate policy response when using some of these tools (*ibid*). Generally, adequate regulation and supervision could be useful in preventing an inefficient intermediation of capital inflows and thus help to contain systemic risk in the domestic financial sector.

III.5 Capital Controls

Capital controls can be considered in the context of trade and exchange policy. They have also been regarded as a macro-prudential tool which some emerging economies have been adopting in order to cope with massive and speculative short-term capital inflows. Capital controls are necessary if other policy instruments have limited effectiveness and if an economy is receiving a greater volume of capital inflows than it has the capacity to absorb, such that the inflows will pose problems for economic policy management, particularly, monetary and exchange rate policies (Obadan, 2004: 101). Although there are credible and coherent arguments for the imposition of some capital controls, they are an instrument that can be considered relevant in the context of the "theory of the second best".

Generally, capital controls can be imposed either by limiting asset transactions through market-based mechanisms, such as taxes, or through administrative measures such as explicit quantitative limits or outright prohibitions. Capital controls give a country some respite and can be directed at deterring short-term, overly speculative inflows, as well as moderate the volume of aggregate inflows and lengthen their maturities.

From the successful experiences of countries like Chile, Columbia and Malaysia, capital controls could take the form of a prescription that capital inflows remain in the country for a minimum of, say, one year or that fixed fraction be made in the form of a non-interest-bearing deposit. For a number of years, the countries successfully applied such requirements to limit portfolio capital flows, thereby obtaining a balance between short-term investment and foreign direct investment that has reduced the volatility of aggregate capital inflow. In other words, some of the requirements created an incentive for foreign investment to be long-term by raising the cost of short-term investments. Short-term investments were limited by making them unprofitable.

However, there are problems associated with capital controls: One relates to their enforcement. Capital controls can be evaded if transactions are misreported by economic agents as capital inflows of the type that are either not subject to controls or are subject to lower tax rates. In light of the problems, capital controls tend to lose their effectiveness over time because economic agents will always find a way to evade them. Also, the imposition of capital controls may raise uncertainty about future policy actions, which may also negatively affect foreign agents' willingness to invest in the country.

Overall, in view of the inherent costs of capital controls, including possible misallocation of resources and a lower rate of investment and growth, such controls should be progressively dismantled as the quality of surveillance and prudential supervision improves and the capacity of the banking system to handle flows increases.

IV. Policy Direction For Nigeria

In discussing this, cognizance is taken of the nature and composition of Nigeria's capital flows, the degrees of volatility of the different components, the government's extant policies on capital flows, and international lessons of experience. First, on a broad level, let us note the economic policy implications of the empirical findings on volatility of capital flows for the poor countries, including Nigeria as follows:

- Need for policy to encourage and attract long-term capital flows, FDI in particular;

- Avoidance of financing of current account deficits with very large capital inflows of whatever ranking;

- Considering the high volatility of short-term capital flows (notably, bank loans and portfolio flows), need to avoid giving too much exposure to foreigners in the economy in such areas of investment. Large foreign holdings of short-term treasury bills and similar financial instruments create potential vulnerability for government, especially the balance of payments. A major contributor to the Mexican financial crisis of 1994 – 1995 was the government's accumulation of huge foreign short-term debt in the form of treasury bills.

Secondly, the following facts should guide the policy on capital flows. From Table 1, it is clear that FDI was relatively much more significant than portfolio investment

flows over the period, 2005 - 2011. The average FDI inflow was nearly three times the portfolio investment inflow, while the average net FDI inflow was over ten times the net portfolio inflow. Other investments, comprising bank loans, currency and deposits recorded negative net average flow. Portfolio investment and other investment flows are characterised by much higher volatility than FDI.

As Table 2 further shows that portfolio investment inflow showed great volatility during the recent global financial crisis. Portfolio inflow declined from US$2,825.59 million in 2006 to US$1,334.3 million in 2008 and to only US$481.69 million in 2009.

Table 2: Trend of Direct Investment and Portfolio Investment Inflows, 2005 – 2011.

	Direct Investment (US$' Million)	Percent Change (%)	Portfolio Investment (US$' Million)	Percent Change (%)
2005	4,978.26	-	883.0	-
2006	4,897.81	-1.6	2,825.59	220.0
2007	6,086.73	24.3	2,665.50	-5.7
2008	8,248.64	35.5	1,334.30	-49.9
2009	8,649.53	4.9	481.69	-63.9
2010	6,098.96	-29.5	3,747.90	678.1
2011	8,914.89	46.2	5,192.80	38.6

Source: CBN. Statistical Bulletin, Vol. 22, December, 2011.

But it appears that in the last two years, portfolio investment inflow has rebounded to acquire greater significance than FDI. Table 3 shows details of foreign private capital inflows in the first five months of 2012 and 2013. In the two sub-periods, portfolio investment inflow accounted for over 80 percent of the total private capital inflow. And equity securities accounted for over 70.0 percent of the total portfolio inflows.

