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Capital account liberalization in the WAMZ: GAP analysis

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**WEST AFRICAN
MONETARY INSTITUTE (WAMI)**

**INSTITUT MONETAIRE DE
L'AFRIQUE DE L'OUEST (IMAO)**



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CAPITAL ACCOUNT LIBERALIZATION IN THE WAMZ: GAP ANALYSIS

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LIST OF ABBREVIATIONS

ADF	Augmented Dickey-Fuller Test
AIC	Akaike Information Criteria
ARDL	Autoregressive Distributive Lag
AREAER	Annual Report on Exchange Rate Arrangements and Exchange Restrictions
BAP	Banjul Action Plan
BoP	Balance of Payments
CUSUM	Cumulative Sum of Recursive Residuals
CUSUMSQ	Cumulative Sum of Squares of Recursive Residuals
ECM	Error Correction Mechanism
EME	Emerging Market Economies
ECOWAS	Economic Community of West African States
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GMM	Generalized Method of Moment
IMF	International Monetary Fund
IV	Instrumental Variable
LM	Lagrange Multiplier
NBER	National Bureau of Economic Research
NCG	Neoclassical Growth Model
OECD	Organisation for Economic Cooperation and Development
OLS	Ordinary Least Squares
UEMOA	Union Economique et Monetaire de l'Ouest Africaine
SBC	Schwartz-Bayesian Criteria
WACB	West African Central Bank
WLS	Weighted Least Squares

EXECUTIVE SUMMARY

Capital account liberalization has become an important policy choice in an increasingly integrated global economy. Theoretical and empirical evidence suggest that capital account liberalization promotes a more efficient global allocation of capital, as the flow of resources reduces cost of capital in the liberalizing/recipient countries, thereby increasing investment and raising economic output. This paper which is organised in two parts assessed the degree and scope of capital account liberalization in Member States of the West African Monetary Zone (WAMZ), as well as the impact of liberalization on economic performance. Liberalization is expected to increase investment opportunities and enhance monetary policy effectiveness in the envisaged common currency area. The paper reviewed relevant theoretical and empirical literature highlighting the contentious debate on the benefits of liberalization, and recommends the integrated approach to liberalization.

The paper adopted both survey methods and econometric techniques to achieve its set objectives. For the survey based approach, a questionnaire was administered to ascertain the nature of the capital inflow and outflow regime as well as the overall capital account management framework. The effectiveness of controls was also assessed where it was relevant. Responses from the questionnaire were assigned numerical values and inputted into a capital account liberalization index. The types of controls, inflow and outflow were assigned scores ranging from zero to one based on their degrees of openness. The total obtainable score was 10 (implying the most restrictive country) while the least was zero (completely liberalised). The results showed that WAMZ countries were at different stages of capital account openness with The Gambia being the only country that has fully liberalised its capital account with an Index of zero. Nigeria and Sierra Leone had the most restrictions, recording indices of 3.25 each, followed by Guinea (2.00). Ghana and Liberia are fairly liberalised as they recorded Indices of 1.25 and 1.00 respectively.

Given that WAMZ countries were committed to full capital account liberalisation as stipulated in the Banjul Action Plan (BAP), an index of zero was considered as the benchmark. The result revealed that inflows, with the exception of money market instruments, were completely liberalised but various forms of restrictions are placed on outflows in all countries, except The Gambia. This may be an indication of the willingness on the part of member countries to gradually move towards full capital account liberalization, especially among member countries of the WAMZ in the first instance. The restrictions on outflows ranges from money market instrument, financial credit, direct investment, to real estate transaction. On the other hand, capital market transactions, including the purchase/sale of shares/equities, long term bonds/debt instruments, long term collective investment securities as well as derivatives were unrestricted in all member countries.

The econometric approach applied recent developments in time series econometrics to analyze and determine relationships between capital account liberalization and economic growth in the WAMZ for the period 1980 – 2012. For the purpose of clearly ascertaining the impact of the variables of interest on economic growth, a country by country estimation was carried out. The short-run and long-run relationships between capital account openness and economic growth were investigated by applying the autoregressive distributive lag (ARDL) bounds testing approach suggested by Pesaran et al. (2001). The empirical results of the ARDL models showed a significant positive relationship between capital account liberalization and growth in Ghana and Sierra Leone in the long run. This suggests that the removal of restrictions on capital accounts in Ghana and Sierra Leone would promote economic growth in these countries in the long-run. Liberalization had positive and significant impact on growth in Ghana even in the short-run. However, there was no significant long-run relationship between liberalization and growth in

The Gambia, Guinea, Liberia and Nigeria, implying that opening of the capital account should be gradual and complemented with sound macroeconomic and financial policy. Overall, the diagnostic tests indicated that our ARDL models were stable.

The Paper proffered two distinct set of recommendations reflecting the findings of the study. Recommendations for part one of the study suggests the phasing and sequencing of liberalisation from macroeconomic and financial sectors reforms to liberalisation by instruments, firstly with the WAMZ and then, globally. Recommendations for part two of the study was

further broken down into two parts. First, for countries where there was a significant positive relationship between capital account liberalization and growth (Ghana and Sierra Leone) and later for countries where no significant relationship between these variables exist (The Gambia, Guinea, Liberia and Nigeria). However, the recommendations of the study should be viewed holistically, with member countries of the WAMZ adopting an integrated approach to liberalization as suggested in literature. Essentially, long-term flows should be liberalized before short-term flows.

CHAPTER 1 – INTRODUCTION

1.1 BACKGROUND

In broad terms, capital account liberalization refers to the easing of restrictions on capital flows. Theory and empirics suggests that capital account liberalization promotes a more efficient allocation of capital, from capital-surplus to capital-deficit economies. The flow of resources into the liberalizing countries would reduce cost of capital, increase investment, and raise output (Fischer, 1998; Summers, 2000). In addition, access to capital enables countries to cushion fluctuations in national incomes and smoothen out consumption levels. Capital account liberalization may also signal a country's commitment to credible economic policies since a perceived deterioration in the policy environment of a country with an open capital account could potentially lead to capital flight. Capital account liberalization therefore provides a strong incentive for policymakers to adopt and maintain sound macroeconomic policies, with obvious benefits in terms of long-term growth. Inflows due to liberalization are expected to facilitate the transfer of technological and managerial know-how; encourage competition and financial development, thereby promoting growth.

However, the literature is awash with evidence that capital account liberalisation is a necessary but not sufficient condition for growth. While developing economies that have liberalized their capital accounts recorded higher growth rates on the average, empirical analysis suggests that, after controlling for the effects of other factors, the causal effect of capital account liberalization on growth is not monotonic (Prasad et al, 2003). Evidence also show that developing and emerging economies have not been able to effectively leverage on international financial markets, as there seems to be an underlying procyclical element to capital flows. This point is made even more pungent by international investors' willingness to lend to developing economies in 'good times' only to retreat in 'bad times', thereby exacerbating macroeconomic imbalances. Cross-country evidence further suggests that countries, including those which

have open capital account, do retain some regulations on inward and outward capital flows. While there is a tendency among countries to lift controls on capital movement, most countries retain a variety of controls with specific provisions relating to banks and credit institutions as well as institutional investors (IMF, 2005).

The West African Monetary Zone constituted of six (6) member countries¹ that plan to introduce a single currency in 2015, with the ultimate goal of merging with the West African Economic and Monetary Union (WAEMU). The WAMZ economy, with a combined GDP of \$340 billion (PPP), represents 73.0 percent and 19.0 percent of ECOWAS and Africa, respectively. Nigeria is the dominant economy in the WAMZ, with over 78.0 percent of the population and 86 percent of the zone's GDP. While the zone is relatively large within the ECOWAS sub-region, it is still a small open economy globally, accounting for less than one percent of the global GDP. As a result, even after full integration of the economies, the zone will still be considered a small open economy, with a strong possibility of imported inflation, with implications for the conduct of monetary policy, the choice of targets and instruments within the Monetary Union.

The recent financial crisis precipitated by the credit crunch, coupled with rising global inflation, and slowdown in demand in most advanced economies engendered significant uncertainty over the outlook for the WAMZ economies. Although the effects of the current financial crisis on the WAMZ economies are still unfolding, some adverse impacts have filtered through either directly or indirectly. The direct effects, experienced by countries like Nigeria and Ghana with relatively developed financial

¹ *The Gambia, Ghana, Guinea, Liberia, Nigeria and Sierra Leone.*

systems, emanated from exposure to the international financial system. Nigeria and Ghana were particularly vulnerable through their stock exchanges.

Given the foregoing, it is therefore imperative to identify the policy instruments (through a gap analysis of capital account practices) which are available to the WAMZ countries in mitigating contagion from the global economy. On the other hand, the decline in exports and the concomitant reduction in government tax revenue and foreign exchange earnings which exacerbated fiscal position and external balance in the WAMZ were clear indications that the global crisis was already affecting the WAMZ countries. This, coupled with the decline in remittances and capital flows as well as aid flows adversely affected some WAMZ countries. This study reveals the policy response of WAMZ countries to these developments.

Ultimately, restricting the free flow of capital over an extended period might be counterproductive. The increasing openness to international trade has made it unattractive for countries to maintain closed capital accounts. Moreover, the increasing sophistication of investors and global financial markets makes it easier to move capital around under different pretexts. It is also argued that the predominance of extensive capital controls may create distortions during the transition to liberalization thereby making liberalization ineffective and unsustainable. Opening up the domestic economy by relaxing controls on capital account transactions in a gradual and orderly way appears to be the appropriate strategy for developing countries such those in the WAMZ. This gradualist approach encompasses the phasing and sequencing of capital account liberalization while retaining a robust 'capital account management framework' which underpins macroeconomic and financial stability.

1.2 JUSTIFICATION

Capital account liberalisation permits the free flow of capital from capital-abundant countries where marginal return of investment is low to capital-scarce countries where marginal return on

investment is high, thereby promoting growth and fostering convergence. Thus, it is clear that full capital account liberalisation within the WAMZ will enhance growth and convergence with the unfettered flow of capital and investment across the Zone. Indeed, the European Union still emphasizes full capital account liberalisation for accession countries that desire to join the euro zone.

Member countries of the WAMZ have, in recent times, not only been showcasing the abundant investment opportunities, but also pointing the rest of the world to the region's resolve to develop and implement policies reforms. This is consistent with the region's move towards a common monetary and economic union, with the ultimate aim of making West Africa the destination of choice for investors, the world over. This is being clearly demonstrated by on-going banking, financial, and fiscal reforms across the zone as the member countries strive to satisfy the prescribed macroeconomic convergence criteria for the establishment of a common central bank. These steps, which are capable of improving investor confidence in the Zone, could be undermined if foreign investors are restricted from either bringing in capital or repatriating capital and interest.

The launching of the single currency has been postponed thrice. In order to increase the chances of success of the single currency programme, member countries of the WAMZ developed a comprehensive blueprint known as the "*Banjul Action Plan*" (BAP). The BAP expanded the WAMZ programme to include structural measures and benchmarks. Key elements of the structural measures are the liberalization of financial markets and capital accounts, as well as the establishment of a customs union by the WAMZ. As the 2015 deadline for the launching of the single currency approaches, it is an opportune time to take stock of the implementation of this important benchmark through a gap analysis of capital account liberalisation in the zone. Full capital account liberalisation especially between WAMZ countries will enhance the effectiveness of the monetary policy of the envisaged West African Central Bank (WACB) by allowing all WAMZ

citizen participate in the open market operations of the Bank.

1.3 OBJECTIVE

The broad objective of this study is to assess the degree and scope of capital account liberalization in the WAMZ, and to determine, empirically, the impact of capital account liberalization on economic growth in member countries. Specifically, the study seeks to:

- Undertake a gap analysis of capital account liberalisation in the WAMZ,
- Determine the relationship between capital account liberalization and economic growth in member countries of the WAMZ, and
- Propose an approach and/or framework to capital account liberalization to be adopted by WAMZ member countries.

1.4 DESIGN AND METHODOLOGY

The study adopted survey techniques and impressionistic policy discussions with the Central Banks and Ministries of Finance/Economic Development of the WAMZ member countries to assess the different practices in capital account management. Additionally, an econometric analysis of the impact of capital account liberalization on economic growth in the WAMZ from 1980 to 2012 was conducted using the neoclassical growth model following Henry (2006). The

study made use of both primary and secondary data. Secondary data was obtained from a variety of sources, including WAMZ member countries central banks, WAMI's database, World Bank's development indicators and the IMF's international financial statistics. Primary data was collected through the administration of questionnaires and direct interviews with Central Bank officials. The responses (questionnaire and discussions) will be analyzed under various themes such as, policy instruments, types of controls, as well as capital inflow and outflow regimes.

1.5 STRUCTURE

Following this introduction, the paper is divided into two parts. Part I focuses on the gap analysis of capital account liberalisation in WAMZ countries while Part II covers an empirical examination of capital account liberalisation and growth.

Part I contains a literature review (Chapter 2), methodology (Chapter 3), status of capital account liberalisation (Chapter 4) as well as conclusion and policy recommendation (Chapter 5).

Part II also contains a literature review (Chapter 6), methodology (Chapter 7), empirical results (Chapter 8) as well as conclusion and policy recommendation (Chapter 9).

PART ONE

CHAPTER 2 - LITERATURE REVIEW

2.1 THEORETICAL UNDERPINNING

International capital mobility has been viewed differently by various schools of thought leading to diverse theoretical perspectives. Generally, three main frameworks emerge in the literature, i.e., the orthodox, dependency and neoclassical. However, theory suggests that capital account liberalization would permit capital to flow from capital-surplus industrial countries where marginal return on investment is low to capital-deficit countries, (mainly emerging and developing economies), where marginal return on investment is reasonably high. This leads to acceleration of capital accumulation in capital-deficit countries which leads to high output growth and convergence.

2.1.1 The Orthodox Model

The orthodox model is the centerpiece of the neo-liberal school which views capital mobility as adding new resources, technology, management and competition to capital-deficit countries in a way that improves efficiency and stimulate growth. Within this context, capital account liberalization is seen from the point of view of solving a global problem, defined in terms of global resources, wants, production, exchange and growth. The experience of the Asian Tigers wherein inflow of foreign direct investment (FDI) was triggered by the liberalization on capital account provides a typical example of the growth effects of liberalization. However, the orthodox school recognizes that there are risks associated with capital account liberalization given that the removal of restrictions on short term financial flows has been associated with the economic and financial crises of the 1990s in Asia and Latin America. In this regard, it can be argued that when the risks to liberalization are not properly managed they could lead to financial instability and crises in emerging economies. The theoretical justification for the financial instability effects of liberalization is rooted in the volatility of short term flows, increased

competition among banks and the changes in the global financial system. International capital movements within the last two decades have confirmed, in particular, the volatility of private capital flows to developing countries.

2.1.2 The Dependency Model

This model, though unpopular due to the collapse of communism and the wide acceptance of the market doctrines by former communist, helps to historically portray the diverging views of development economists. It is a combination and reformulation of the Structuralist model based on the centre-periphery framework analysis. Essentially, the model posits that there is a dependence on capital-surplus developed economies by capital-deficit developing countries and this tends to cause underdevelopment and worsen the situation of developing countries. This implies that the transmission of capital from developed to developing countries through FDI and short term flows cannot produce favourable results in host countries. The reasoning is that capital flows from the metropolis (developed) economies to the satellite (developing) economies is mainly to the benefit of the metropolis.

The model was popularized by Frank (1972), who analyzed the Structuralist import-substituting capitalist industrialization strategy in Latin America, in which the “foreign monopoly capital” was taking over the import substitution process. He found that the strategy was unprogressive and that countries became more underdeveloped with their integration into the world capitalist system. The theory radically recommended the need to break the link with the exploitative international capitalism as the recipe for growth and development. However, this sounds unrealistic and unattainable in the world that is increasingly becoming a global village. Hence, there was a modification of this thought, drawing from the experiences of the newly industrialized economies (NIEs) of South East Asia. The modified model argues that developing countries can still use external stimuli, particularly FDI to achieve growth and

development through a strategy of autonomous and self-reliant macroeconomic policy objectives and implementation programme.

2.1.3 The Neoclassical Counterrevolution Model

The “neoclassical counterrevolution” was launched when the plausibility of the radical dependency model was being questioned. This led to a reaffirmation of the dictates of the market and the relevance of “getting the prices right” (Mailafia 1997). The neoclassical counterrevolution, argued that policy-induced distortions of developing countries are largely responsible for their poor development performance, and proposed that the problems of economic development can only be solved by an economic system with freely operating markets with minimal government intervention. The importance of correct pricing policies and reduced government intervention are hallmarks of this model. This underpinned the International Monetary Fund’s (IMF) and World Bank’s Structural Adjustment Programmes (SAP). However, criticism of the insensitive conditions of the policy prescription under the SAP led to the “Washington Consensus” which advocated a focus on balanced budget, exchange rate correction, liberalization of trade and financial flows, privatization and domestic market deregulation.

Generally, neoclassical theory hypothesizes that free flows of external capital should equilibrate and smoothen a country’s consumption or production paths. This implies that capital account liberalization encourages a more efficient allocation of resources across countries which, in addition to several positive effects, benefits borrowers and lenders and raise economic growth (Henry 2007). The basic argument in favour of financial openness (capital account liberalization) is that it could lead to an increase in the size and depth of domestic financial markets (McKinnon and Shaw 1973) and increase the degree of efficiency in financial intermediation by lowering costs. Besides, McKinnon and Pill (1997) contend that, in the short run, better access to foreign funds may lead

to increase investment rates, and thus temporarily higher growth.

2.1.4 Meaning of Capital Account Liberalisation and Control

The reduction or removal of restrictions or controls on capital account transaction is referred to as capital account liberalisation. Liberalisation also means the freedom of currency conversion in relation to capital transactions in terms of inflows and outflows. It can occur as result of greater integration into the world economy or deliberate policy stance of countries. The capital account is a component of the balance of payments (BoP) which records transactions between residents and non-residents of a given country in terms of asset acquisition. It gives a record of the various financial flows such as Foreign Direct Investment (FDI), portfolio investments (including equity investments) and bank loans. While article VIII of the International Monetary Fund (IMF) puts an obligation on members to avoid imposing restrictions on the making of payments and transfers for current international transactions, Article VI (3), allows members to impose controls where necessary to regulate international capital movements, but not so as to restrict payments for current transactions.

On the other hand, capital controls is the imposition of restrictions on international capital movements. It can take the form of qualitative and quantitative restrictions. The effectiveness of the control depends on the type of control and the channel of flows. The widely used capital controls include outright prohibitions, dual or multiple exchange rate arrangements, taxes on external financial transactions, discretionary approvals and explicit quantitative limits. In particular, quantitative limit may affect the external asset and liability positions of domestic financial institutions, especially banks. Overall, capital inflows can either be inflows, outflows or both. The severity and effectiveness of capital restrictions may vary from country to country.

2.1.5 Measuring Capital Account Liberalisation

The Literature contains several indicators of capital account liberalisation showing whether a given country allows free flow of capital across its borders. Indicators of Liberalisation can be either qualitative or rules-based or quantitative. However, in practice, there are few indicators of liberalisation. The IMF's Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER) provide two of the most widely used capital account liberalisation indicators (Share and Intensity Measures). We begin our discussion with rule-based measures and later the alternative quantitative measures as contained in Edison et al (2002).

2.1.5.1 Share Indicator

The Share indicator is obtained from line E.2 of the IMF's AREAER. The information in line E.2 of the IMF's AREAER is used to construct, for each country, a variable reflecting the proportion of years in which countries have had liberalized capital accounts. The variable computed is called Share. For instance if the AREAER judged capital accounts/markets open for five years out of a 10-year period, then the openness measure Share would be 0.5. A major weakness of this

approach is that a value of Share equal to 0.5 is consistent with a situation where a country had open capital accounts for the first five years in a decade, for the last five years in a decade, for every other year in a decade, or for many other on-again, off-again, patterns.

2.1.5.2 Intensity Indicator

The Share Indicator does not distinguish between strongly administered capital controls and those that are somewhat more relaxed. Thus, Quinn (1997) attempts to capture the intensity of enforcement of restrictions on both the current and capital accounts through a careful reading of the narrative descriptions in the AREAER. In this study, two people were assigned to separately give scores based on their readings of the narrative descriptions after which the scores were checked for discrepancies. In addition to capital account openness measures, Quinn (1997) also presented scores for intensity of controls for four categories relating to current account transactions and one category called international legal agreements. In his methodology, Quinn scored separately the intensity of controls for capital account receipts and capital account payments. For each of the two categories, the scoring method was as follows:

Table 2.1: Intensity Measures of Current and Capital Accounts Openness

Indicator	Score
Payments are forbidden	0.0
Quantitative or other regulatory restrictions	0.5
Transactions subject to heavy taxes	1.0
Transactions subject to less severe taxes	1.5
Transactions are free of restrictions or taxes	2.0

Source: Adapted from Edison 2002

The sum of the values for the two categories is an indicator of overall capital account openness that ranges between 0 and 4. These indicators are available annually from 1950-1997 for 21 OECD countries, and for the years 1958, 1973, 1982, and 1988 for 43 non-OECD countries.

2.1.5.3 Montiel-Reinhart Intensity Indicator

Montiel and Reinhart used an alternative measure of intensity of capital controls based on

annual information for 15 countries over the period 1990-1996. This indicator ranges from 0 to 2 and differs from the previous measures in the sense that a higher number indicates stronger capital account restrictions. In particular, a value of 0 for a particular country in a particular year represents a situation of no restrictions or taxes on capital inflows as well as no controls on domestic indebtedness of domestic financial institutions except those relating to prudential regulations. A value of 1 represents restrictions

that take the form of excessive prudential regulations (such as strict limits on the foreign exchange exposure of banks) while 2 indicates prevalence of explicit measures, such as prohibitions, deposit requirements, or financial transaction taxes, designed to limit capital flows. The choice of assigning such values for a particular country in a given year is based on information contained in that country's annual report from its central bank or similar institution.

2.1.5.4 Quantitative Indicators/Measures

An alternative methodology to the above rules-based measures of constructing indicators from published regulations is to derive quantitative indicators based on economic variables. Economic researchers have used four variables to assess the levels of capital account openness as follows: national savings rates, national investment rates, interest rate differentials and international capital flows. While it may seem preferable to use actual performance rather than published rules and regulations to measure the intensity of capital restrictions, there are some conceptual and practical challenges that one would have to grapple with such as the appropriate definition of the liberalisation indicator. Despite these challenges, the measures have been widely used to assess the degree of capital account restrictions across countries and time periods.

Feldstein and Horioka (1980) published a study that was quite influential as it was informative, being the first effort to quantitatively measure the degree of capital mobility across a cross-section of industrial countries. The study analysed the time series behaviour of savings and investment rates in these countries to measure the "true" degree of capital mobility. The correlation between the two series was used as good indicator (proxy) for capital controls. Feldstein and Horioka explained that in any particular year, if savings correlates with

investment in a given country it highly suggests stringent capital account restrictions whereas there need not be any correlation between the two in a country with free flow of capital. The two researchers found that, over the period, 1960-1974, as well as over the three five-year sub-periods, average savings rates and average investment rates were highly positively correlated. Based on the above findings, they concluded that there were significant restrictions on capital movements during the period specified.

Another set of quantitative measures of capital mobility includes onshore-offshore interest rate differentials and deviations from covered interest rate parity. Unlike stock market returns or other quantitative measures, short-term interest rates can be analyzed without first transforming them in model-specific ways. However, data availability restricts this method to a limited number of countries.

Some important steps have been made recently with regards to using actual capital inflows and outflows as percentage of GDP as in Kraay (1998). Lane and Milesi-Ferretti (2001) uses an annual measure of portfolio and direct investment assets and liabilities in percent of GDP as a long-run indicator of financial openness (see IMF 2001, Chanda 2001, and O'Donnell 2001). These measures are analogous to measures of openness to external trade and can be thought of in a similar manner. For example, like the degree of trade openness, which is calculated as the summation of imports and exports as ratio of GDP, the Lane and Milesi-Ferretti indicator, and that of Kraay, may fluctuate from year-to-year since capital is endogenous and there can be large valuation adjustments due to, say, a large swing in equity values (Eichengreen 2001). However, changes in these measures over longer periods are likely to be indicative of changes in openness (Edison et al 2002).

Table 2.2 Measures of Capital Account Openness

Type of Measures		Measures surveyed		Measures Adopted	
1.	Rules (AREAER) Based	1.	Share Indicator.	(a)	Intensity Indicator
		2.	Intensity Indicator.		
		3.	Montiel-Reinhart Intensity Indicator.		
2.	Quantitative Measures	1.	Savings--Investment correlation.	(a)	Private capital flows
		2.	Onshore - offshore Interest Rate Differentials.		
		3.	Deviations from Covered Interest Parity (CIP).		
		4.	Portfolio and Direct Investment as % of GDP.		
		5.	Private capital flows as % of GDP.		

Source: Authors Compilation Adapted from WAMA (2005)

2.2 EMPIRICAL LITERATURE

The evidence from the empirical literature as well as cross-country experience with capital account liberalisation show a tendency for countries to retain some regulations influencing inward and outward capital flows, even for those that have open up their capital account. The AREAER (Various Issues) indicate that there is a general tendency among countries to lift controls on capital movement but that most countries retain a variety of capital controls with specific provisions relating to banks and credit institutions and institutional investors. While the literature generally supports capital account liberalisation as a natural process of integration with the global economy both in trade and finance, for enhancing growth and welfare, the experiences of emerging market economies (EMEs) in Asia and Latin America in the 1990s has led to a rethink. The costs and benefits from capital account liberalisation or controls are still being debated among academicians and policy makers as well. The IMF, which had mooted the idea of changing its Charter to include capital account liberalisation in its mandate, abandoned this proposal.

There is increasing empirical evidence which shows that the removal of restrictions on international capital flow leads to financial

instability in the liberalizing country and sometimes globally (Eichengreen, Rose and Wyplosz, 1996; Rossi, 1999; Demirguc-Kunt and Detragiache, 1998, etc). Majority of the studies focused on the Asian crises and the impact of bank lending to transition economies. Buch and Lusinyan (2002) presented an empirical investigation based on the determinant of short-term capital flows using cross-sectional data for international bank lending and domestic and international debt securities. They found that the share of short-term debt increases with state of development of the economies, and countries with pegged exchange rates had smaller shares of short-term debt. Wyplosz (2002) found that a standard capital account openness index had a significant impact on the exchange market pressure index, which he chose as proxy for financial instability. Within the framework of the global financial system, instability may easily spread across jurisdictions. Mishkin (1999) and Krugman (2000), showed that the sharp devaluation of the currencies of the five-big Asian countries (Thailand, the Philippines, Indonesia, Korea and Malaysia) triggered massive capital outflows leading to financial instability and crises.

Box 1: Changing Contours in Capital Account Liberalisation

The 1990s witnessed a surge in global private capital flows. Net private flows to developing countries, for example, grew from less than \$100 billion in 1990 to well over \$200 billion in 1995. The key reasons for the growth of international investment in developing countries were the liberalization of financial transactions, deregulation of financial markets, the removal of controls on international capital movements and the liberalization of trade and exchange controls. However, the years following 1995, saw an equally substantial reversal of private inflows into developing countries, which caused several emerging market economies to experience severe economic and financial crises. The volume of private capital flows to developing countries remained subdued through the early 2000s.

Against this background, there has been a major debate over the actual and potential benefits of the capital account liberalisation given the associated vulnerability to crisis by liberalizing countries. Within the broader debate over the increasing importance of international capital flows in the world economy, it has been alleged that some countries liberalize their capital accounts prematurely without ensuring that adequate institutions and prudential regulations were in place. Others argue that rapid liberalization, with insufficient attention to sequencing and establishing the appropriate preconditions, has been responsible for much of the financial instability and economic distress experienced by many emerging markets and developing countries. The recent financial crisis was the ultimate pivot in the global view on capital controls. Increasing, the regulation of capital flows has gradually moved to the centerstage after being confined to the periphery of the mainstream policy discourse for several years. There is now a legitimate consideration, by policy makers, of the ex-ante management of capital flows for macro-economic and financial stability.

Source: IMF, 2005

The most severe financial disruptions which occurred in the 1990s directly affected the developing world: Mexico (1994), Thailand, Philippines, Indonesia, Korea and Malaysia (1997), Bulgaria (1997), Russia (1998), Turkey (2000), and Argentina (2001-2002). The cause of these crises was traced to the accumulation of private debt whereby every firm decided on its optimal debt level, taking as given, the debt decision of its rivals. In equilibrium, the total amount of debt proved to be collectively unsustainable in the presence of weak regulation of private borrowing. In addition, many developing countries turned the process of capital market deregulation into an opportunity to build large dollar-denominated stocks of debt (Rogoff,

1999). According to Rogoff (1999) a sharp depreciation in the currency of a highly dollarized economy will adversely affect local firms and banks balance sheets, as the debt in local currency edges up and net worth declines. This in turn portends negative implications on global demand and economic growth as firms reduce investment while banks would reduce lending. In the end, fragile businesses will go bankrupt and international investors will refuse to roll over debt as profitability slumps, putting additional pressure on the local currency. On the contrary, the crises of the 1980s were driven mainly by sovereign debt crises related to official capital flows. These structural changes account for major differences in the way financial crises take off.

Box 2: Benefits of Financial Liberalization

A growing body of empirical work suggests that financial liberalization has positive impact on several variables that are associated with economic growth, even if their effects are difficult to detect in cross-country growth regression:

Total factor productivity growth: Research suggest that total factor productivity (TFP) growth is positively and significantly associated with de jure financial openness. This result may be surprising, given the lack of robust evidence of a relationship between financial integration and economic growth, and little evidence of threshold affects impinging on the transmission of financial openness to TFP. One possible interpretation of these results is that financial openness enhances economic efficiency but has an unstable and seldom significant effect on factor accumulation, so that the ultimate effect on economic growth is difficult to pinpoint in the data.

Domestic financial sector development: Financial integration may catalyze domestic financial market development, through greater competitive pressures on financial intermediaries and movement toward international best practices in accounting, financial regulation, and supervision. Foreign ownership of banks may also facilitate transfer of technology and risk-management techniques (Mishkin, 2006).

Macroeconomic policies: Financial liberalization may improve policy discipline and signal a country's commitment to sound policies. Empirical studies suggest that countries with higher levels of financial openness experience lower inflation rates (Gupta, 2007), though evidence is more mixed for fiscal policies.

Cost of capital: Capital controls are estimated to make it more difficult and expensive for small firms to raise capital. Moreover, multinational affiliates located in countries with capital controls face local borrowing costs that are about 5 percentage points higher than affiliate of the same parent company borrowing locally in countries without capital controls (Desai et al., 2004).

Distortions: Economic behavior is likely to be distorted by capital controls, and resources and effort are wasted in seeking to circumvent controls. Furthermore, a situation in which only some economic agents are able to evade controls may lead to an uneven playing field in which well connected firms—rather than the most efficient—survive. Beyond this, capital controls insulate domestic firms from competitive forces, and in some cases may even create a screen for cronyism and subsidies to politically-connected firms (Johnson and Mitton, 2003).

Source: Chea (2011)

2.2.1 Some Lessons of Experiences with Liberalisation

Countries have advocated for and implemented capital account liberalisation since the 1960s. The code of conduct for the liberalisation of international capital movements pioneered by the Organisation for Economic Cooperation and Development (OECD) was key milestone in this regard. Its main advantage was the “take it or leave it” offer which only allowed countries to remove exemptions or reduce their scope but not to add or extend the scope of exemptions. Currently, all restrictions to the free movement of capital have been removed in OECD countries. However, the OECD code continues to mutate although it remains the only multilateral instrument existing in the area of capital movement liberalisation. While the European Community (EC) also allows unrestricted movement of capital, the EC Treaty provides for certain restrictions.

The experience of emerging economies with capital account liberalisation caused a paradigm shift on the perspectives about liberalisation.

2.2.1.1 The East Asian Experience

The East Asian currency crisis (1997 – 1998) which afflicted Thailand, Malaysia, Indonesia, South Korea and the Philippines showed that short-term capital inflows makes a country vulnerable to massive outflow when there is loss of confidence in the economy. The major macroeconomic causes for the crisis were traced to current account imbalances with concomitant savings-investment imbalance, overvalued exchange rates, and high dependence on potentially short-term capital flows. These macroeconomic factors were exacerbated by microeconomic imprudence such as maturity mismatches, currency mismatches, moral hazard behaviour of lenders and borrowers and excessive leveraging. This situation necessitated stringent control on short-term portfolio flows.

2.2.1.2 Latin America

Weaknesses in Mexico's economic position due to an overvalued exchange rate and large current

account deficit financed largely by short-term capital inflows were responsible for the financial crisis (1994–95). In Brazil, fiscal and balance of payments weaknesses in addition to the adverse effects of the East Asian crisis in early 1998 when inflows of private foreign capital vanished precipitated the crisis. The currency board arrangement in Argentina which pegged the local currency to the US dollar from April 1991 up to January 2002 as well as persistently high public and external debts, led to financial and economic crises (1998-200). This led Argentina to abandon the peg in January 2002, first devaluing and later floating its currency.

2.3.3 Russia

Russia experienced serious foreign exchange crisis (1998) due to concerns about its fiscal situation and had to introduce a series of emergency measures, including re-intensification of capital controls and the announcement of a debt moratorium. However, the country had since liberalised its capital account (2006), paving the way for full convertibility of the rouble.

2.3.4 Turkey

Turkey's currency crisis (1994) was caused by difficulties in meeting the huge requirements for public sector borrowing. Consequently, output declined by 6 percent, inflation shot up to triple digits, the central bank lost half of its reserves, and the exchange rate depreciated by more than 50 per cent. Another financial and economic crisis was experienced in the beginning of 2000 due to a combination of economic and noneconomic factors.

2.3.4 Africa

Capital account liberalisation has been implemented in several African countries. These countries adopted a “big-bang” approach to liberalisation (rapid transition to an open capital account) and there were no noticeable adverse consequences. However, with regard to liberalization's association with financial and economic crisis, two notable African examples are worth mentioning, namely: Kenya and Uganda.

The liberalisation process in Kenya was phased over a five-year period and was preceded by a period of major budgetary and balance of payments deficits, low foreign exchange reserves, high inflation and slow economic growth. The country implemented various reforms to complement the process and this led to a resumption of capital inflows as well as increases in investments. However, these inflows were abruptly interrupted from 1992 (an election period) causing a serious decline in the Kenyan economy and a major economic crisis with high inflation, huge arrears in external payments and a massive depreciation of the local currency.

Given Uganda's inability to effectively enforce capital controls, the capital account was, de facto, open long before formal declaration of full convertibility in July 1997. In Uganda, both residents and non-residents were allowed to hold foreign-currency denominated accounts in the domestic banking system. The country was also successful in attracting foreign capital inflows, primarily in the form of foreign direct investment (FDI), which is more stable than either portfolio investment or loan flows.

Vital lessons emerge from the various currency crises experienced in the last decades, which are summarised below:

1. Prolonged overvalued exchange rates, which led to unsustainable current account deficits, constituted the major cause for most currency crisis. Capital flows become volatile as the pressure on the exchange rate mounts. This triggers an excessive appreciation of the exchange rate which makes exporting industries insolvent while imports become much more competitive, worsening the current account deficit.
2. Currency crises could also hit countries that had apparently comfortable fiscal positions causing rapid deterioration of the exchange rate. In addition, large unsustainable levels of external and domestic debt precipitated currency crises. Thus, a transparent fiscal consolidation is necessary and desirable, to reduce the risk of currency crisis.
3. Short-term capital flows react quickly and adversely during currency crises. In particular, receivables are typically postponed, and payables accelerated, aggravating the balance of payments position.
4. The quality and proactive nature of market regulation is also critical to the success of efficient functioning of financial markets during times of currency crises. Hence, domestic financial institutions, in particular banks, need to be strong and resilient.
5. Safeguards, in the form of moderate controls on capital flows may be necessary in some cases.
6. The quality of financial institution's balance sheets in terms of risk exposure needs to be monitored.
7. The impossibility of the trinity (fixed exchange rate, open capital account and independent monetary policy) may be a theoretical construct. In reality, it is possible to approach situations, which are close enough, through a combination of prudential policies.
8. Foreign investment in domestic debt market should be pursued with caution as well as issuance of foreign currency linked domestic bonds.

2.2.3 The Integrated Approach to Capital Account Liberalization

As mentioned earlier, the literature on capital flows to transition economies (developing and emerging) is quite extensive. The initial conditions and the subsequent policies and strategies adopted by different transition economies are vital in explaining the level of development of the financial sector and the accompanying output growth in transition economies. Gourinchas and Jeanne (2002), however, argued that the main gains from capital account liberalization may not occur from having access to foreign capital, but mainly from the fact

that the process of liberalizing results in a decrease of domestic distortions in economic reforms. Lipschitz, Lane and Mourmoras (2002) also contended that the potential for overwhelming capital flows in transition economies should be seen as inherent to the transition and convergence process. In addition, Lipschitz et al. (2002) presented the fundamental causes of real appreciation inviting inflows and offered five main policy conclusions:

- i. Sound economic management in addition to policy transparency and data dissemination is crucial;
- ii. The opening of capital accounts reduces the independence of action for monetary policy but fiscal policy becomes the main tool for stabilization;
- iii. Right sequencing of capital account liberalization is important, and long-term capital movements should be liberalised before short-term transactions;
- iv. A strong regulatory and supervisory framework has to be set up before the capital account is fully liberalised while special attention has to be paid to avoid excessive corporate foreign exchange exposure; and
- v. Even though the choice of exchange rate regime cannot eliminate the problem of persistent capital flows, in most cases, a floating regime will make the country less vulnerable than the pegged regime, since regular exchange rate variance is a disincentive to large foreign exchange exposure.

Studies have shown that the existence of a stable financial structure plays an enormous role in encouraging economic growth (King and Levine (1993), Nabi and Rajhi (2002)). Nevertheless, given the level of financial development in transition economies, critical policy challenges emerge with respect to improving financial stability and reducing the vulnerability of the financial system in an environment of increasing capital flows. In particular, Buitier and Taci (2003) identify four main challenges to the stability of the financial sector in an environment of increasing integration of transition economies into global financial markets. They include;

- a) strengthening prudential supervision and regulation;
- b) improving risk management of both individual institution and supervisory agencies;
- c) improving transparency and disclosure of financial activities and market discipline; and
- d) enhancing the effectiveness of the legal framework.

Generally, the increasing integration of the transition countries into the global financial markets further reinforces the importance of removing any remaining structural problems and developing stable and efficient domestic financial markets. Capital account liberalization therefore remains a complex process for transition economies since its success depends on proper sequencing and coordination with macroeconomic and structural policies to strengthen the domestic financial system. The integrated approach to capital account liberalization, envisages a gradual and orderly sequencing of external financial liberalization, and emphasizes the desirability of complementary reforms in the macroeconomic framework and the domestic financial system as essential components of a successful liberalization strategy.