Table 3: Structure of Nigeria's Foreign Private Capital Inflow – January to May 2012 and January to May 2013.

	January to May 2012 (US $)	%	January to May 2013 (US $)	%
1. Foreign Direct Investment – Equity	648,060,187.93	10.55	811,761,557.67	8.11
2. Foreign Direct Investment – Other Capital	23,431,046.51	0.38	20,142,280.62	0.20
Sub – Total FDI	671,491,234.44	10.93	831,903,838.3	8.31
3. Portfolio Investment - Equity	4,422,071,507.8	72.01	7,096,501,682.9	70.93
4. Portfolio Investment – Bonds	206,218,148.9	3.36	749,127,420.9	7.49
5. Portfolio Investment – Money Market Instruments	423,414,626.4	6.89	565,370,843.7	5.65
Sub – Total – FPI	5,051,704,283.0	82.3	8,410,999,947.5	84.07
6. Other Investments – Trade Credits	43,671,903.7	0.71	0	0
7. Other Investments – Loans	366,906,708.0	5.97	754,616,466.3	7.54
8. Other Investments – Currency Deposits	0.0	0.0	1,733,975.0	0.02
9. Other Investments – Other Claims	7,194,265.0	0.12	5,611,651.53	0.06
Sub – Total – Other Investments	417,772,876.7	6.80	761,962,092.82	7.62
10. Total Foreign Capital Inflow	6,140,968,394.1	100	10,004,865,878.6	100.00

- ***Source***: Nigerian Investment Promotion Commission Website: www.nipc.gov.ng/

Very importantly, for some time now, especially since the current democratic dispensation began in 1999, public policy has favoured the attraction of high level foreign direct investment and it has been promoted rather aggressively. The Nigerian Investment Promotion Commission (NIPC) – established by the NIPC Act, No. 16 of 1995 – promotes, coordinates and monitors domestic and foreign investment in Nigeria. Various measures have consequently been designed to promote FDI inflow. Also, in the bid to attract FDI, the government, a few years ago, set up the Honorary International Investors' Council, consisting of world business and social leaders, to help promote FDI inflow. This Council is chaired by Baroness Lynda Chalker of Great Britain who was a former member of the British Parliament and Minister of State for Overseas Development and Africa.

Against the above background, the concern is not much about the volatility of FDI flows. Rather, it is how to improve the macroeconomic and institutional environment to attract a higher level of FDI inflow.

Required therefore for FDI are the following:

- Sound macroeconomic policies, reflecting low inflation, low fiscal deficits, stable exchange rate, high and sustainable economic growth, among others. In other words, prudent fiscal and monetary policies aimed at maintaining macroeconomic stability and investors' confidence are indispensable;

- Strengthening of the financial markets – money and capital markets – to inspire the confidence of investors;

- Significant improvement in the investment climate, particularly issues relating to poor infrastructure, corruption, insecurity of lives and property, multiple taxes, among others; and

- Improvements in macroeconomic policies also need to be complemented with structural reforms to make the economy competitive. Good economic fundamentals and a more competitive economy would provide a good basis for the country to handle upsurges in capital inflows.

For the highly volatile flows such as portfolio investment, and other investment (bank loans, and currency and deposits), a combination of the following is suggestive:

- Good macroeconomic policies, reflecting low fiscal deficit, low inflation, etc, can also reduce their volatility. Lower levels of inflation and fiscal deficit may result in lower levels of uncertainty in terms of the net flows of capital, equity securities in particular; and

- More effort at developing and improving confidence in the financial system can reduce the volatility of portfolio and banking flows. Policies should aim at reinforcing the depth and soundness of the domestic financial system.

Should portfolio flows become sizable and pose a threat to economic and financial stability, the following policies can be considered:

- Monetary policy – sterilisation of inflows. But the fiscal costs of this would need to be weighed against the benefits;

- Prudential capital controls, for example, those that can change the duration and structure of inflows to relatively long-term;

- Greater flexibility of the exchange rate; and

- More reserve accumulation in the context of managing capital flows in contrast to reserve accumulation arising from crude oil export earnings.

References

Alfaro L. S. Kalemli-Ozean and V. Volosovych (2004). "Volatility of Capital Flows: Bad Policies or Bad Institutions?", Preliminary version, August. www.researchgate.net/.../229026099_volatility_of_capital_flows. Accessed: 8/11/2013

Bank for International Settlements (2009). "*Capital Flows and Emerging Market Economies",* A Report submitted by a Working Group established by the Committee on the Global Financial System, January.

Broner F. and R. Rigobon (2004). "Why are Capital Flows so much more in Emerging than in Developed Countries?", A Paper prepared for the Eight Annual Conference of the Central Bank of Chile, 'External Financial Vulnerability and Preventive Policies', Santiago, Chile, August 10 and 11.

Broto C., J. Diaz-Cassou and A. Erce-Dominguez (2008). "Measuring and Explaining the Volatility of Capital Flows towards Emerging Countries", Banco de Espana Working Paper, No. 0817.