Motivated by Lipschitz et al. (2002), Chea (2011) maintained that the integrated approach consists of ten general principles:

1. Capital account liberalization is best undertaken against a background of sound and sustainable macroeconomic policies;
2. Financial sector reforms that support and reinforce macroeconomic stabilization should be given priority in implementation;
3. Financial sector reforms that are mutually reinforced and operationally linked should be implemented together;
4. Domestic financial reforms should be complemented by prudential regulation and supervision, and financial restructuring policies;
5. Liberalization of capital flows by instruments and/or sectors should be sequenced to take into account concomitant

risks — in general, long-term and non-debt creating flows (especially FDI) should be liberalized before short-term and debt-creating flows;

6. The pace of reforms should take into account the conditions in the non-financial sector;
7. Reforms that take time should be started early;
8. Reforms need to take into consideration the effectiveness of controls on capital flows in place at the time of liberalization;
9. The pace, timing, and sequencing of liberalization need to take account of political; and regional considerations; and
10. The arrangements for policy transparency and data disclosure should be adapted to support capital account opening (also in Ishii and Habermeier, 2002).

Accordingly, Chea (2011) argued that the transmission of financial liberalization to economic volatility and growth under the integrated approach to liberalization entails several fundamental processes. These include:

- 1) **Sound macroeconomic policies:** There is a tendency that international financial integration may lead to excessive borrowing and debt accumulation, thus increasing vulnerability to crisis. Hence, a sound macroeconomic policy framework is usually required to counteract or limit the propensity for crisis.
- 2) **Financial sector development:** A well-developed domestic financial market could be influential in restraining the impact of boom-bust cycles triggered by sudden stops in financial flows. It may also help in efficiently allocating foreign financial flows to competing investment projects, thereby promoting economic growth (Levine (2001)). Obstfeld (1994) argued that financial liberalization can stimulate economic growth by improving the allocation of capital through risk sharing. On the other hand, since access to international markets is not available to all economic agents, an underdeveloped domestic financial system may prevent the

pooling of risk across agents (Aoki, Benigno, and Kiyotaki, 2006).

- 3) **Trade integration:** Edwards (2005) showed that trade integration speed-up recoveries from financial crises and mitigate their adverse growth effects. A high degree of trade openness is usually associated with fewer sudden stops and current account reversals.
- 4) **Sound Institutional Framework:** A sound and robust institutional framework yields high quality institutions that help to shift the composition of capital flows toward FDI and portfolio equity, thereby enhancing growth and macroeconomic stability benefits. Brezigar-Masten et al. (2008) showed that financial liberalization can deepen domestic financial markets through the improvements of institutional framework. In other words, improved regulation and corporate governance can enhance overall financial stability and reduce asymmetric information costs. Bordo and Meissner (2007) also indicated that countries with stronger institutions (in addition to well-developed financial markets and prudent macroeconomic policies) enjoyed greater economic growth benefits from financial integration.

In summary, capital account liberalization is evidently less likely to result in crisis for countries with sound macroeconomic and fiscal policies as well as strong and regulated financial systems (Consistent with the IMF Research Department (2007)). The gradualist approach (combined with improvements in the domestic financial sector and macroeconomic framework) to capital account liberalization for countries that do not meet these preconditions, reduces the likelihood of a crisis. Furthermore, maintaining an external anchor (such as membership in regional economic block) is also associated with reduced propensity to financial and economic crisis. In the end, the likelihood of currency and debt crises subsequent to capital account liberalization would be conspicuously moderated when such liberalization is an element of a broader economic reform package relating to sound macroeconomic policies and strong external position.

CHAPTER 3 – SURVEY METHODOLOGY

As mentioned earlier, part one of this paper adopted survey techniques to achieve its objectives. To this end, questionnaires were designed and administered to relevant departments of central banks in all the member states of the WAMZ, as well as Ministries of Finance and Economic Planning/Development. The aim was to ascertain the nature of the capital inflow and outflow regimes, as well as the overall capital account management framework. The level/effectiveness of controls was also assessed. Responses from the questionnaires were analyzed and assigned numerical values. These values were then inputted into a capital account liberalization index. The capital account liberalization index used in this paper is a rule based indicator of capital account openness adopted from Quinn (1997). The index measures the degree of openness of capital accounts in member countries of the WAMZ on the basis of the type of control, capital inflow and outflow regimes. The highest score obtainable on the index is 10 (for the most restricted country), and zero (for the least restrictive country).

3.1 CONSTRUCTION OF THE CAPITAL ACCOUNT LIBERALIZATION INDEX FOR MEMBER COUNTRIES OF THE WAMZ

The index for capital account liberalization in member countries of the WAMZ constructed by assigning numerical values to the three major themes in the questionnaire, namely type of control, capital inflow regime and capital outflow regime. A total obtainable score of 10 is derived from combining these themes.

3.1.1 Control

This refers to the instruments or methods adopted by the countries to manage their capital account framework, and could be either direct/administrative or indirect/market based. Direct control measures, which could be discretionary, may also involve the use of outright

prohibitions and quantitative restriction. The indirect/market based measure are broadly grouped into Explicit/Implicit measure taxation and discriminatory exchange rates. Each of the two tools under Control is assigned a score of 0.25, bringing it to a total of 1.

3.2.1 Capital Inflow regime

This pertains to the inflow of capital into the liberalizing country. The sub themes under the capital inflow regime include the following:

- **Capital and Money Market transaction**, comprising of shares/equities, bonds/debt securities, money market instruments, and others, all assigned a score of 0.25, adding up to 1
- **Credit operations**, which refers to the provision governing the possibility of obtaining commercial and financial credits, as well as guarantees, sureties and financial back up facilities abroad. It is assigned a score of 0.5
- **Inward direct investments**, relating to the provision on the inflow of capital for direct investment, and the treatment of capital gains. They are both assigned a score of 0.5 each, adding up to 1.
- **Real estate transaction**, comprising ownership of real estate and dealing in real estate. They are assigned scores of 0.25 each, totaling 0.5
- **Commercial banking**, relating to the provision on the operation of commercial bank account and borrowing by cross border commercial banks. They are each awarded 0.25, amounting to 0.5
- **Personal capital movements**, which deals with issues pertaining to receipt of personal capital and immigrant transfers. They are assigned scores of 0.25, making a total of 0.5
- **Institutional Investors**, which relates to limits on securities purchased and portfolio invested, each assigned a score of 0.25, bringing it to a total of 0.5

The total numerical value for the Capital inflow regime is 4.5

3.1.3 Capital Outflow Regime

This pertains to the outflow of capital from the liberalizing country. The sub themes under the

capital outflow regime include those in the inflow regime. The total numerical value for capital outflow regime is 4.5 (see Table 3.1)

TABLE 3.1 CAPITAL ACCOUNT LIBERALIZATION INDEX: ASSIGNMENT OF POINTS

Theme	Sub theme	Score	Total	Points
1. Control	Direct/Administrative		0.5	
	▪ Outright prohibitions/Quantitative limits	0.25		
	▪ Discretionary measure	0.25		
	Indirect/Market based		0.5	
2. Capital Inflow	▪ Explicit/Implicit taxation	0.25		
	▪ Others	0.25		
				1
	Capital & Money Market transactions			
	▪ Shares/Equities	0.25		
	▪ Bonds/debt securities	0.25		
	▪ Money Market instruments	0.25		
	▪ Others	0.25	1	
	Credit operations		0.5	
	Inward Direct Investments			
	▪ Principal	0.5		
	▪ Interest	0.5	1	
	Real Estate transactions			
	▪ Purchase/Own	0.25		
	▪ Engage in real estate business	0.25	0.5	
	Commercial banking			
	▪ Hold & operate account	0.25		
	▪ Banks can borrow abroad	0.25	0.5	
	Personal capital movements			
	▪ Personal capital receipt	0.25		
	▪ Immigrant transfers	0.25	0.5	
3. Capital Outflow	Institutional Investors			
	▪ Limits on securities purchased	0.25		
	▪ Limits on portfolio invested	0.25	0.5	
				4.5
	Capital & Money Market transactions			
	▪ Shares/Equities	0.25		
	▪ Bonds/debt securities	0.25		
	▪ Money Market instruments	0.25		
	▪ Others	0.25	1	
	Credit operations		0.5	
	Outward Direct Investment			
	▪ Principal	0.5		
	▪ Interest	0.5	1	
	Real Estate transaction			
	▪ Purchase/Own	0.25		
	▪ Engage in real estate business	0.25	0.5	
	Commercial banking			
	▪ Hold/operate account	0.25		
	▪ Banks can lend abroad	0.25	0.5	
	Personal capital movements			
	▪ Personal capital transfer	0.25		
	▪ Emigrant transfers	0.25	0.5	
Index Point Total	Institutional Investors			
	▪ Limits on securities issued	0.25		
	▪ Limits on portfolios invested	0.25	0.5	
Subtotal 1 (1)+subtotal 2 (4.5)+subtotal 3 (4.5)				4.5
				10

Source: WAMI Staff following Quinns (1997)

CHAPTER 4 – STATUS AND ASSESSMENT OF CAPITAL ACCOUNT LIBERALISATION IN THE WAMZ

With the exception of Liberia and Nigeria, all WAMZ member countries have acceded to the current account obligations of Article VIII of the IMF Articles of agreement. Liberia and Nigeria have acceded to Article XIV in transition to Article VIII. Countries were therefore at varying degrees of capital account liberalisation, although they were working assiduously toward full liberalization.

There is evidence that all member countries of the WAMZ have implicit capital account management frameworks. For most of the member countries, it is gleaned from the several legislative acts, including banking Acts, Foreign Exchange Acts and legislations on free trade zone.

The analyses reveal some commonalities in capital account practices in the WAMZ. For instance, there are no restrictions on capital inflows across the Zone. Apart from Ghana and Liberia, non-residents are allowed to invest in the short end of the local markets. Liberia is the only country in the Zone that restricts residents from issuing securities abroad. Residents in all the countries are allowed to secure commercial and financial credits, as well as guarantees, sureties and financial back up facilities abroad.

This section gives the status of the level of capital account liberalization in the WAMZ under the various themes:

- **General:** This deals with such issues as the existence or otherwise of a formal capital account management framework, its objectives, as well as the legislation governing capital account management.
- **Types of controls:** Direct or indirect
- **Capital Inflow regime**
- **Capital outflow regime**
- **Effectiveness of control**

4.1 THE GAMBIA

The Gambia has an explicit capital account management framework, with the main objective

of attracting non debt long term funds, mainly for infrastructural development. Investors with short term funds are not restricted, and capital outflows are allowed. The revised regulations for licensing and operation of foreign exchange bureaus (2009) as well as the financial institution and banking Acts (2003 and 2009, respectively) govern the capital account.

Residents and non-residents are allowed to sale or buy shares and other securities of a participating nature such as debt instruments, money market instruments, collective investment securities and derivatives. In addition, there are no limits on the securities that institutional investors can issue or purchase or on the portfolio they can invest in.

In terms of inward credit operations, the capital account management framework allows residents to secure commercial and financial credits, as well as guarantees, sureties and financial back up facilities from abroad. Inward direct investment is allowed in all the sectors of the economy, and investors are free to repatriate capital and interest, provided there are transaction trail to back such requests. For outward credit operations on the other hand, residents are permitted to extend commercial and financial credits, as well as guarantees, sureties and financial back up facilities to non-residents, and there are no restrictions on outward direct investment.

Residents can invest in real estate abroad, while non-residents are not restricted from engaging in real estate business locally. In addition, non-residents are not restricted from owning real estate in the Gambia. There are no restrictions on opening and operating foreign currency denominated accounts. However, withdrawal charges apply as a means of limiting its utilization in the domestic economy. Commercial banks can borrow from abroad while residents can hold commercial bank deposits abroad. Commercial banks are also allowed to lend abroad. The frameworks permit

inward transfers by immigrants as well as outward transfers by emigrant. Residents can also receive personal capital from non-residents or transfer personal capital to non-residents.

4.2 GHANA

In Ghana the capital account management framework is contained in the various Acts, Foreign Exchange Act of 2006 (Act 723), GIPC² Act of 1994 (Act 478) and the Free Zone Act of 1995. The key objectives of the capital account management framework in Ghana are to attract non debt bearing long term capital inflows and the liberalization of permissible avenues for outward investments.

The framework provides for the use of explicit quantitative limits and discretionary approval as the direct control measures. In this vein, foreign portfolio investors are only allowed in the debt market if the tenor is at least three years. There is a prescribed minimum capital in resident enterprise, and non-residents can hold leases in real estate up to a maximum of fifty (50) years.

Non-residents are allowed to invest in shares and derivatives, but are restricted from money market instruments and short term bonds/debt instruments. Bonds with tenors of three years and above are permissible. The reason behind this is to shield the economy from the effects of hot money, which can be withdrawn without notice, with dire implications. Resident are however, allowed to issue shares, bonds/debt instruments, collective investment securities and derivatives for sale abroad. Although there are no limits on local portfolio investment, foreign institutional investors are restricted from the short end of the market (securities with tenors below three years).

The provision for inward credit operations is such that residents are allowed to secure commercial and financial credits, as well as guarantees, sureties and financial back up facilities from abroad. Inward direct investment

is allowed in all sectors, and there are clearly defined guidelines for the liquidation and repatriation of investment proceeds. These guidelines are spelt out in the GIPC Act, Mineral and Mining Act, and the Free Zone Act. Non-residents can own real estate, but under a maximum of a 50-year lease agreement. The Foreign Exchange Act of 2006 (Act723) permits non-residents to operate local commercial bank accounts while commercial banks to borrow from abroad, provided that prudential requirements are not breached. The framework also permits inward immigrant transfers.

Resident Ghanaian individual investors can invest in shares, bonds/debt instruments, money market instruments, collective investment securities and derivatives abroad. Similarly, non-residents are permitted to issue these same securities for sale in Ghana. For Institutional investors there are neither limits on portfolios invested abroad by residents, nor on the securities issued locally by non-residents.

In terms of outward credit operations, residents are allowed to extend commercial and financial credits, as well as guarantees, sureties and financial back up facilities to non-residents. There are no restrictions on outward direct investment.

Residents can invest in real estate abroad, while non-residents are not restricted from engaging in real estate business. Residents can hold commercial bank deposits abroad, but require the expressed approval of the Bank of Ghana, if it is for official purposes. Commercial banks operating in Ghana are allowed to lend abroad, provided they are designated as fixed authorized dealers. The framework also permits residents to transfer personal capital to non-residents, and provides for emigrant transfers. However, documentary proof of debt is required for emigrants to settle debts abroad.

The minimum capital requirement for investment under various laws, non-participation of non-resident at the short end of the securities market, and strict reporting requirements have proved to be effective control measures in the management of capital account in Ghana.

² GIPC is Ghana Investment Promotion Commission

4.3 GUINEA

The capital account management framework in Guinea is embedded in the country's central bank Act (Act no L/2005/010/AN). The overriding objective is to attract both short term and long term non debt bearing capital inflows from abroad.

The framework provides for the use of explicit quantitative limits and a multiple exchange system regime for different types of transactions as the direct and indirect control measures. Individual investors are permitted to invest in shares, bonds/debt instruments, collective investment securities and derivatives issued locally, but residents are restricted from issuing these same securities abroad. Non-resident institutional investors on the other hand can invest in an infinite number of portfolios and securities in Guinea.

As for inward credit operations, residents are at liberty to secure commercial and financial credits, as well as guarantees, sureties and financial back up facilities from abroad. Inward direct investment is permitted for all sectors of the Guinean economy, and there are clearly defined guidelines for the repatriation of capital and interest. Real estate investment is permissible for non-residents, but they are not allowed to operate local commercial bank accounts. However, commercial banks are permitted to borrow from abroad, so long as no prudential requirement is circumvented. Although inward immigrant transfers are permissible, residents are restricted from receiving personal capital from non-residents.

The framework permits residents to invest in shares, bonds/debt instruments, money market instruments, collective investment securities and derivative issued abroad, but restricts non-residents from issuing any of these classes of securities locally.

Regarding outward credit operations, residents are not restricted from extending commercial and financial credit, as well as guarantees, sureties and financial back up to non-residents. Outward direct investment is also allowed, with clear

guidelines on the liquidation of such investments. Residents can own real estate and operate commercial bank accounts abroad, while non-residents are allowed to engage in real estate business in Guinea. Commercial banks, upon the satisfaction of certain requirements as spelt out by the central bank, can lend abroad. The framework also permits residents to transfer personal capital to non-residents, and provides for emigrant transfers. Emigrant debts abroad can be settled provided there is documentary evidence to that effect.

4.4 LIBERIA

Liberia's capital account management framework derives from the financial institutions' Act of 1999 and the investment Act of 2010. Inflows of short and long term funds are allowed but there are prudential limits on borrowing in foreign currency. On the other hand, capital and money markets remained rudimentary although the central bank recently introduced treasury bills.

Residents are allowed to secure commercial and financial credits, as well as guarantees, sureties and financial back up facilities from abroad. While non-resident institutional investors are not restricted in terms of portfolio investment, the agricultural, mining, services and forestry sectors are the major beneficiaries of inward foreign direct investment. There are clearly defined guidelines for the liquidation and repatriation of these investments as enshrined in the Investment Act of 2010. Non-residents of Negroid descent who are eligible to citizenship are allowed to purchase and own properties, land and real estate in Liberia.

To the extent that local banks are able to convince the central bank on the due diligence checks, non-residents are permitted to operate accounts with commercial banks. Commercial banks are not restricted from borrowing abroad to meet liquidity shortfalls. The framework permits inward immigrant transfers and allows residents to benefit from personal capital receipts from non-residents, provided such receipts are not to fund elections or any other politically motivated activities.

In terms of outward credit operations, the framework permits residents to extend commercial and financial credits, as well as guarantees, sureties and financial back up facilities to non-residents, and allows for outward direct investment, with a clear guideline for its liquidation and repatriation of proceeds (Investment Act of 2010). Residents can own real estate abroad, and non-residents of Negroid origin can undertake real estate business locally. Residents are allowed to hold commercial bank deposits abroad, but only for operational purposes like correspondent banking and placements that must be in line with prudential requirements bothering on exposures to foreign exchange risks. Commercial banks are not restricted from lend abroad.

Although the Central Bank of Liberia Act of 1999 provides for unrestricted transactions on the current and capital account, the Bank can impose exchange controls for the purpose of shoring up the Balance of Payments position.

4.5 NIGERIA

The capital account management framework in Nigeria is derived from the country's Foreign Exchange Act (No. 17) of 1995. The main objective of the framework is to restrict capital outflows. However, there are no restrictions on long term non debt bearing and short term capital inflows.

The framework allows for the use of discretionary approval as a direct control measure. In this vein, applicants are required to submit documentary evidence in respect of the proposed transactions to the authorized dealers for review and approval before remittance is effected. Approval can only be obtained from the Central Bank of Nigeria.

Non-resident individual investors are allowed to invest in shares, bonds/debt instruments, money market instruments, collective investment securities and derivatives floated on the Nigerian market. Although the framework does not expressly permit residents to issue securities abroad, there are instances where shares of resident enterprises were floated on foreign

markets. Such transactions will require the use of investment bankers that consummate the transactions using sub-brokers in the listing country. Non-resident Institutional investors are limited in terms of the volume of securities (25 % and 30 % of amount on offer for treasury bills and government bonds, respectively) but not on the portfolios they can invest in.