Buira A. (1999). "An Alternative Approach to Financial Crises", *Princeton Essays in International Finance* (212).

Griffith-Jones, S. (1998), "Structure and Composition of Global Capital Flows", Mimeograph.

Haque, U., D. Mathieson and S. Sharma (1997). "Causes of Capital Inflows and Policy Responses to them", *Finance and Development*, 34 (1): March.

Obadan M. I. (2004). "*Foreign Capital Flows and External Debt*: Perspectives on Nigeria and the LDCs Group", Lagos: Broadway Press Ltd.

Schadler S. (1994). "Surges in Capital Flows: Boon or Curse?", *Finance and Development*, 31 (1): March.

Sidaoui J., M. Ramos-Francia and G. Cuadra (n.d). "Global Liquidity, Capital Flows and Challenges for Policy Makers", BIS Papers No. 57. www.bis.org/pub/bppd/bispap57q. Accessed: 8/11/2013

World Bank (2002). *Global Development Finance,* Washington, D.C: The World Bank.

SUBMISSION OF MANUSCRIPT TO CBN ECONOMIC AND FINANCIAL REVIEW

1. Three (3) hardcopies and a softcopy of the original manuscript should be addressed to the:

   Editor-in-chief
   CBN Economic and Financial Review
   Research Department
   Central Bank of Nigeria
   P.M.B.0187, Garki, Abuja

   The softcopy of the papers can also be submitted via email as electronic document, preferably Microsoft word document to either of the following email addresses: cnomordi@cbn.gov.ng; aoadenuga@cbn.gov.ng
   The article should not be more than 20 pages on A4 size paper and should be typed double-spaced with a margin of 1.5 inches on all sides. The manuscript must be accompanied with a letter of submission written in English. Submission of a paper is assumed to imply that its contents represent original and unpublished work and is not under consideration elsewhere for publication. Normally, the review process is expected to take not more than three months. There is neither a submission charge nor page fee. A return address (postal/email) should be indicated.

2. Papers may be accepted or returned for specified revisions. A paper is expected to be published approximately six months from the date of acceptance.

3. *Comments on published article/notes* and *reviews* of up to 2,000 words will also be considered for publication. Notes deal with relevant topics not meeting full length articles. Reviews may be about articles published recently by this journal or elsewhere. A copy of the review/comments should be sent to the articles' author for clarification of any points or misunderstandings.

4. All submitted manuscripts are referred to an Editorial Board comprising of an in-house editorial committee and external referees. All comments by the referees will be sent to the author(s) together with a decision of the Editorial Board.

5. The purpose and scope of the article should be clearly stated in an abstract summarizing the article's essential points. The abstract should be typed on a separate page and should be between 80-100 words in length. In addition,

the JEL classification code (s) as well as keywords should be clearly indicated on the abstract page.

6. The author's institutional affiliation and necessary background information on the article should appear at the foot of the first page. Footnote to the text should be listed at the end, followed by the list of references

7. References for quotations or statements should be in parentheses in the text, not as notes. E.g. Hess (1906:20) or Cagan (1958) or Majer (1975:35). Where more than three authors are involved, cite senior author and use *et al.*, E.G. Johnson *et al.* (1988).

8. Citations listed under the reference sections must begin on a new page. All entries must be typed double-spaced, listed alphabetically by last name of senior author and chronologically for two or more articles by the same author. The typed layout must conform to the following examples:

   Nnanna, O. J. (2003). "Promoting Savings and Investment Culture for National Development." *CBN Economic and Financial Review*. Vol 41. No. 3 pp. 1-10

   Oresotu, F. O. and C. N. O. Mordi (1992). "The Demand for Money Function in Nigeria: An Empirical Investigation." *CBN Economic and Financial Review*. Vol.30, No.1 pp.32-69.

   Croxton, F. E.; F. E. Cowden; and S. Klein, (1968). *Applied General Statistics*. London: Sir Isaac Pitman and sons.

9. All tabular materials should be separated from the text in a series of tables numbered consecutively in Arabic numerals preferably in Microsoft Excel. Each table should be typed double-spaced and identified by a short descriptive at the top. Notes for table should be at the bottom of each table, before the source, and marked by lower case superscript letters. Appropriately placed tables should be indicated in the text.

10. Diagrams, graphs, charts, etc. must be separated from the text and clearly drawn in black ink on a white paper with all axes clearly positioned. They should be submitted in a form suitable for reproduction without redrawing, preferably in camera-ready artwork.

11. Where mathematical equations and formulae are used, they should be typed clearly. Notations, exponents, etc, which are simple to reproduce should be used. The equations should be numbered consecutively in Arabic numerals. The full mathematical workings necessary for justifying each step

of the argument should accompany all the articles of a mathematical nature. This is meant to assist the reviewers and will not be published.

CENTRAL BANK OF NIGERIA

ISSN 1957-2968