Inward direct investment (with clear guidelines on its liquidation and repatriation of capital and interest as provided for in the Foreign Exchange Act and the Nigeria Investment Promotion Act of 1995) is allowed in the oil and gas, banking, communication, building and construction sectors. Residents are also permitted to secure commercial and financial credits, as well as guarantees, sureties and financial back up facilities from abroad. Non-residents can own real estate but are restricted from operating accounts in commercial banks in Nigeria. Commercial banks are however, allowed to borrow abroad provided there is no breach of prudential requirements. Inward immigrant transfers are permitted and residents can receive personal capital from non-residents, but only in the form of home remittances, charity funds and grants/gifts, and provided they can show proof that such transfer is not an attempt to launder money and finance terrorism.

While the framework permits residents to purchase securities abroad, it is silent on non-residents' eligibility to issue securities on the Nigerian market. However, there have been instances where foreign owned enterprises have floated shares on the floor of the Nigerian Stock Exchange. Outward direct investment and extension of commercial and financial credits to non-residents are prohibited. However, residents are allowed to issue guarantees, sureties and financial back up facilities in favour of non-residents. Although residents are restricted from owning real estate abroad, non-residents can engage in real estate business locally, provided they incorporate a company and obtain all necessary approval from the relevant government agency. Residents are prohibited from holding accounts in commercial banks abroad and transferring personal capital to non-residents. Outward emigrant transfers in the form of

personal home remittances for expatriates are permitted, but emigrants are not allowed to settle debts incurred abroad. Commercial banks are restricted from lending abroad. In terms of limits on securities and portfolios, the framework does restrict institutional investors.

4.6 SIERRA LEONE

The capital account management framework in Sierra Leone is contained in the Exchange Control Act of 1965. The main objectives of the framework include, attracting long term non debt bearing capital inflow, restricting capital outflows and avoiding excessive borrowing in foreign currency.

There are generally no restrictions on capital inflows. Non-resident individual investors are allowed to invest in shares and bonds/debt instruments, provided the funds pass through the banking system. Although non-residents are restricted from money market instruments, compliance is hard to monitor as the source of funds invested in these securities are not completely traceable. The regulation is silent on collective investment securities and derivatives since they are not common. On the other hand, residents can issue shares and bonds abroad, provided the proceeds from the shares are channeled through the banking system and the bonds are for financing locally incorporated companies. Residents are also allowed to issue money market instruments abroad, on the condition that commercial banks seek and obtain Bank of Sierra Leone approval for them. Non-resident institutional investors are restricted from investing in money market instruments.

Inward direct investment for the development of the mining, agriculture, banking, telecoms and fisheries sectors is permissible, albeit, without any guidelines for the liquidation and repatriation of the proceeds (and capital) from such investments. Residents can secure commercial and financial credits, as well as guarantees, sureties and financial back up facilities from abroad. However, such guarantees must be denominated in the local currency. Non-residents can own real estate and operate

commercial bank accounts, subject to satisfying the required documentation. For commercial banks to borrow abroad, the loans must be fully covered by external collateral acceptable to the lending institution. Residents can receive personal capital from non-residents and immigrant transfers are permissible.

In terms of capital outflow, non-residents require the approval of the Bank of Sierra Leone to issue shares, bonds, money market instruments (mainly for other WAMZ member countries), collective investment securities and derivatives in Sierra Leone. Residents, on the other hand, are allowed to invest in securities abroad, but must obtain approval from the Bank of Sierra Leone. Limits are placed on non-resident institutional investors, but only in terms of the securities they can invest in, and not on the portfolios. Outwards direct investment is prohibited and residents are not allowed to own real estate abroad. However, non-residents can carry on real estate business in the country. Additionally, residents cannot hold deposits in commercial banks abroad. Under special circumstances, commercial banks can hold deposits in foreign banks but are restricted from lending abroad. Emigrant transfers in respect of payments for international transactions are allowed.

4.7 MEASURING THE DEGREE OF CAPITAL ACCOUNT OPENNESS IN MEMBER COUNTRIES OF THE WAMZ

Based on the index constructed in Chapter 3, we found evidence of varying degrees of capital account openness across member countries of the WAMZ. The countries are scored on a scale of zero to ten, with zero representing the most liberalized, and by extension, the benchmark country, and ten representing the least liberalized country. The Gambia, (with an index of zero), is the most liberalized (completely open), while Nigeria and Sierra Leone (with an index of 3.25 each) are the joint least liberalized followed by Guinea with an index of 2. Ghana and Liberia follow in that order, with indices of 1.25 and 1.0, respectively (see Table 3.2).

Table 3.2 COUNTRY SCORE SHEET

		The Gambia	Ghana	Guinea	Liberia	Nigeria	S/Leone
Theme	Sub theme						
Control	Direct/Administrative	0	0.5	0.25	0.5	0.25	0.25
	Indirect/Mkt based	0	0	0.25	0	0	0
Capital Inflow	Capital/Money Mkt transaction	0	0.5	0.5	0	0	0.25
	Credit operations	0	0	0	0	0	0
	Inward Direct Investments	0	0	0	0	0	0.5
	Real Estate	0	0	0	0.25	0	0
	Commercial banking	0	0	0.25	0	0.25	0
	Personal capital	0	0	0.25	0	0	0
	Institutional Investors	0	0.25	0	0	0.25	0.25
Capital Outflow	Capital/Money Mkt transactions	0	0	0.5	0	0	0
	Credit operations	0	0	0	0	0.5	0
	Outward Direct Investments	0	0	0	0	1	1
	Real Estate	0	0	0	0.25	0.25	0.25
	Commercial banking	0	0	0	0	0.5	0.5
	Personal capital	0	0	0	0	0.25	0
	Institutional Investors	0	0	0	0	0	0.25
Total		0	1.25	2.0	1.0	3.25	3.25

Source: Authors (from Questionnaire) – adapted from Quinn (1997)

4.8 BENCHMARKING CAPITAL ACCOUNT OPENNESS IN MEMBER COUNTRIES OF THE WAMZ: A GAP ANALYSIS

Given that WAMZ countries are committed to full capital account liberalisation as contained in the BAP, Table 3.3 shows the level of

compliance with the benchmark (The Gambia that has already liberalised).

Table 3.3 GAP ANALYSIS OF CAPITAL ACCOUNT PRACTICES IN MEMBER STATES OF THE WAMZ

Restrictions on Capital Transactions	GM	GH	GUI	LIB	NIG	SLE	No of Countries with restrictions
Use of Control Instruments	No	Yes	Yes	Yes	Yes	Yes	5
Money Market transactions	No	Yes	Yes	N/A	No	Yes	3
Capital Market transactions	No	No	N/A	N/A	No	No	Nil
Collective Investment Securities	No	No	N/A	N/A	No	N/A	Nil
Derivatives and other instruments	N/A	N/A	N/A	N/A	N/A	N/A	Nil
Commercial Credits	No	No	Yes	No	Yes	No	2
Financial Credits	No	No	Yes	No	Yes	No	2
Guaranties, Sureties and Financial back up facilities	No	No	Yes	No	No	No	1
Direct Investment	No	No	No	No	Yes	Yes	2
Liquidation of Direct Investment	No	No	No	No	No	Yes	1
Real Estate transactions	No	No	No	Yes	Yes	Yes	3
Personal Capital movements	No	No	Yes	No	Yes	No	2
Commercial banks and other Credit Institutions	No	No	Yes	No	Yes	Yes	3
Institutional Investors	No	Yes	No	No	Yes	Yes	3

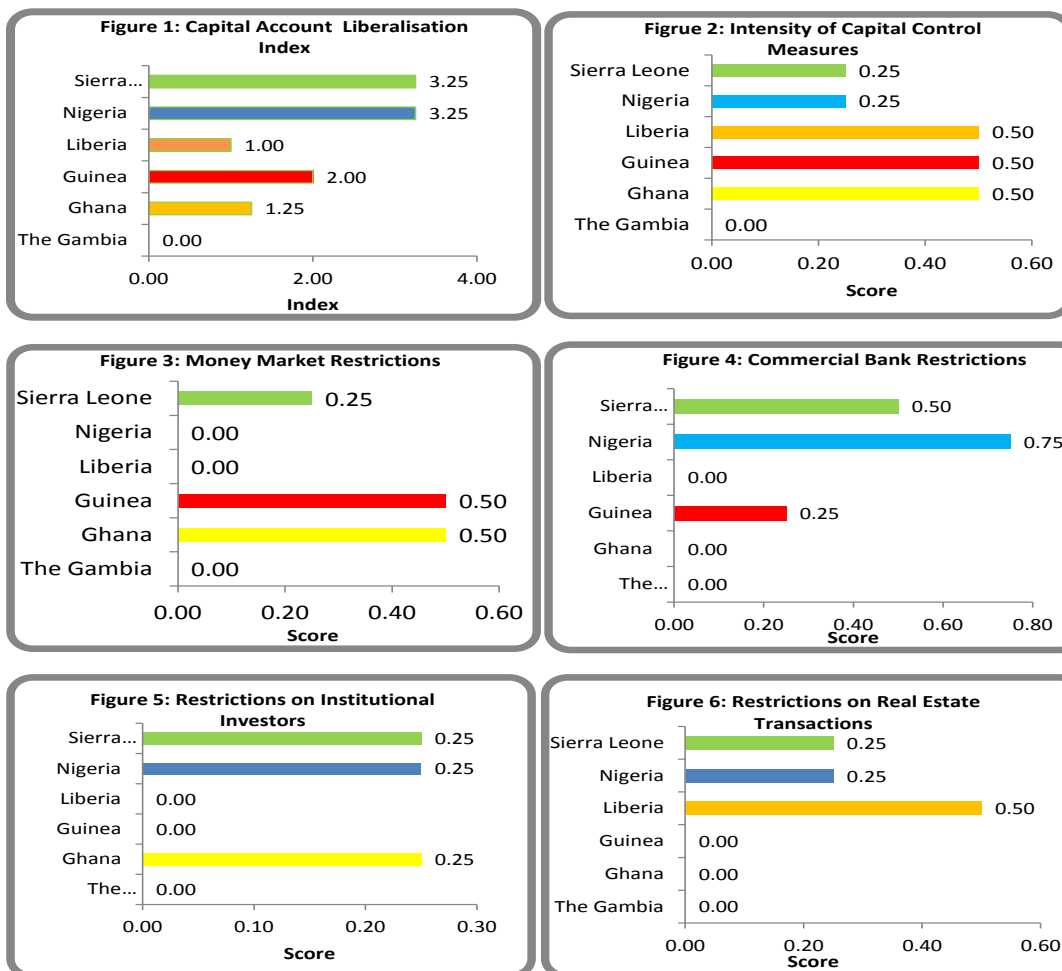
Source: Questionnaire responses

Key: GM- The Gambia; GH – Ghana; GUI – Guinea; LIB – Liberia; NIG – Nigeria; SLE – Sierra Leone
 Yes – Restrictions exist; No – Restrictions do not exist; N/A – Not applicable

Whereas capital inflows, especially long term non-debt bearing capital are generally unrestricted within the WAMZ member states, various

restrictions on outflows exist (see Box 4.1). Table 3.3, which was constructed from items in the various themes of the administered questionnaire, illustrates the extent of restrictions on capital account practices in member countries of the WAMZ. The Table reveals that the capital accounts framework in The Gambia is devoid of any restrictions, and thus serving as the benchmark for other countries.

Box 4.1: Extent of Key Capital Controls by Instrument



Source: WAMI Staff Compilation

Within the framework of capital account practices in member countries, the use of direct and/or indirect controls was widespread, with all the countries, except the Gambia, deploying such tools. Table 3.3 shows that Ghana, Guinea, and Sierra Leone have restrictions on money market instruments. In terms of real estate transactions, restrictions could be found in Liberia, Nigeria, and Sierra Leone. For provisions relating to commercial banking and institutional investors, controls could be found in Guinea, Nigeria, and Sierra Leone (see Box 4.1).

Guinea and Nigeria had restrictions bordering on commercial and financial credits as well as personal capital movements. In particular, Guinea placed restrictions on provisions governing the issuance or acceptance of guarantees, sureties and financial back up facilities. While FDIs are allowed there are no guidelines for the liquidation of direct investments in Sierra Leone. Overall, capital market transactions, including the purchase/sale of shares/equities, long term bonds/debt instruments, long term collective investment securities as well as derivatives were unrestricted in all member countries.

CHAPTER 5 – CONCLUSION AND POLICY RECOMMENDATION

5.1 CONCLUSION

Part one of this paper assessed the degree and scope of liberalisation in the WAMZ through a gap analysis. Overall, all the member countries operate capital account structures that are relatively open. The paper showed evidence of varying degrees of capital account openness in member countries of the WAMZ. The analysis revealed that Nigeria and Sierra Leone had the most restrictions, recording a score of 3.5 on the index, while the Gambia had no restrictions, with a score of zero. Ghana and Liberia were fairly liberalised with indices of 1.25 and 1.00, respectively, followed closely by Guinea with 2.00. In light of the agreement to fully liberalise capital account, an index of zero was considered as the benchmark. The results also showed that while inflows, with the exception on money market instruments, are completely liberalised, various forms of restrictions are placed on outflows in all countries with the exception of The Gambia. This is an indication of the willingness on the part of member countries to gradually move towards full capital account liberalization, especially in the WAMZ in the first instance. The restrictions on outflows range from money market instrument, financial credit, direct investment to real estate transaction. However, capital market transactions, including the purchase/sale of shares/equities, long term bonds/debt instruments, long term collective investment securities as well as derivatives were unrestricted in all member countries.

This study, which sheds light on the gap to full capital account liberalisation, is intended to inform policy makers about the existing capital controls in the zone and aid them in designing an appropriate liberalisation strategy to eliminate or further minimize capital restrictions. The results suggest that while the path to liberalisation may be far for some countries, considerable progress is being made as evidenced by the complete liberalisation of inflows.

5.2 RECOMMENDATIONS

Given that WAMZ countries were committed to full capital account liberalisation as stipulated in the BAP, it will be crucial for Ghana, Guinea, Liberia, Nigeria and Sierra Leone to adopt an integrated approach to liberalisation as suggested by the literature. This essentially involves two stages:

Stage 1 (2013 – 2014)

1. Since capital account liberalization is best undertaken in an atmosphere of sound and sustainable macroeconomic policies, there is need to continue to strengthen and reinforce macroeconomic policies in member countries. In particular, monetary policies should target reducing inflation to single digit and maintaining exchange rate stability while fiscal policies should be rationalized to cut budget deficits, enhance revenue mobilisation and make public debts sustainable.
2. Undertake and prioritize the implementation of financial sector reforms to support and reinforce macroeconomic stability. Financial sector reforms should be focused on improving the depth and vibrancy of markets. In addition, the reforms should be mutually reinforcing and operationally linked and implemented holistically. This will typically include:
 - Enhancing the efficiency and capacity of banks by strengthening risk management, corporate governance, and capitalisation;
 - Expanding access to finance by supporting the development of microfinance, payments systems, and financial innovation;
 - Deepening money and capital markets through for instance promoting secondary market activities, interbank markets, market makers as well as developing and issuing debt securities; and
 - Increasing insurance penetration by strengthening insurance regulation and capitalisation as well as raising perception about insurance through effective claims processing.

3. Strengthen domestic prudential regulations to compliment financial sector reforms. In essence, this will require strengthening compliance with international standards such as the Basel Core Principles (BCPs), International Financial Reporting Standards (IFRS), FATF 40+9 Recommendations, and Risk-based Supervision, among others.

Stage 2 (one to two years)

1. Liberalize capital flows by instruments and/or sectors but sequenced to take into account concomitant risks — in general, long-term and non-debt creating flows (especially FDI) should be liberalized before short-term and debt-creating flows. This encompasses the review of various legislation restriction capital flows (see Box 4.2).
2. Emphasis should be placed on internal liberalization within and between WAMZ

Member States including the introduction of appropriate conditions to attract external capital flows.

3. The pace of liberalisation should take into account the conditions in the real sector. This means Member States should identify sectors that are underdeveloped and liberalise them early or identify sectors that could be adversely affected by liberalisation and put in place policies to mitigate those effects.
4. In view of the weakness of some control measures such as the limitation on real estate in Member States, it is vital to eliminate restrictions on such sectors where the enforcement of capital controls is difficult.
5. The arrangements for policy transparency and data disclosure should be adapted to support capital account opening. This implies Member States should strengthen macroeconomic data management and gathering by improving its scope, accuracy and timing.

Box 4.2: Review of Key Legal Instruments in the WAMZ

The liberalisation of capital accounts will require the review of some legal instruments:

Ghana

- a. Foreign Exchange Act
- b. Central Bank Act
- c. GIPC Act

Guinea

- a. Central Bank Act
- b. Foreign Exchange Act
- c. Banking Act

Liberia

- a. Financial Institutions' Act
- b. Central Bank Act
- c. Foreign Exchange Act
- d. Investment Act

Nigeria

- a. Foreign Exchange Act
- b. Investment Promotion Act
- c. Central Bank Act

Sierra Leone

- a. Exchange Control Act
- b. Central Bank Act

Source: WAMI Staff

Overall, the recommendations encompass the gradualist approach, i.e, the phasing and sequencing of capital account liberalization while having in place a robust “capital account management framework that emphasizes macroeconomic and financial stability.

PART TWO

CHAPTER 6 – LITERATURE REVIEW (CAPITAL ACCOUNT LIBERALISATION AND GROWTH)

6.1 THEORETICAL UNDERPINING

In practice, the impact of liberalization on growth largely depends on the initial conditions and policies in the country, including a supportive and consistent macroeconomic and institutional framework. The capital account liberalization is a complex process whose success requires proper sequencing and coordination with macroeconomic and structural policies to strengthen the domestic financial system. Choosing different approaches in addition to their initial conditions, some countries have been able to liberalize their capital accounts while successfully maintaining financial sector stability, whereas other countries have experienced financial crises. Thus, the experience with liberalization has been quite varied, raising difficulty in identifying “the impact” of capital account opening on growth. A plausible approach, however, is to examine the main channels through which liberalization affects the economy. Theoretical models have identified both direct and indirect channels through which financial openness can promote economic growth in developing countries.

Capital account liberalization can stimulate growth directly through risk sharing by raising savings, as well as by allowing better risk diversification and greater consumption smoothing. Furthermore, FDI flows in particular can provide technology spillovers via the transfer of knowledge. On the other hand, the indirect positive effects of financial openness on economic growth could come through its effect on the development of domestic financial markets via two channels (Brezigar-Masten et al., 2008). First, increased competition between foreign financial intermediaries can lead to reduced intermediation cost which in turn stimulates demand for funds thereby increasing the size of domestic financial markets. In addition, liberalization can affect domestic markets through the improvements of institutional framework; as a result of improved regulation and corporate governance that can

enhance the overall stability of the financial system and reduce asymmetric information problems. Second, financial openness affect economic growth both positively and indirectly by allowing access to foreign financial markets in the form of direct lending by foreign financial intermediaries.

In summary, the theoretical literature suggests that financial development and capital flows liberalization are determining factors for economic growth because they provide a favorable support for financial integration between countries. This is echoed in the findings of Manganelli and Popov (2010), who posited that financial integration helps domestic financial systems to allocate resources optimally across industrial sectors in a way that improves the overall diversification of the economy and lowers its volatility. Notwithstanding the foregoing, excessive capital inflows facilitated by lax financial supervision, macroeconomic policy inconsistencies, or excessive enthusiasm by foreign investors can overwhelm the ability of the domestic financial system to allocate funds efficiently, leading to future financial instability and other macroeconomic difficulties. This point is buttressed by the model developed by Eicher and Turnovsky (1999), wherein capital market imperfections, in the form of debt subsidies, leads to an initial acceleration in investment and growth but a subsequent increase in debt service costs and slower growth.

6.2 EMPIRICAL LITERATURE

There is an enormous literature on capital flows and capital account liberalization. The emphasis, however, is on the relationship between capital account liberalization and economic growth. In contrast, studies of the effect of the bank lending component of capital flows have proliferated recently; but most of them have focused on transition economies and the Asian crisis. A

review of the empirical literature revealed that the majority of studies have explored the link between capital account liberalization and economic growth. Despite the existence of numerous studies, the results remain contentious about whether liberalization plays a positive or negative role in real economic growth. In most of the studies, the basic growth model which includes variables such as investment, population growth, level of schooling and the initial level of GDP is augmented with a measure of capital account liberalization.

A summary of the large and growing body of work on capital account liberalization and growth is provided in Appendix 1. The information presented in the annex shows a wide disparity in results across studies reflecting the country coverage (industrial versus developing countries), sample period (important for developing countries given the recent nature of financial openness) as well as the methodology and estimation technique. Moreover, there are some general shortcomings in the literature on capital account liberalization and growth. First, the rules-based measures of capital account controls and liberalization used in majority of the studies are relatively crude even though the various measures offer a broadly consistent evidence of the time-series and cross-sectional behaviour of capital account liberalization. Second, while capital account liberalization is conceptually considered as exogenous to the growth process, in practice countries may be inclined to liberalise their capital accounts in line with their particular growth experiences or levels of development. This suggest the potential for reverse causality wherein a country experiencing weak economic performance will be persuaded to adopt capital controls and there is a danger in such a case to incorrectly interpret that the country's low growth is due to capital controls. However, many studies now recognise this potential weakness and attempt to mitigate it through the use of instrumental variable estimation.

Grrilli and Milesi-Ferretti (1995) was one of the first studies to examine whether capital account liberalization promotes growth using a cross-section of 61 countries over the period 1966 –

1989. Using instrumental variables (IV) with lagged variable as instrument, five-year growth rates were regressed on three liberalization measures of share, current Account and multiple exchange rate system. In addition, they included other variable such as initial income, level of schooling and political variables. They found that capital account liberalization does not support economic growth. A similar result was found by Rodrik (1998) in a widely cited paper. He used a sample of 100 developed and developing countries to study the effect of capital account liberalization on growth and found no significant effect over the period 1975 to 1989. He also found no relationship between capital account liberalization and investment-to-income or between capital account liberalization and inflation. Eichengreen (2001) offers several possible reasons for differences in the findings of the Rodrik and Quinn studies, including that there were fewer developing countries in the Quinn's sample as well as the different liberalization measures employed. He also noted that various theoretical models implied inconsistent or weak effects from capital account liberalization.

On the other hand, Quinn (1997) found a positive relationship between capital account liberalization and growth using a standard growth regression augmented by Quinn's indicator of the change in financial openness or the change in broad measure openness. The empirical results indicated that the change in capital account liberalization has significant positive effect on the growth in real per capita GDP in a cross-section of 58 countries over the period 1960 – 1989. However, the finding of a significant effect of the change in capital account liberalization on growth may reflect the correlation of changes in restriction on the capital account and current account given that it was hard to disentangle the separate effects of financial openness and the broad measure of openness in Quinn's results as he did not include a regression with both of these indicators. Klein and Olivei (2000) also found positive relationship between liberalisation and growth by focusing on the role of capital account liberalization on financial development and then considering the effect of financial development

on growth. Regressing the capital account liberalization indicator using share of change in financial depth over the period 1986-1995, they found that the effect of open capital accounts on financial depth in a cross-section of countries was statistically significant and economically relevant. This result was, however, largely driven by the developed countries included in the sample.

Bekaert, Harvey, and Lundblad (2001) identified the impact of stock market liberalization on economic growth by augmenting the standard growth model with an indicator of stock market liberalization using moving average panel data. They found that financial sector liberalization led to a 1 percent increase in annual per capital GDP growth over a five-year period and that the effect was statistically significant. They also validated the robustness of this result with respect to the various sets of liberalization dates, different country groupings, and different economic growth horizons. The results, in addition to those of Quinn, gave the strongest evidence of the positive effect of capital account liberalization on growth among developing countries.

Bailliu (2000) found that capital account liberalization is instrumental to growth by promoting financial development while Levine (2001) showed that financial sector liberalization can strengthen domestic financial systems leading to more investment, better efficiency in the allocation of capital and higher growth eventually.

Kraay (1998) examined the impact of capital account openness on economic growth through ordinary least squares (OLS) and instrumental variable (IV) estimations using cross-sections, with one observation per country (where the dependent variable is output growth), over the period 1985 – 1997 for a sample of 117 countries, and found no significant effect of the IMF's restrictions or Quinn's measure of liberalization on economic growth. However, when these indicators were interacted with the average balance of the financial account, some significant effects were found.

Edison et al. (2002) explored the role of the differences between the Quinn and Rodrik papers. They estimated a dynamic panel by OLS, two-stage least squares (2SLS) and generalized method of moments (GMM) using a sample that included 57 countries with capital account liberalization measured by "Share" and Quinn over the period 1980 – 2000. They found that international financial liberalization does not significantly affect economic growth. Ishii and Habermeier (2002) also found that an extensive public sector involvement in the financial sector in connection with capital account liberalization had been harmful in most, but not in all, instances.

Edwards (2001) found evidence similar to Klein and Olivei (2000) that the growth effects of capital account liberalization depended on the level of development of an economy. Using weighted least square (WLS) with national income as weights for a sample of 60 countries in the 1980s, Edwards found that capital account liberalization reduces growth for low income countries but promotes growth in industrial countries and in the richer emerging market countries. Arteta, Eichengreen and Wyplosz (2001) also found some supporting evidence that the differences in capital account liberalization across countries depended on the degree of macroeconomic stability. Using two capital account interaction terms and multiplying the Quinn openness measure by both the Sachs-Warner (1995) openness measure and the black-market premium, they found that the interaction term representing the product of capital account openness and the black market premium were significant while the other interaction term (the product of the Sach-Warner openness measure and capital account openness) was not significant. They argued that this implied that countries that open their capital account grow faster, but only if they first eliminate the black market premium.

Chinn and Ito (2002) also examined the link between capital account liberalization, financial development and economic growth using aggregate data on a large sample of countries over the period 1977-1997. They found that the magnitude of the effect of financial openness

was quite different between the less developed countries and emerging market group. They conclude that both private credit and equity market variables were significantly associated with financial development and output growth in emerging markets but that only stock market value traded was significantly affected by financial openness in less developed countries. Baltagi et al. (2009) examined whether trade and capital account openness can help to explain the recent progress in financial development. Based on annual data from developing and industrialized countries, they estimated a dynamic panel and concluded that both types of openness (private credit and stock market capitalization) were statistically significant determinants of banking sector development. They also found that there was no evidence to affirm that opening up capital account without opening trade could have a negative impact on financial sector development.

O'Donnell (2001) applied a different approach to examine the impact of capital account liberalization on growth using both the IMF rules-based measure and a quantitative measure of financial openness. He found that the rules-

based measure tended to be too crude an indicator of the degree of capital account liberalization as it did not take into consideration the nature of the different types of controls. Nonetheless, using the quantitative measure, he found that capital account liberalization promotes economic growth although the benefits are not evenly distributed across countries. Chanda (2001) also found similar evidence and suggested that the impact of capital account liberalization may vary with the level of ethnic and linguistic heterogeneity in the society, a proxy for the number of interest groups. He also showed that capital controls led to greater inefficiencies and lower growth among countries with high degree of ethnic and linguistic heterogeneity. Shahbaz et al (2008) explored the relationship between capital account openness and economic growth in a small developing economy like Pakistan using an advanced Autoregressive Distributive Lag (ARDL) technique for long run relationship and error correction model (ECM) for short run dynamics. They found that capital account openness in addition to past economic policies promotes economic growth in the long-run.

CHAPTER 7 – METHODOLOGY AND MODEL

7.1 METHODOLOGY

The econometric approach employed recent developments in time series econometrics to analyze and determine relationships between capital account liberalization and economic growth in the WAMZ member countries (The Gambia, Ghana, Guinea, Liberia, Nigeria and Sierra Leone). The time series data used in the study cover the period 1980 to 2012. For the purpose of ascertaining clearly the impact of our variable of interest on economic growth, a country by country estimation was carried out. In this regard, both short-run and long-run relationships between capital account openness and economic growth were investigated by applying advanced econometric techniques, namely, the autoregressive distributive lag (ARDL) bounds testing approach suggested by Pesaran et al. (2001) for long run relationship and error-correction modelling (ECM) for short run dynamics. The ARDL bounds testing approach is viewed as the most appropriate specification to carry out co-integration analysis due to its many advantages. The main advantage is that it can be applied irrespective of whether the variables are integrated of order I(0) or integrated of order I(1), unlike other widely used co-integration techniques (Pesaran and Pesaran 1997). Another advantage is that, it has better small sample properties than that of the Johansen and Juselius cointegration technique (Pesaran and Shin, 1999). Besides, a dynamic error correction model (ECM) can be derived from the modified ARDL model through a simple linear transformation (Banerjee et al. 1993). In addition, ARDL method is free of any problem faced by traditional techniques in the literature such as problems resulting from non-stationary time series data. The ECM integrates the short-run dynamics with the long-run equilibrium without losing long-run information. However, both analyses ((ARDL and ECM) are preceded by an examination of the unit root properties of the data.

7.2 MODEL FORMULATION

The model adopted in this study draws heavily from Peter Blair Henry (2006) that illustrated the link between the fundamental prediction of Neo-Classical Growth (NCG) model and the capital account liberalization in developing economies. The contrivance formulated by assuming a Cobb-Douglas production function with a labor augmenting technological progress:

$$Y = F(K, AL) = K^\alpha (AL)^{1-\alpha} \quad (1)$$

Denoting the amount of capital per unit of effective labor as $k = \frac{K}{AL}$; amount of output per unit of effective labor, $y = \frac{Y}{AL}$; and following further assumption of a homogenous production function in equation (1), the output per unit of effective of labor can be stated as:

$$y = f(k) = k^\alpha \quad (2)$$

To determine the evolution of capital within this framework, let s represents the proportion of national income that is saved in each period with accretion effect on national capital stock. With further assumption that capital depreciates at the rate, δ ; labor grows at the rate, η ; and total factor productivity grows at the rate, λ , such that these three structural parameter cause capital to become less abundant; hence, the evolution process for capital per unit of effective labor is specified thus:

$$\dot{k}(t) = s f[k(t)] - (\eta + \lambda + \delta)k(t) \quad (3)$$

Equation (3) summarizes the net effect of forces of the structural parameters. It indicates that national savings have positive effect on growth of capital by increasing capital stock. However,

capital depreciation, population growth, as well as the total factor productivity, because of diminishing return effect, has a negative impact on capital. In the steady state, $\dot{k}(t) = 0$, that is, the growth rate of capital per unit of effective labor, (k) , is constant. However, the level of capital (K) will grow at the rate, $(\eta + \lambda)$, and output per worker, $\frac{Y}{AL}$, grows at λ .

Finally, the steady state general equilibrium condition for investment is assumed to hold, such that the marginal productivity of capital, $f'(k_{st,s})$, equals interest rate, r , plus the depreciation rate, that is:

$$f'(k_{st,s}) = r + \delta \quad (4)$$

Equation (4) represents the basis for the “allocative efficiency” view, inherent in the Neo Classical Growth model. It helps to understand the dynamics of the impact of capital account liberalization on investment and growth, given that such impact works through the cost of capital, r . According to this view, capital account liberalization leads to a more efficient international allocation of resources as resources flow from capital-abundant economies with low return on capital into capital-scarce countries having higher return on capital, resulting in increased investment and growth in these economies. The standard assumption is:

$$r^* < r \quad (5)$$

Where r^* is the world interest rate, exogenously determined outside of the country, and r is the domestic interest rate determined within the representative small open economy. To seek arbitrage opportunity from the interest rate differential, capital inflow is experienced in the country that liberalizes, causing a surge in post liberalization capital output ratio, i.e., $k_{s,st}^*$, and post liberalization steady state occurs with marginal productivity of capital equals to the world interest rates (r^*) plus the rate of depreciation (δ), that is:

$$f'(k_{s,st}^*) = r^* + \delta \quad (6)$$

To account for the impact of capital account liberalization in the WAMZ countries' economies, we formulate a capital-flow

augmented output process within the NCG model, such that:

$$y = \left\{ \frac{sf(k_t)}{(\delta + \eta + \lambda)} \right\}^\alpha \kappa_t^\gamma; \quad \text{where}$$

$$\kappa = g(e, r') \quad (7)$$

Where all variables (y , s , and k) and the structural parameters (α , δ , η , and λ) are as previously defined. Here, κ enters into the model in a multiplicative form to capture any impact of capital flow. Such capital flow is, as specified, assumed to be simultaneously influenced by the prevailing exchange rate and interest rate differential ($r' = r - r^*$). The parameter γ measures the elasticity of such flow, which is assumed to take any value ranging from zero to unity, that is, $(0 < \gamma \leq 1)$.

Notice that equation (7) also allows for the specification of the overall investment in the steady state terms of both domestic and foreign components, such that $k_{s,st}^* = (k_{s,st}^d) \cdot (k_{s,st}^f)$.

In a simplistic manner of the assumption in equation (2), the analogous output per unit of effective labor in post liberalization regime becomes:

$$y = \{k^*\}^\alpha = \{(k_t^d) \cdot (k_t^f)\}^\alpha \quad (8)$$

Showing the joint-relevance and the interplay of both domestic and foreign components of capital in measuring the output per unit of effective labor, equation (8) also allows us to reformulate the capital flow augmented output process in equation (7) as:

$$y = \left\{ \frac{sf((k_t^d))}{(\delta + \eta + \lambda)} \right\}^\alpha * \left\{ \frac{er'(k_t^f)}{(\delta + \eta + \lambda)} \right\}^\alpha \quad (9)$$

Taking the logarithm of equation (9) and differentiating with respect to time, the post liberalization output growth is derived thus:

$$\frac{\dot{y}}{y} = \alpha s \left(\frac{\dot{k}^d}{y} \right) + \alpha e r' \left(\frac{\dot{k}^f}{y} \right) \quad (10)$$

As equation (10) demonstrates, $\left(\frac{\dot{k}^d}{y} \right)$ represents

the contribution of domestic capital-output ratio to growth, which is influenced by the rate of national savings. Similarly, the other term,

$\left(\frac{k^f}{y}\right)$ accounts for the contribution of foreign capital inflow to output ratio, also influenced by both exchange rate and interest rate differential. Finally, we specify the econometric representation of the behavioral relations in equation (10) as:

$$y = \beta_0 + \beta_1 INV + \beta_2 CA + \beta' CV + \varepsilon$$

Where:

y = real gross domestic product (Real GDP) growth

$INV = dk = \left(\frac{DK}{GDP}\right)$; i.e., the growth rate of domestic capital formation to GDP;

$CA = fk = \left(\frac{FK}{GDP}\right)$; i.e., the growth rate of private capital flows to GDP, which is measured by the ratio private capital flows to GDP.

$$\Delta \ln y_t = \beta_0 + \sum_{i=1}^n \beta_{11} \Delta \ln y_{t-i} + \sum_{i=1}^n \beta_{21} \Delta \ln INV_{t-i} + \sum_{i=1}^n \beta_{31} \Delta \ln CA_{t-i} + \sum_{k=0}^{\rho} \beta'_{41} \Delta \ln CV_{t-k} + \beta_1 \ln y_{t-i} + \beta_2 \ln INV_{t-i} + \beta_3 \ln CA_{t-i} + \beta'_4 \ln CV_{t-k} + \mu_i \quad (12)$$

Theoretically, the ARDL approach to cointegration does not require prior test of the series for unit roots. Nonetheless, some recent empirical studies have indicated that testing for unit root were necessary to avoid spurious results (Jalil et al, 2008; and Shrestha and Chowdhury, 2005). In this regard, we start by investigating the time series properties of the data using Augmented Dickey Fuller test and Philip Peron tests. The ARDL model testing procedure begins with conducting the bounds test for the null hypothesis of no cointegration $H_0 = \beta_1 = \beta_2 = \beta_3 = \beta_4 = 0$ against the alternative hypothesis $H_1 \neq \beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq 0$ using F-test. The null hypothesis implies no evidence of existence of long run relationship while the alternative hypothesis indicates the existence of long run relationship among relevant variables embodied in the model. Following Pesaran et al (2001) and Narayan (2004), two sets of asymptotic critical values are reported; the upper

CV = A row vector of other control variables that have been found in literatures as principal determinants of growth, such as Inflation (INF); and Trade Openness [(Import + Export)/GDP].

β' = A column vector of the associated coefficients for X
 ε = error term

Taking logarithms equation (11a) can be written as:

$$\ln y = \beta_0 + \beta_1 \ln INV + \beta_2 \ln CA + \beta_3 \ln CV \quad (11b)$$

7.3 ESTIMATION TECHNIQUE

The ARDL framework for equation (12) is given as:

critical bound that assumes that all the series are I(1) and the lower critical bound values assume that the series are all I(0). The bounds provide a test for co-integration when the independent variables are $I(d)$ (Where $0 \leq d \leq 1$).

If the F-statistic is higher than the upper critical value, we conclude that a long run relationship exists regardless of whether the underlying order of integration of the variables is I(0) or I(1), i.e., we reject the hypotheses of no long run relationship. If the F-statistic is below the lower critical values, we fail to reject the null hypothesis of no co-integration. However, if the F-statistic falls between these two bounds, inference would be inconclusive. Moreover, when the order of integration between the variables is known, and if all the variables are I(1), the decision is made based on the upper bound. Similarly, if all the variables are I(0), then the decision is made based on the lower bound.

After establishing the long-run relationships between the variables, i.e, if the variables are co-integrated, the conditional long run model can then be obtained from the reduced form solution of equation (12), when the variables in first difference jointly equal to zero.

These long run coefficients are estimated by the ARDL model in equation (13) by OLS. The ADRL method obtains the optimal lag length of each variable using the model selection criteria

$$\Delta \ln y_t = \sum_{i=1}^{\rho} \beta_i \Delta \ln y_{t-i} + \sum_{j=1}^m \beta_j \Delta \ln INV_{t-j} + \sum_{s=1}^n \beta_s \Delta \ln CA_{t-s} + \sum_{k=1}^{\rho} \beta'_k \Delta \ln CV_{t-k} + \theta ECM_{t-1} + \omega_t \quad (14)$$

The error correction model result indicates the speed of adjustment to the long run equilibrium after a short run shock. To ascertain the goodness of fit of the ARDL model, the diagnostic and the stability tests were performed. The diagnostic test examined the serial correlation, functional form, misspecification normality and heteroscedasticity associated with the model. The stability test is conducted by employing the cumulative sum of recursive residuals (**CUSUM**) and the cumulative sum of squares of recursive residuals (**CUSUMsq**). Examining the prediction error of the model is another way of ascertaining the reliability of the **ARDL** model. If the error or the difference between the real observation and the forecast is infinitesimal, then the model can be regarded as having the best fit.

like Schwartz-Bayesian Criteria (SBC) and Akaike's Information Criteria (AIC). SBC is known as the parsimonious model, selecting the smallest possible lag length, whereas AIC is known for selecting the maximum relevant lag length. When there is a long run relationship between variables, there exists an error correction representation. Therefore, the error correction model is estimated generally as represented in the following reduced form equation:

7.4 DATA AND SOURCES

The data are drawn from a number of sources, primarily the West African Monetary Institute's database, World Bank's World Development Indicators, and the IMF's International Financial Statistics. The study utilized annual data for the period 1980 – 2012 for all WAMZ countries. Economic growth is measured by the difference in the log of real GDP per capita while investment is measured as national gross fixed capital formation as a percentage of GDP. The capital account liberalization indicator is measure by the ratio of private capital flows to GDP following Kraay (1998) and Lane and Milesi-Ferretti (2001). Inflation is the annual changes in the log of the consumer price index while trade openness is calculated as the sum of exports and imports as percentage of GDP.

CHAPTER 8 – EMPIRICAL RESULTS

8.1 UNIT ROOT TEST

Even though the bounds test for cointegration does not depend on prior knowledge about the order of integration, testing for unit root is necessary to avoid the possibility of spurious regression since Ouattara (2004) showed that the bounds test is based on the assumption that the variables are $I(0)$ or $I(1)$, thus, in the presence of $I(2)$ variables the computed F-statistics provided by Pesaran et al. (2001) becomes invalid. To determine the order of the series, the ADF and Philip and Peron Tests were employed at level and first difference under the assumptions of constant and no trend. The results reported in Table 5.1 show that only few variables are

stationary in level (INF and $\ln TO$, for Ghana ADF test, INF for Liberia ADF test, $\ln INV$ for Nigeria ADF test, $\ln INV$ and $\ln TO$ for The Gambia PP test, INF and $\ln TO$ for Ghana PP test, INF for Guinea PP test, CAL and INF for Liberia PP test, $\ln INV$ for Nigeria PP test, and $\ln TO$ for Sierra Leone PP test). The variables are, however, all integrated of order one (I) given that they are all stationary after the first difference. The bounds test approach is therefore appropriate. It is worth mentioning that results are robust under assumption of constant and no trend as well as with trend.

Table 5. 1: UNIT ROOT TEST RESULTS

Variable	ADF test statistics (intercept with no trend)			Variable	PP statistics (intercept with no trend)	
	Lag	Level	First difference		Level	First difference
THE GAMBIA						
Ln Y	2	1.56	6.50**	Ln Y	2.47	6.93**
ln INV	2	2.35	6.88**	ln INV	3.35*	7.89**
CAL	2	2.06	6.78**	CAL	1.87	
INF	2	2.57	7.02**	INF	2.49	8.70**
ln TO	2	2.55	8.07**	ln TO	3.50*	
GHANA						
Ln Y	2	0.03	3.89**	Ln Y	0.07	3.72**
ln INV	2	1.57	5.62**	ln INV	1.77	5.76**
CAL	2	2.21	5.42**	CAL	2.41	5.27**
INF	2	4.31**		INF	4.31**	
ln TO	2	7.40**	5.52**	ln TO	4.77**	
GUINEA						
Ln Y	2	1.57	4.19**	Ln Y	1.74	4.32**
ln INV	2	2.13	5.86**	ln INV	2.91	10.86**
CAL	2	2.24	5.86**	CAL	2.89	10.81**
INF	2	2.32	6.36**	INF	3.31*	
ln TO	2	2.80	7.41**	ln TO	2.73	8.37**
LIBERIA						
ln Y	2	1.30	3.21*	ln Y	1.46	3.21*
ln INV	2	1.62	3.92**	ln INV	1.58	3.93**
CAL	2	2.54	6.21**	CAL	3.26*	
INF	2	6.51**		INF	6.42**	
ln TO	2	1.59	5.17**	ln TO	1.81	5.23**

NIGERIA						
Ln Y	2	0.48	4.41**	ln Y	0.84	4.41**
ln INV	2	4.07**		ln INV	3.02*	
CAL	2	2.91	7.55**	CAL	2.64	9.03**
INF	2	1.96	4.94**	INF	1.91	3.93**
ln TO	2	2.01	4.82**	ln TO	2.01	4.68**
SIERRA LEONE						
Ln Y	2	1.62	4.58**	Ln Y	1.68	4.66**
ln INV	2	2.92	8.53**	ln INV	2.80	8.44**
CAL	2	2.58	6.65**	CAL	2.58	7.19**
INF	2	1.88	7.29**	INF	1.88	14.21**
ln TO	2	2.13	4.99**	ln TO	3.03*	
1% Critical Value		3.66	3.66	1% Critical Value	3.65	3.66
5% Critical Value		2.96	2.96	5% Critical Value	2.95	2.96

Note: **indicate significance at the 1% level and hence stationarity while * indicate significance at the 5% level.

8.2 THE COINTEGRATION TEST

The causal relationship between macroeconomic variables was examined using the Autoregressive Distribution Lag (ARDL) approach proposed by Peseran and Shin (2001). The SBC was minimized to determine the appropriate lag length and select the relevant ARDL model. Importantly, the estimation and identification of cointegration using the ARDL approach is based on the Ordinary Least Square (OLS). Results of the bound test are given in Table 2. The calculated F-statistics for each individual country reported in Table 5.2 are greater than the upper bound critical value at the 1% and 5% levels. This implies that the null hypothesis of no cointegration is rejected in all cases. There is indeed a cointegrating relationship among the variables (real per capita GDP growth, capital account liberalization, inflation, trade openness and investment) in equation (13)³. The existence of cointegration between real per capita GDP growth and its determinants in each country

implies that there are error correction mechanisms and hence the need to obtain long-run and short-run coefficients.

³ See Appendix for the results of the selected ARDL model for each country from which the Fstatistics were obtained. The ARDL model for each country was selected based on Schwarz Bayesian Criterion.

Table 5.2: BOUND TEST RESULTS BASED ON EQUATION (13)

Critical Value				
Lower Bounds [I(0)]		Upper Bounds [I(1)]		
5%	1%	5%	1%	
2.846	4.057	4.091	5.636	
F-Statistics				
The Gambia				5.89***
Ghana				63.57***
Guinea				46.32***
Liberia				34.85***
Nigeria				9.07***
Sierra Leone				39.18**

Notes: Critical values from the bounds test are obtained from Narayan (2004) - Case II: restricted intercept and no trend, page 26 – 27. *** means significant at 1%

8.3 THE STATIC LONG-RUN EQUATIONS OF MEMBER COUNTRIES

The long-run coefficients for each country are reported below. The static long run model was obtained from the reduced form solution of equation (13). We proceed by discussing the outcome for each country.

8.3.1 The Gambia

The results show that with the exception of the constant all the other long-run coefficients are not significant. An apparent implication of the

result is that an important variable explaining growth in The Gambia may be missing. Although not significant, capital account liberalization and inflation carry the correct signs. Liberalization has a positive relationship with growth in the long-run while inflation is negatively related to growth. Trade openness and investment are negatively related to growth but the coefficients are not significant.

Table 5.3: Estimated Long Run Coefficients using the Select ARDL (1,0,0,0,0) Model

REGRESSOR	COEFFICIENT	STANDARD ERROR	T-RATIO
CAL	0.0012	0.0041	0.2906
INF	-0.0424	0.4454	-0.2264
Ln to	-0.0914	0.0772	-1.1842
Ln INV	-0.0599	0.1068	-0.5616
C	9.9553***	0.1872	22.3528

*** means significant at the 1% level

8.3.2 Ghana

Table 5.4 shows that there is a statistically significant relationship between per capita GDP growth and its determinants. In addition, all coefficients have the expected signs. There is positive and significant relationship between capital account liberalization and growth as well as between investment and growth. Trade openness also has a positive impact on growth but only significant at the 10 percent level. The result indicates that a percentage increase in capital account openness will increase growth in

real per capita GDP by 0.03 percent, while 1 percent increase in investment will raise growth by 0.12 percent. In particular, the positive long-run effect of capital account liberalization on economic growth has been supported by Quinn (1997), Klein and Olivei (2000), Edwards (2001) and several other authors. Similarly, a 1 percent rise in trade openness will result in a 0.04 percent increase in growth. On the other hand, inflation has a negative impact on growth in the long-run as a unit increase in inflation decreases growth by 0.62 percent.

Table5. 4 Estimated Long Run Coefficients using the Select ARDL (1,1,0,1,0) Model

REGRESSOR	COEFFICIENT	STANDARD ERROR	T-RATIO
CAL	0.0291***	0.0040	7.252
INF	-0.6297***	0.1397	-4.508
Ln to	0.0491*	0.0273	1.796
Ln INV	0.1234***	0.0340	3.625
C	5.9329***	0.1314	45.142

*** means significant at the 1% level while * means significant at the 10% level

8.3.3 Guinea

The long-run equation for Guinea shown in Table 5.5 indicates that only the coefficients of investment and the constant are significant. Nonetheless all coefficients carried their expected signs. The result showed that a 1

percent rise in investment will trigger a 5.4 percent rise in economic growth in the long-run. Capital account liberalization and trade openness have positive relationships with growth as expected but the coefficients are not significant.

Table5. 5: Estimated Long Run Coefficients using the Select ARDL (1,0,0,0,0) Model

REGRESSOR	COEFFICIENT	STANDARD ERROR	T-RATIO
CAL	1.4895	8.6807	0.562
INF	-1.6511	1.7674	-0.934
Ln to	0.3699	1.4106	0.263
Ln INV	5.4082**	2.1046	2.569
C	23.0839***	2.6522	2.659

*** means significant at the 1% level while ** means significant at the 5% level

8.3.4 Liberia

The long-run equation for Liberia shown in Table 5.6 revealed that the coefficients of the trade openness, investment and the constant were significant while the coefficient of capital account liberalization and inflation were not significant. While the coefficient of trade openness was significant it carried the wrong sign implying that a percentage rise in trade openness will reduce growth by 1.18 percent.

Such results may reflect the weak internal capacity of Liberia to benefit from technological diffusion and knowledge transfers that usually accompany trade openness. Indeed, Bhagwati (1992) as well as Frankel et al. (1995) reported negative relationships between trade liberalization and economic growth. There was a positive and significant relationship between investment and growth wherein a percentage rise in investment will increase growth by 0.88 percent.

Table 5.6: Estimated Long Run Coefficients using the Select ARDL (0,1,0,1,1) Model

REGRESSOR	COEFFICIENT	STANDARD ERROR	T-RATIO
CAL	-0.0026	0.0018	-1.482
INF	0.8310	0.7994	1.039
Ln to	-1.1805***	0.0838	-14.079
Ln INV	0.8812***	0.1145	7.698
C	13.3923**	0.4574	29.279

*** means significant at the 1% level while ** means significant at the 5% level

The coefficient of inflation and capital account liberalization had the wrong signs but were not significant. Inflation was positively related to growth while capital account liberalization had a negative relationship with growth.

in Nigeria. Essentially, a percentage increase in trade openness will raise economic growth by 1.58 percent. The wrong signs were reported for the coefficients of investment, inflation and capital account liberalization even though they were not significant. Inflation was positively related to growth while capital account liberalization and investment had a negative relationship with growth.

8.3.5 Nigeria

The result in Table 5.7 revealed that only trade openness and the constant were significant in explaining long-run growth in per capita income

Table 5.7: Estimated Long Run Coefficients using the Select ARDL (1,0,0,0,0) Model

REGRESSOR	COEFFICIENT	STANDARD ERROR	T-RATIO	PROBABILITY
CAL	-0.1378	.29706	-0.464	0.647
INF	2.9737	5.9523	0.499	0.622
Ln to	1.5853***	0.6926	2.289	0.043
Ln INV	-0.2543	1.5658	-0.162	0.872
C	5.5170***	1.5910	3.467	0.029

*** means significant at the 1% level

8.3.6 Sierra Leone

The results in Table 5.8 revealed that with exception of inflation, all the long-run coefficients of the determinants of growth were significant. Importantly, capital account liberalization has a positive and significant effect on economic growth in the long-run such that a unit change in liberalization will raise per capita income by 0.001 percent. O'Donnell (2001) found similar result by using a quantitative measure of liberalization. Investment also had a

positive long-run effect on growth as predicted with a percentage rise in investment resulting in a 0.43 increase in per capita income. A surprising result was the positive long-run effect of inflation on the growth in real per capita income in Sierra Leone since demand theory suggests that inflation is harmful to growth in the long-run. Given the high inflation history of the country, the result may suggest the reallocation of portfolios from money to physical capital as purported by Tobin (1965) and Sidrauski, M. (1967).

Table 5.8: Estimated Long Run Coefficients using the Select ARDL (1,0,0,1,0) Model

REGRESSOR	COEFFICIENT	STANDARD ERROR	T-RATIO
CAL	0.0005***	0.0002	2.500
INF	0.3860***	0.0946	4.083
Ln to	-0.0239	0.1075	-0.223
Ln INV	0.4322***	0.0757	5.706
C	9.0038***	0.3789	23.759

*** means significant at the 1% level

8.4 THE SHORT-RUN COEFFICIENT OF MEMBER COUNTRIES

The dynamic short-run equation was estimated for each country given the evidence of cointegration among the variables. The short-run coefficients were obtained by the estimating the error correction representation of the reduced form of equation (13). The results for each country are reported below.

8.4.1 The Gambia

The results for The Gambia as shown in Table 5.9 are similar to the long-run results whereby only the constant was significant. However, the error correction term (ECM) was significant and negative as expected. Nonetheless, the coefficient of ECM indicates that the speed of adjustment to long-run equilibrium is very slow, a mere 2.4 percent.

Table 5.9: Error Correction Representation for the Selected ARDL (1,0,0,0,0) Model

REGRESSOR	COEFFICIENT	STANDARD ERROR	T-RATIO
Δ CAL	0.0005	0.0016	0.2871
Δ INF	-0.0169	0.0736	-0.2305
Δ Ln to	-0.0366	0.0291	-1.2564
Δ Ln INV	-0.4004	0.0434	-0.5536
Δ C	3.9861***	1.3901	2.8676
Δ ECM (-1)	-0.0240***	0.1445	-2.7756
R^2		0.3058	
Adjusted R^2		0.2659	
AIC		61.45	
SBC		57.15	
F Statistics		1.811	
F Significance		0.147	
Durbin Watson Statistics		1.71	

Where ECM is the error correction term

$$ECM = \text{Ln } Y - 0.0011774 * \text{CAL} + 0.042383 * \text{INF} + 0.091379 * \text{LnTO} + 0.059980 * \text{LnINV} - 9.9553 * C \quad (15)$$

8.4.2 Ghana

The result in Table 5.10 shows that there is a significant dynamic relationship between economic growth and its determinants. Capital account liberalization, inflation and trade openness have positive impacts on short-run growth as predicted. A unit increase in capital account liberalization will raise growth by 0.003

percent while a unit rise in inflation will increase short-run growth by 0.146 percent. In addition, a unit change in trade openness will raise growth by 0.02 percent. On the contrary, the result showed a negative relationship between investment and growth in the short-run. Such a result may reflect the crowding out of productive investment by the huge government borrowing requirement for deficit financing.

Table 5.10: Error Correction Representation for the Selected ARDL (1,1,0,1,0) Model

REGRESSOR	COEFFICIENT	STANDARD ERROR	T-RATIO
Δ CAL	0.0025**	0.0013	1.888
Δ INF	0.1459***	0.0287	5.0856
Δ Ln to	0.0193***	0.0085	2.271
Δ Ln INV	-0.0286***	0.0125	-2.282
Δ C	-1.3754***	0.3084	-4.459
Δ ECM(-1)	-0.2318***	0.0514	-4.507
R^2		0.9242	
Adjusted R^2		0.9009	
AIC		80.528	
SBC		74.792	
F Statistics		55.94	
F Significance		0.000	
Durbin Watson Statistics		2.5	

$$\text{ECM} = \text{LRGI} - 0.029122 \cdot \text{CAL} + 0.62965 \cdot \text{INF} - 0.049100 \cdot \text{LTO} - 0.12340 \cdot \text{LINV} - 5.9329 \cdot \text{C} \quad (16)$$

The coefficient of the ECM was negative and significant as expected. The result indicated that the speed of adjustment to long-run equilibrium when there was shock was 23.2 percent. This implies that for every 1 per cent deviation from the long run equilibrium 23.2 per cent of this shock will be corrected annually.

8.4.3 Guinea

The short-run equation for Guinea reported in table 5.11 shows that investment and the constant have significant effects on economic growth. Importantly, a percentage increase in

investment will raise economic growth by 1.07 percent. Capital account liberalization and trade openness had a positive relationship with growth as predicted but their coefficients were not significant. In addition, inflation had a negative short-run relationship with growth contrary to expectations but its coefficient was also not significant. However, the coefficient of the ECM was negative and significant as expected. The speed of adjustment to long-run equilibrium was estimated at 32.8 percent, implying that only 32.8 percent of the deviation in the long-run will be corrected annually.

Table 5.11: Error Correction Representation for the Selected ARDL (1,0,0,0,0) Model

REGRESSOR	COEFFICIENT	STANDARD ERROR	T-RATIO
ΔCAL	0.2961	0.0690	0.549
ΔINF	-0.1988	0.3437	-0.955
$\Delta \text{Ln to}$	0.0735	0.2829	0.259
$\Delta \text{Ln INV}$	1.0750***	0.3751	2.866
ΔC	4.5886***	1.7832	2.573
$\Delta \text{ECM}(-1)$	-0.3282***	0.5391	-2.879
R^2		0.3431	
Adjusted R^2		0.2382	
AIC		-2.179	
SBC		-6.482	
F Statistics		2.612	
F Significance		0.049	
Durbin Watson Statistics		1.87	

$$\text{ECM} = \text{LRGI} - 1.4895 \cdot \text{CAL} + 1.6511 \cdot \text{INF} - 0.36995 \cdot \text{LTO} - 5.4082 \cdot \text{LINV} - 23.0839 \cdot \text{C} \quad (17)$$

8.4.4 Liberia

The short-run equation for Liberia which is depicted in Table 5.12 shows that the coefficients of the constant, trade openness and the ECM are significant. However, the sign of the coefficient of trade openness was negative contrary to expectation, implying that a percentage increase in trade openness will reduce growth by 0.36 percent. As mentioned earlier, the weak internal capacity particularly with

regard to the poor state of the infrastructure as well as lack of favourable trade policies may explain such results. In addition, the coefficient of the ECM indicates that for any deviation from long-run equilibrium 36 per cent of that deviation is immediately corrected in the following year (an automatic adjustment mechanism). Capital account liberalization, inflation and investment have positive short-run relationship with growth but their coefficients are not significant.

Table 5.12: Error Correction Representation for the Selected ARDL (0,1,0,1,1) Model

REGRESSOR	COEFFICIENT	STANDARD ERROR	T-RATIO
Δ CAL	0.0009	0.0015	0.5613
Δ INF	0.8310	0.79935	1.039
Δ Ln to	-0.3672***	0.15858	-2.315
Δ Ln INV	0.4109	0.27650	1.486
Δ C	13.3923***	0.4574	29.279
Δ ECM(-1)	-0.3601***	0.000	None
R ²		0.6636	
Adjusted R ²		0.5612	
AIC		-3.544	
SBC		-9.279	
F Statistics		9.072	
F Significance		0.000	
Durbin Watson Statistics		1.803	

$$\text{ECM} = \text{LRGI} + 0.0026365 \cdot \text{CAL} - 0.83101 \cdot \text{INF} + 1.1805 \cdot \text{LTO} - 0.88119 \cdot \text{LINV} - 13.3923 \cdot \text{C} \quad (18)$$

8.4.5 Nigeria

The results in Table 5.13 show that inflation trade openness and the ECM are significant in the short-run. A percentage rise in trade openness leads to a 0.059 increase in growth while 1 percent rise in inflation will increase growth by 0.11 percent in the short-run.

However, the speed of adjustment is very slow since only 6.58 percent of the deviation in long-run equilibrium is corrected annually. Capital account liberalization and investment have negative short-run relationship with growth contrary to expectations but their coefficients are not significant.

Table 5.13: Error Correction Representation for the Selected ARDL (1,0,0,0,0) Model

REGRESSOR	COEFFICIENT	STANDARD ERROR	T-RATIO
Δ CAL	-0.0052	0.0056	-0.937
Δ INF	0.1115**	0.0617	1.807
Δ Ln to	0.0595***	0.0293	2.030
Δ Ln INV	-0.0095	0.0561	-0.169
Δ C	0.2069	0.7015	0.295
Δ ECM(-1)	-0.0658***	0.0317	-2.075
R ²		0.2167	
Adjusted R ²		0.0599	
AIC		47.721	
SBC		43.419	
F Statistics		1.383	
F Significance		0.264	
Durbin Watson Statistics		1.79	

$$\text{ECM} = \text{LRGI} + 0.13780 \cdot \text{CAL} - 2.9737 \cdot \text{INF} - 1.5853 \cdot \text{LTO} + 0.25432 \cdot \text{LINV} - 5.5170 \cdot \text{C} \quad (19)$$

8.4.6 Sierra Leone

The results of the short-run equation depicted in Table 5.14 indicate that inflation and investment are significant determinants of short-run growth in Sierra Leone. Both inflation and investment have positive effects on growth in the short-run as was predicted by demand theory. Essentially, a percentage increase in inflation will raise growth by 0.18 percent while a percentage

increase investment will increase growth by 0.20 percent. The coefficient of the ECM was negative and significant as expected. The result showed that 47.1 percent of the deviation in long-run equilibrium is corrected annually. Capital account liberalization and trade openness have positive short-run relationship with growth but their coefficients are significant.

Table 5.14: Error Correction Representation for the Selected ARDL (1,0,0,1,0) Model

REGRESSOR	COEFFICIENT	STANDARD ERROR	T-RATIO
ΔCAL	0.0002	0.0009	0.259
ΔINF	0.1818***	0.0551	3.298
$\Delta Lnto$	0.0705	0.0434	1.623
$\Delta Lnto INV$	0.2035***	0.0407	5.004
ΔC	4.2405***	0.8486	4.997
$\Delta ECM(-1)$	-0.4709***	0.0896	-5.255
R^2		0.6915	
Adjusted R^2		0.6144	
AIC		38.85	
SBC		33.83	
F Statistics		10.759	
F Significance		0.000	
Durbin Watson Statistics		2.41	

$$ECM = LRGI - 0.0005*CAL - 0.3861*INF + 0.02395*LTO - 0.4322*LINV - 9.0038*C \quad (20)$$

8.5 DIAGNOSTIC TEST RESULTS

The results of the diagnostic test of the ARDL model for each country are shown in appendix II. Generally, the results indicate that usual econometric problems such as autocorrelation, hetero-scedasticity as well as conflict to normal distribution were not observed at the 10.0 percent level of significance expect for Guinea where the null hypothesis of homo-scedasticity was rejected. However, Shrestha (2005) states that presence of hetero-scedasticity does not affect ARDL estimates since time series in the equation may be of mixed order of integration and thus, it is natural to detect heteroscedasticity.

Moreover, no model specification error exists with reference to Functional form in all cases. Finally, CUSUM and CUSUMSQ plots are drawn to check the stability of short-run and long-run coefficients in the ARDL error correction model. Appendix Vi shows the plots of CUSUM and CUSUMSQ for all countries. The results indicate that both CUSUM and CUSUMSQ are within the critical bounds of 5% in all cases except Nigeria (2011). This implies that our growth models that are structurally stable.

CHAPTER 9 – CONCLUSION, POLICY IMPLICATION AND RECOMMENDATION

9.1 CONCLUSION AND POLICY IMPLICATION

In this part, the paper examined the relationship between liberalization and growth by employing the ARDL bounds testing approach suggested by Pesaran et al. (2001). Growth equations were estimated for each country using annual data for the period 1980 – 2012. The empirical results of long-run coefficients of the ARDL models showed a significant positive relationship between capital account liberalization and growth for Ghana and Sierra Leone. This suggests that further liberalisation in Ghana and Sierra Leone would promote economic growth in the long-run. Liberalization had positive and significant impact on growth in Ghana even in the short-run. However, there was no significant long-run relationship between liberalization and growth in The Gambia, Guinea, Liberia and Nigeria. The lack of a significant relationship between liberalization and growth it is an indication of the presence of policies inconsistent with liberalization that could adversely affect growth when the capital account is opened and hence, the opening of the capital accounts should be gradual and complemented with sound macroeconomic and financial policy.

Investment and trade openness were also found to be significant determinants of growth in member countries, with the exception of The Gambia. Investment had a positive and significant relationship with growth in Ghana, Guinea, Liberia and Sierra Leone, while trade openness had positive and significant impact on growth in Ghana and Nigeria but negative and significant impact on growth in Liberia. Inflation had a negative long run relationship with growth in Ghana but positive and significant impact on growth in Sierra Leone. Overall, the short run and long run results were similar. However, capital account liberalization was not a significant determinant of short run growth in Sierra Leone while inflation had positive and significant impact on short run growth in Ghana, Nigeria and Sierra Leone. The error correction

term was significant and negative in all cases, reinforcing the existence of cointegration among the variable. The speed of adjustment nonetheless deferred from country to country with Liberia recording the fastest adjustment to long run equilibrium (100 percent) while The Gambia and Nigeria recorded the slowest. The speed of adjustment was below 50 percent for all countries with the exception of Liberia.

The robustness of the results was supported by standard diagnostic tests, namely, Serial Correlation LM test, Ramsey Reset test, Normality test, and White heteroscedasticity test. The results indicate that econometric problems like autocorrelation, heteroscedasticity, non-normal distribution were generally not observed. Similarly, no model specification error exists with reference to functional form while the CUSUM and CUSUMSQ plots indicated that the growth models are structurally stable.

Since implementing a major reform like capital account liberalization normally requires an assessment of the impact of such measures, the study will aid and inform policy makers in designing and adopting an appropriate approach to liberalization.

6.2 RECOMMENDATION

We proffer three distinct sets of recommendations reflecting the finding of the study. The first set of recommendations is for countries where there is a significant positive relationship between capital account liberalization and growth (Ghana and Sierra Leone), while the second set addresses countries where no significant relationship between liberalization and growth exists (The Gambia, Guinea, Liberia and Nigeria). Since The Gambia has already liberalised its capital account, we offer an additional set recommendation for the country. However, the recommendation should

be viewed holistically. Generally, we recommend that WAMZ countries adopt an integrated approach to liberalization as suggested by the literature. Essentially, long-term flows should be liberalised before short-term flows.

6.2.1 Ghana and Sierra Leone

Both countries are encouraged to continue to pursue sound macroeconomic and trade policies to minimize the risks associated with capital account openness. In particular, trade policies should be complementary to capital account liberalization efforts. Additionally, the financial systems' architecture and managerial infrastructure should be reinforced to maximize the benefits of liberalisation. Finally, liberalization of the capital account is imperative given its beneficial impact on growth in these countries. Essentially, all obstacles to the free movement of capital particularly in the WAMZ should be minimised subsequent to the strengthening of the macroeconomic policy and regulatory environment.

6.2.1 Guinea, Liberia and Nigeria

Undertake reforms to tackle key macroeconomic problems like inflation and large public deficits through a sound macroeconomic policy framework. Second, there should be strict monitoring of external indebtedness to ensure that foreign liabilities are low prior to liberalization. In addition, countries should seek foreign investment with lower risks such as FDI

and portfolio investment. Thirdly, strong antitrust policies should be developed to enhance competition in the corporate sector. This should be combined with strengthening institutional governance in regulatory institutions. Finally, minimizing restrictions on capital flows especially between WAMZ countries is critical to growth and convergence. It could also be a vital policy option in mitigating domestic macroeconomic distortions.

6.2.2 The Gambia

The macroeconomic and financial policy environment should be more supportive of the current capital account liberalization policy. Financial sector policies and regulations should be aimed at promoting financial market development and strengthening financial stability. In particular, a strong and vibrant money and capital market should be developed to maximize the benefits of liberalisation. The country should implement sound counter-cyclical macroeconomic policies to strengthen macro stability and support growth. Finally, a minimal tax on capital flows could limit the volume of outflows in periods of high outflows, contain the currency depreciation and support counter-cyclical fiscal policies. This is because under perfect capital mobility and a flexible exchange rate, fiscal policy of a small open economy is ineffective, and any decrease in public spending reduces interest rates and the currency depreciates.

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APPENDIX I: OVERVIEW OF STUDIES ON THE IMPACT OF CAPITAL ACCOUNT LIBERALIZATION ON GROWTH

Author	Countries	Period	Liberalization measures	Estimation Methods	Main results
Grilli & Milesi_Ferretti (1995)	61	1971 – 1994	IMF; SHARE	INSTRUMENTAL VARIABLE (IV) estimation	No Evidence of a significant effect of Share on growth of per capita income
Quinn (1997)	65 (20 advanced countries, 45 emerging economies)	1960-1989	IMF; QUINN index	Cross-section regressions	Capital account liberalization is robustly and positively associated with economic growth.
Rodrik 1998	100	1975 – 1995	IMF; SHARE	OLS, cross-section	No Evidence of a significant effect of Share on growth of per capita income
Kraay 1998	64, 94, Or 117	1985 – 1997	IMF; SHARE, QUINN, VOLUME	OLS & IV, cross-section	No effect of Share or Quinn on Growth. Coefficient on volume significant and positive.
Klein & Oliver (1998)	93	1986-1995	IMF; SHARE	Cross-section; OLS; 2SLS	Capital account liberalization affects positively and significantly economic growth and financial depth in industrial countries.
Bailiu (2000)	40 developing coun-tries	1975-1995	IMF	Dynamic panel data; GMM; OLS	International capital flows promote economic growth.
Edwards (2001)	61 to 65 (emerging economies and ad-vanced countries)	1975-1997	IMF; NUYCO index; QUINN index	Weighted LS; Weighted TSTS	Capital account openness has positive effects on economic growth in advanced economies and negative effects at very low levels of local financial development.
Arteta, Eichengreen & Wyplosz, 2001	51 to 59	1973 – 1981, 1982 – 1987, 1988 – 1992	QUINN in Initial Year; or ΔQUINN over relevant period	Follows Edwards (2001) but OLS rather than WLS and with different instrument	QUINN significant for pooled results but not for shorter subsamples. ΔQUINN not significant. Significant effect of interaction of QUINN with either quality or law or openness.
O'Donnell 2001	94	1971 – 1994	IMF; SHARE or Volume	Cross-section regressions	Neither SHARE nor interaction of SHARE with financial depth was significant but volume was sometimes significant.
Chanda 2001	57	1975 – 1995	IMF; SHARE	Cross-section regressions	SHARE significantly raises growth in ethnically heterogeneous countries and significantly lowers in ethnically homogeneous countries.
Edison & al. (2002)	57	1980-2000	IMF; SHARE QUINN measure	OLS; 2SLS; GMM; dynamic panel; cross-section	International financial liberalization does not significantly affect economic growth.
Bekaert & al. (2005)	95 and 75 countries	1980-1997	IMF; QUINN measure	OLS; GMM; cross-section;	Equity market liberalizations increase real economic growth.

Brezigar-Masten & al. (2007)	31 European countries	1996-2004	IMF	GMM; cross-country panel	Financial market liberalization affects positively economic growth.
Honig (2008)	122	1970-2005	IMF; QUINN (1997); Chinn & Ito (2007)	OLS; instrumental variables	Capital account liberalization has significant positive effect on economic growth.
Xiu Yang (2010)	83 (44 developed countries and 39 emerging countries)	1960-2008	IMF measure	GMM	Financial liberalization promotes real economic growth.
Hassana & al (2011)	166 countries	1980-2007	Proxy measures	VAR Cross section	Positive relationship
Vithessonthi & Tongurai (2012)	242 non-financial firms listed on the Stock Exchange of Thailand	2007	Stock returns	OLS	They find the existence of a positive and significant effect.

Note that:

"IMF" restriction measures on capital transactions published by the *International Monetary Fund* in its *Annual Report on Exchange Arrangements and Exchange Restrictions*.

"QUINN index" measures capital account liberalization's intensity; it's comprised between 0 and 4.

"SHARE" represents the proportion of years in which the country had liberalized capital account.

"NUYCO index" measures the *degree of capital mobility*; it can take values goes from 0 through 4, with increments of 0.5. A higher value of this index denotes a higher degree of capital mobility.

"OLS": Ordinary Least Squares estimator.

"2SLS": Two-Stage Least Squares estimator.

"Weighted LS": Weighted Least Squares.

"Weighted TSLS": Weighted Three Stages Least Squares

APPENDIX II: SURVEY INSTRUMENT

A. General

1. Does your country have an explicit and/or formal capital account management framework in place?

i) Yes

☐

ii) No

☐

2. If yes, what are the objectives of the framework?

i) Attracting Long-term non-debt creating capital inflows

☐

ii) Attracting Short-term debt capital inflows (hot money)

☐

iii) Attracting both i) and ii)

☐

iv) Restricting capital outflows

☐

v) Liberalization of permissible avenues for outward investments

☐

vi) Avoid excessive foreign currency borrowings

☐

vii) Enable the Bank to use multiple instrument to influence capital flows

☐

3. What legislation governs capital account management?

i) Central Bank Act

☐

ii) Banking Act

☐

Others, please specify.....

☐

B. Types of Controls/Instruments

4. Direct or Administrative Controls, Please tick where appropriate

i) Outright Prohibitions

☐

If applicable, please provide details of the specific prohibitions

.....

.....

.....

.....

ii) Explicit Quantitative Limits

☐

If applicable, kindly provide more information on the specific limits impose on transactions and individuals.

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iii) Discretion Approval Procedure

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If applicable, please give details on the type of discretionary approval procedures in place.

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5. Indirect or Market-based Controls, please tick as appropriate

i) Dual (two-tier) or multiple exchange rates for different types of transaction

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If applicable, please provide more details.

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ii) Explicit taxation of cross-border financial transaction

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If applicable, please provide more information.

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iii) Implicit/indirect taxation of cross-border flows through non-interest bearing compulsory reserve/deposit requirements

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If applicable, please provide more information.

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- iv) Other indirect regulatory controls such as asymmetric open position limits that discriminate between long and short positions or bet residents and non-residents.

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If applicable, please provide more information.

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C. CAPITAL INFLOW REGIME

C.I CAPITAL AND MONEY MARKET TRANSACTION

6. *Shares or other securities of a participating nature*

- i) Purchase locally by non-residents
- ii) Sale or issue abroad by residents

7. *Bonds or other debt securities*

- i) Purchase locally by non-residents
- ii) Sale or issue abroad by residents

8. *Money Market Instruments*

- i) Purchase locally by non-residents
- ii) Sale or issue abroad by residents

9. *Collective investment securities*

- i) Purchase locally by non-residents
- ii) Sale or issue abroad by residents

10. *Derivatives and other instruments*

- i) Purchase locally by non-residents
- ii) Sale or issue abroad by residents

C.II CREDIT OPERATIONS

11. Are Residents allowed to secure/obtain commercial credits from abroad?

i) Yes ☐ ii) No ☐

12. Are Residents allowed to secure/obtain financial credits from abroad?

i) Yes ☐ ii) No ☐

13. Are Residents allowed to obtain Guarantees, sureties, and financial backup facilities from abroad?

i) Yes ☐ ii) No ☐

C.III INWARD DIRECT INVESTMENT

14. Is inward direct investment allowed?

i) Yes ☐ ii) No ☐

15. If yes, please list the sectors receiving direct investment including data on direct investment received by each sector since 2000

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16. Are there guidelines in place for the liquidation of direct investment?

i) Yes ☐ ii) No ☐

17. If yes, please provide details.

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C.IV REAL ESTATE TRANSACTIONS

18. Are non-resident allowed to purchase/own local real estate?

i) Yes ☐ ii) No ☐

19. If yes, please provide details.

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C.V PROVISIONS SPECIFIC TO COMMERCIAL BANKS

20. Are Non-resident allowed to hold local commercial bank deposits?

i) Yes

☐

ii) No

☐

21. If yes, please provide details.

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22. Are commercial banks allowed to borrow abroad?

i) Yes

☐

ii) No

☐

23. If yes, under what condition?

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C.VI PERSONAL CAPITAL MOVEMENTS DEPOSITS, LOANS, GIFTS, ENDOWMENTS, INHERITANCES, AND LEGACIES

24. Are Residents allowed to receive personal capital from Non-Residents?

i) Yes

☐

ii) No

☐

25. If yes, please provide details.

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26. Are transfers into the country by immigrants permitted?

i) Yes

☐

ii) No

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27. If yes, kindly provide more details including data on the value of transfer received by the country since 2000.

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C.VII PROVISIONS SPECIFIC TO INSTITUTIONAL INVESTORS

28. Are there any limits on securities purchased by Non-resident?

i) Yes

☐

ii) No

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29. If yes, kindly provide details.

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30. Are there limits on portfolio invested locally?

i) Yes

☐

ii) No

☐

31. If yes, kindly provide details.

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D. CAPITAL OUTFLOW REGIME

DI. CAPITAL AND MONEY MARKET TRANSACTION

32. Shares or other securities of a participating nature

- i) Sale or issue abroad by non-residents
- ii) Purchase abroad by Residents

33. Bonds or other debt securities

- i) Sale or issue abroad by non-residents
- ii) Purchase abroad by Residents

34. Money Market Instruments

Sale or issue abroad by non-residents

Purchase abroad by Residents

35. Collective investment securities

- i) Sale or issue abroad by non-residents
- ii) Purchase abroad by Residents

36. Derivatives and other instruments

- i) Sale or issue abroad by non-residents
- ii) Purchase abroad by Residents

D.II CREDIT OPERATIONS

37. Are Residents allowed to issue/extend commercial credits to Non-residents?

i) Yes ☐ ii) No ☐
38. Are Residents allowed to issue/extend financial credits to Non-residents?

i) Yes ☐ ii) No ☐

39. Are Residents allowed to give Guarantees, sureties, and financial backup facilities to non-residents?

i) Yes ☐ ii) No ☐

D.III OUTWARD DIRECT INVESTMENT

40. Is outward direct investment allowed?

i) Yes ☐ ii) No ☐
41. If yes, please list the sectors making direct investment including data on the outflow of direct investment by each sector since 2000

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42. Are there guidelines in place for the liquidation of direct investment?

i) Yes ☐ ii) No ☐

43. If yes, please provide details.

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D.IV REAL ESTATE TRANSACTIONS

44. Are Residents allowed to purchase/own real estate abroad?

i) Yes ☐ ii) No ☐

45. If yes, please provide details.

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46. Is real estate sold locally by Non-residents?/Can Non-residents engage in the real estate business?

i) Yes ☐ ii) No ☐

47. If yes, kindly provide details.

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D.V PROVISIONS SPECIFIC TO COMMERCIAL BANKS

48. Are Residents allowed to hold commercial bank deposits abroad?

i) Yes ☐ ii) No ☐

49. If yes, please provide details.

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50. Are commercial banks allowed to lend abroad?

i) Yes

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ii) No

☐

51. If yes, please provide details.

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**D.VI PERSONAL CAPITAL MOVEMENTS DEPOSITS, LOANS, GIFTS,
ENDOWMENTS, INHERITANCES, AND LEGACIES**

52. Are Residents allowed to transfer personal capital to Non-Residents?

i) Yes

☐

ii) No

☐

53. If yes, please provide details.

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54. Are transfers out of the country by emigrants permitted?

i) Yes

☐

ii) No

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55. If yes, please provide more details including data on the transfers made out of the country by emigrant since 2000.

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56. Are emigrants allowed to settle debts obtained abroad?

i) Yes

☐

ii) No

☐

57. If yes, please provide details.

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D.VII PROVISIONS SPECIFIC TO INSTITUTIONAL INVESTORS

58. Are there any limits on securities issued by Non-residents?

i) Yes

☐

ii) No

☐

59. If yes, please provide details.

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60. Are there any limits on portfolio invested abroad?

i) Yes

☐

ii) No

☐

61. If yes, please provide details.

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E. EFFECTIVENESS OF CONTROLS (LESSONS)

62. What types of capital control measures have been particularly effective? Please list.

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63. Please give reasons why some control measures have been more effective than others?

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64. During which periods (when) have the control measures adopted by the Central Bank been most effective?

i) Economic Upturns

ii) Economic downturns/financial crises or instability

iii) Others (Please provide detail)

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65. Why are capital controls necessary for the country?

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66. Are there plans to eliminate all capital controls (liberalize capital accounts)?

i) Yes

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ii) No

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67. If yes, is there a time frame?

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68. What other macroeconomic policies is your country contemplating to support the liberalization of capital accounts in the country?

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APPENDIX III: RESULTS OF THE SELECTED ARDL MODEL

The Gambia: ARDL(1,0,0,0,0) Model selected based on Schwarz Bayesian Criterion

REGRESSOR	COEFFICIENT	STANDARD ERROR	T-RATIO	PROBABILITY
Ln Y (-1)	0.5596	0.1443	4.1564	0.000
CAL	0.4714	0.0016	0.2870	0.776
INF	-0.0169	0.0736	-0.2305	0.820
Ln to	-0.0366	0.0291	-1.2564	0.221
Ln INV	-0.0224	0.0433	-0.5535	0.585
C	3.9861	1.3901	2.8676	0.008
R ²		0.5412		
Adjusted R ²		0.4494		
AIC		61.45		
SBC		57.15		
F Statistics		5.8975		
F Significance		0.001		
Durbin Watson Statistics		1.71		

Where AIC and SBC represent the Akaike Information Criterion and Schwarz Bayesian Criterion, respectively.

Ghana: ARDL(1,1,0,1,0) selected based on Schwarz Bayesian Criterion

REGRESSOR	COEFFICIENT	STANDARD ERROR	T-RATIO	PROBABILITY
Ln Y (-1)	1.2318	0.0514	23.947	0.000
CAL	0.0025	0.0013	1.888	0.072
CAL (-1)	-0.0093	0.0012	-7.559	0.000
INF	0.1459	0.0287	5.086	0.000
Ln to	0.0193	0.0085	2.271	0.033
Ln to (-1)	-0.3071	0.0778	-3.949	0.010
Ln INV	-0.0286	0.0125	-2.282	0.032
C	-1.3754	0.3084	-4.459	0.000
R ²		0.99486		
Adjusted R ²		0.99329		
AIC		80.528		
SBC		74.792		
F Statistics		63.57		
F Significance		0.000		
Durbin Watson Statistics		2.52		

GUINEA: ARDL (1,0,0,0,0) Model selected based on Schwarz Bayesian Criterion

REGRESSOR	COEFFICIENT	STANDARD ERROR	T-RATIO	PROBABILITY
Ln Y (-1)	0.8012	0.0690	11.604	0.000
CAL	0.2961	0.5391	0.549	0.588
INF	-0.3282	0.3437	-0.955	0.349
Ln to	0.0735	0.2829	0.259	0.797
Ln INV	1.0750	0.3751	2.866	0.008
C	4.5886	1.7832	2.573	0.016
R ²		0.9025		
Adjusted R ²		0.8831		
AIC		-2.1797		
SBC		-6.4816		
F Statistics		46.319		
F Significance		0.000		
Durbin Watson Statistics		1.87		

Liberia: ARDL (0,1,0,1,1) Model selected based on Schwarz Bayesian Criterion

REGRESSOR	COEFFICIENT	STANDARD ERROR	T-RATIO	PROBABILITY
CAL	0.0008	0.0015	0.561	0.580
CAL (-1)	-0.0035	0.0013	-2.623	0.015
INF	0.8310	0.7993	1.039	0.309
Ln to	-0.3672	0.1586	-2.315	0.030
Ln to (-1)	-0.8133	0.1494	-5.442	0.000
Ln INV	0.4109	0.2765	1.486	0.151
Ln INV (-1)	0.4703	0.2763	1.702	0.102
C	13.3923	0.4574	29.279	0.000
R ²		0.9138		
Adjusted R ²		0.8876		
AIC		-3.5440		
SBC		-9.2799		
F Statistics		34.85		
F Significance		0.000		
Durbin Watson Statistics		1.803		

Nigeria: ARDL(1,0,0,0,0) Model selected based on Schwarz Bayesian Criterion

REGRESSOR	COEFFICIENT	STANDARD ERROR	T-RATIO	PROBABILITY
Ln Y (-1)	0.9625	0.0656	14.660	0.000
CAL	-0.0052	0.0055	-0.937	0.358
INF	0.1115	0.0617	1.807	0.083
Ln to	0.0594	0.0293	2.030	0.053
Ln INV	-0.0095	0.0561	-0.169	0.866
C	0.2069	0.7015	0.295	0.770
R ²		0.9381		
Adjusted R ²		0.9257		
AIC		47.721		
SBC		43.419		
F Statistics		75.80		
F Significance		0.000		
Durbin Watson Statistics		1.79		

SIERRA LEONE: ARDL (1,0,0,1,0) Model selected based on Schwarz Bayesian Criterion

REGRESSOR	COEFFICIENT	STANDARD ERROR	T-RATIO	PROBABILITY
Ln Y (-1)	0.5290	0.0896	5.903	0.000
CAL	0.0002	0.0009	3.299	0.003
INF	0.1818	0.0551	0.259	0.798
Ln to	0.0705	0.0434	1.623	0.118
Ln to (-1)	-0.0818	0.0429	-1.905	0.069
Ln INV	0.2035	0.0406	5.004	0.000
C	4.2405	0.8486	4.997	0.000
R ²		0.9074		
Adjusted R ²		0.8842		
AIC		38.850		
SBC		33.830		
F Statistics		39.18		
F Significance		0.000		
Durbin Watson Statistics		2.41		

APPENDIX IV: RESULTS OF DIAGNOSTIC TEST

Diagnostic Tests Results of the ARDL (1,0,0,0,0) Model (The Gambia)

Item	Test Applied	CHSQ(χ^2)	Probability
Serial Correlation	Lagrange Multiplier Test	1.5033	0.226
Normality	Test of Skewness and Kurtosis	2.2722	0.321
Functional Form	Ramsey's RESET Test	1.9991	0.157
Heteroscedasticity	White Test	2.4674	0.116

Diagnostic Tests Results of the ARDL (1,1,0,1,0) Model (Ghana)

Item	Test Applied	CHSQ(χ^2)	Probability
Serial Correlation	Lagrange Multiplier Test	3.556	0.060
Normality	Test of Skewness and Kurtosis	2.801	0.247
Functional Form	Ramsey's RESET Test	4.206	0.061
Heteroscedasticity	White Test	1.700	0.192

Diagnostic Tests Results of the ARDL (1,0,0,0,0) Model (Guinea)

Item	Test Applied	CHSQ(χ^2)	Probability
Serial Correlation	Lagrange Multiplier Test	0.127	0.772
Normality	Test of Skewness and Kurtosis	3.925	0.086
Functional Form	Ramsey's RESET Test	1.009	0.315
Heteroscedasticity	White Test	7.294***	0.007

*** means significant at 1% percent

Diagnostic Tests Results of the ARDL (0,1,0,1,1) Model (Guinea)

Item	Test Applied	CHSQ(χ^2)	Probability
Serial Correlation	Lagrange Multiplier Test	3.641	0.070
Normality	Test of Skewness and Kurtosis	1.628	0.443
Functional Form	Ramsey's RESET Test	0.025	0.875
Heteroscedasticity	White Test	2.967	0.085

Diagnostic Tests Results of the ARDL (1,0,0,0,0) Model (Nigeria)

Item	Test Applied	CHSQ(χ^2)	Probability
Serial Correlation	Lagrange Multiplier Test	1.496	0.221
Normality	Test of Skewness and Kurtosis	0.032	0.857
Functional Form	Ramsey's RESET Test	1.568	0.456
Heteroscedasticity	White Test	0.331	0.565

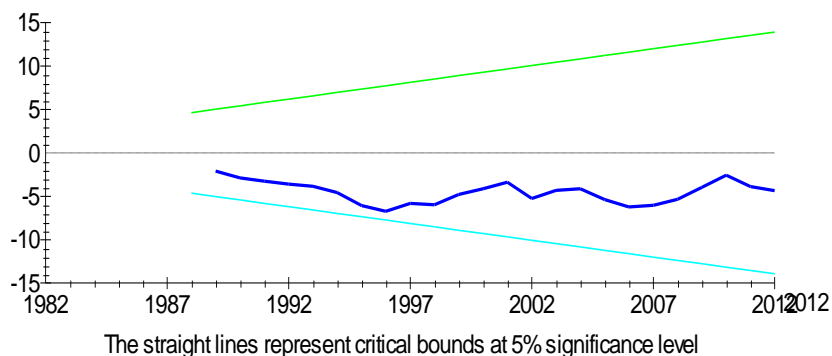
Diagnostic Tests Results of the ARDL (1,0,0,1,0) Model (Sierra Leone)

Item	Test Applied	CHSQ(χ^2)	Probability
Serial Correlation	Lagrange Multiplier Test	1.551	0.213
Normality	Test of Skewness and Kurtosis	0.117	0.943
Functional Form	Ramsey's RESET Test	1.124	0.289
Heteroscedasticity	White Test	1.183	0.277

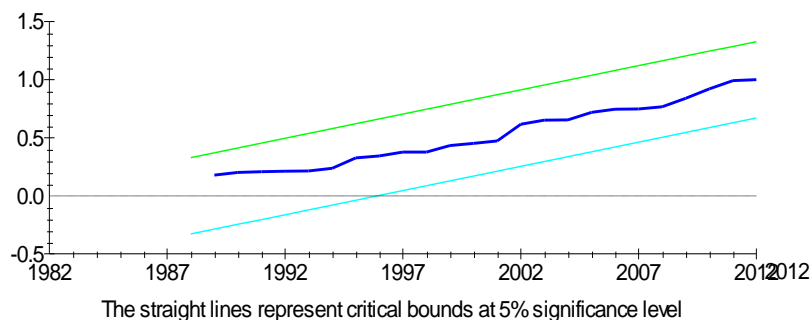
APPENDIX V. PLOT OF RECURSIVE RESIDUALS

THE GAMBIA

Plot of Cumulative Sum of Recursive Residuals

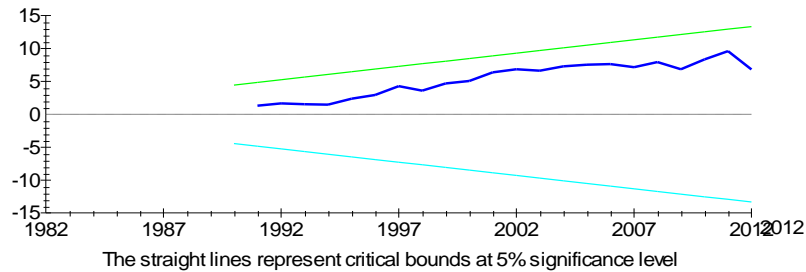


Plot of Cumulative Sum of Squares of Recursive Residuals

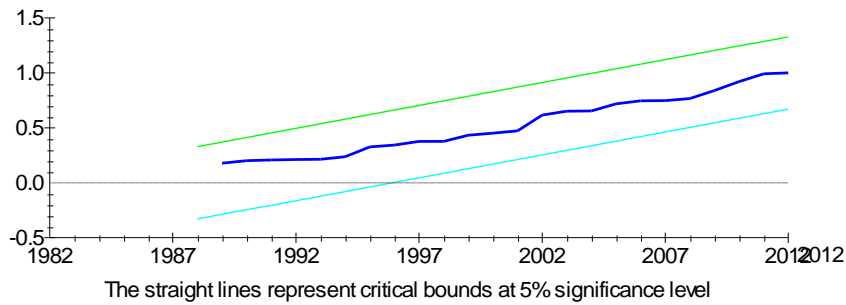


GHANA

Plot of Cumulative Sum of Recursive Residuals

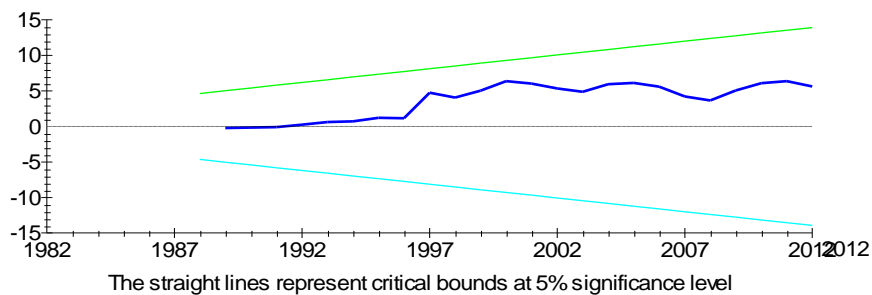


Plot of Cumulative Sum of Squares of Recursive Residuals

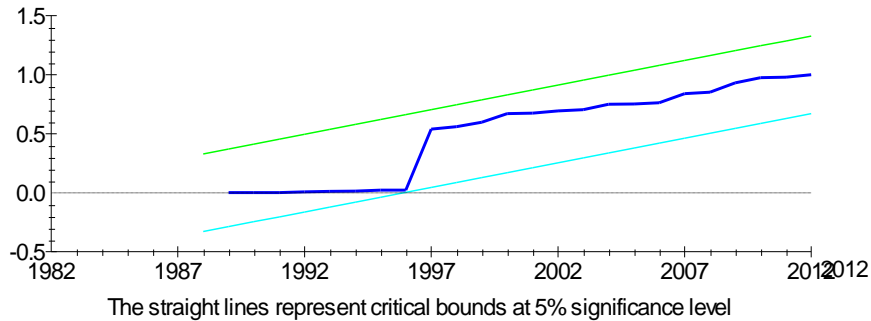


GUINEA

Plot of Cumulative Sum of Recursive Residuals

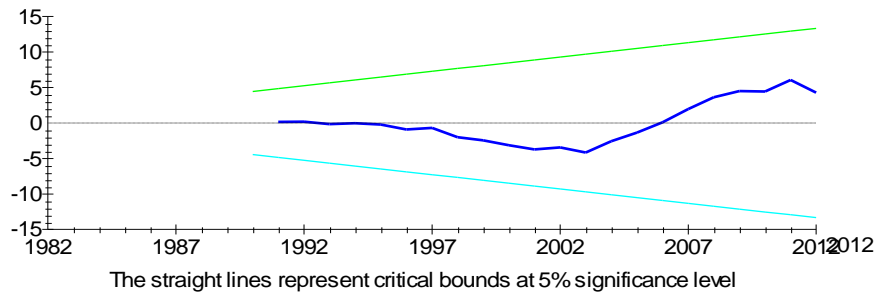


Plot of Cumulative Sum of Squares of Recursive Residuals

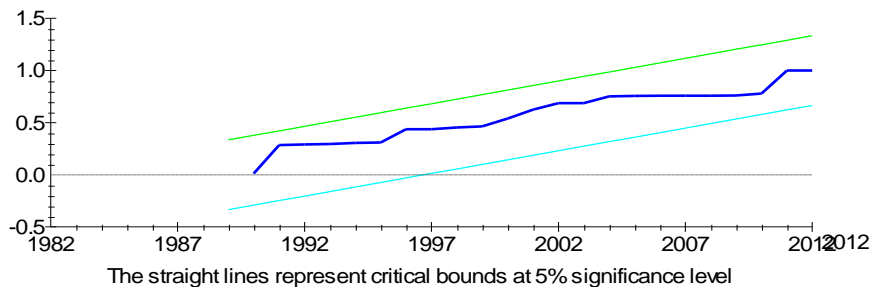


LIBERIA

Plot of Cumulative Sum of Recursive Residuals

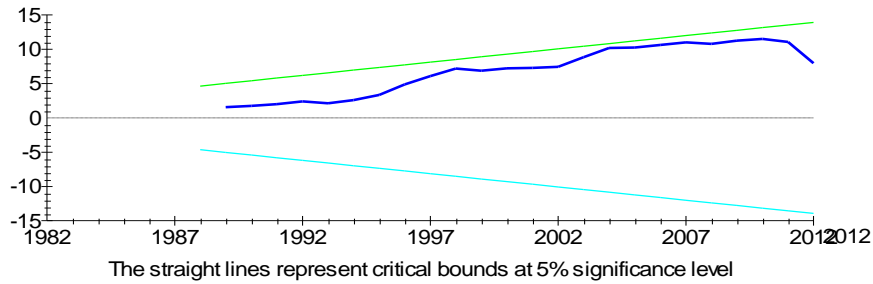


Plot of Cumulative Sum of Squares of Recursive Residuals

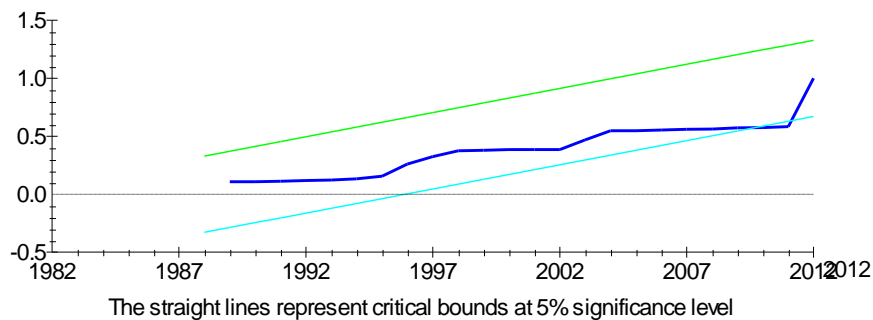


NIGERIA

Plot of Cumulative Sum of Recursive Residuals

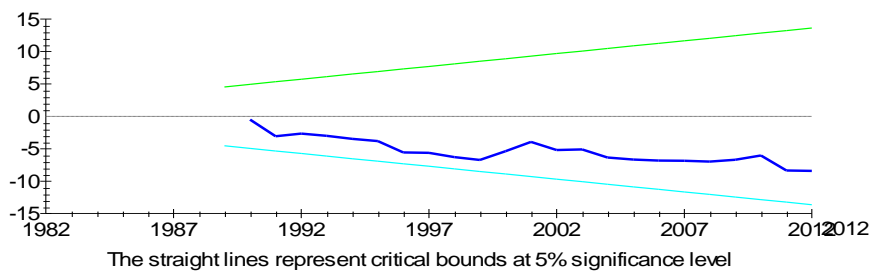


Plot of Cumulative Sum of Squares of Recursive Residuals



SIERRA LEONE

Plot of Cumulative Sum of Recursive Residuals



Plot of Cumulative Sum of Squares of Recursive Residuals

