

**EFFECT OF FINANCIAL LIBERALIZATION ON CREDIT  
ALLOCATION AMONGST EAST AFRICAN COMMUNITY  
COUNTRIES**

**BY**

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## DECLARATION

This Research Project is my original work and has not been submitted for examination in any other University

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## **DEDICATION**

This project is dedicated to my parents, brother and sisters for support and encouragement.

# TABLE OF CONTENT

<b>DECLARATION.....</b>	<b>ii</b>
<b>ACKNOWLEDGEMENT.....</b>	<b>iii</b>
<b>DEDICATION.....</b>	<b>iv</b>
<b>TABLE OF CONTENT.....</b>	<b>v</b>
<b>LIST OF TABLES.....</b>	<b>viii</b>
<b>LIST OF FIGURES.....</b>	<b>ix</b>
<b>LIST OF ABBREVIATIONS.....</b>	<b>x</b>
<b>ABSTRACT.....</b>	<b>xi</b>
<b>CHAPTER ONE: INTRODUCTION.....</b>	<b>1</b>
1.1 Background of the study.....	1
1.1.1 Financial Liberalization.....	2
1.1.2 Credit Allocation.....	3
1.1.4 East Africa Community.....	4
1.2 Research Problem.....	6
1.3 Research Objectives.....	9
1.4 The Value of the Study.....	10
<b>CHAPTER TWO: LITERATURE REVIEW.....</b>	<b>11</b>
2.1 Introduction.....	11
2.2 Theoretical Framework.....	11

2.2.1 The Financial Liberalization Theory .....	11
2.2.2 Neo-Structuralists Theory .....	14
2.2.3 Allocative Efficiency Theory Solow (1956).....	15
2.3 Determinants of Credit Allocation.....	15
2.3.1 Bank Specific Factors.....	16
2.3.2 Industry-Specific Factors.....	16
2.3.3 Macroeconomic Variables.....	17
2.4 Empirical Literature Review.....	17
2.5 Summary of Literature Review.....	22
<b>CHAPTER THREE: RESEARCH METHODOLOGY .....</b>	<b>24</b>
3.1 Introduction.....	24
3.2 Research Design.....	24
3.3 Population .....	25
3.4 Data Collection .....	25
3.5 Data Analysis .....	26
<b>CHAPTER FOUR: DATA ANALYSIS, RESULTS AND INTERPRETATION ....</b>	<b>28</b>
4.1 Introduction.....	28
4.2 Descriptive Statistics.....	28
4.2.1 GDP values for EAC countries between 2004 and 2014 (at current markets prices).....	28
4.2.2 Real GDP growth rates .....	29

4.2.3 Credit allocation.....	30
4.2.4 Financial liberalization.....	31
4.2.5 Interest spread .....	32
4.2.6 Financial development.....	33
4.2.7 Supply of credit to the private sector (Domestic credit to Private sector) .....	34
4.2.8 Financial liberalization index.....	35
4.3 Diagnostic test for Normality and Collinearity.....	36
4.4 Correlation analysis .....	37
4.5 Regression analysis.....	38
4.6 Discussion of the findings.....	41
<b>CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS ..</b>	<b>44</b>
5.1 Introduction.....	44
5.2 Summary of findings.....	44
5.3 Conclusion .....	45
5.4 Recommendations.....	46
5.5 Suggestions for further studies.....	47
<b>REFERENCES.....</b>	<b>48</b>

## LIST OF TABLES

Table 4.1: Descriptive statistics of the study variables.....	28
Table 4.2: Test for normality .....	36
Table 4.3: Collinearity .....	37
Table 4.4: Correlation analysis .....	37
Table 4.5a: Model Summary.....	38
Table 4.5b: ANOVA.....	39
Table 4.5c Coefficients .....	39



## LIST OF FIGURES

Figure 4.1: GDP values for EAC countries between 2004 and 2014 in current markets prices.....	29
Figure 4.2: Real GDP growth rates.....	30
Figure 4.3: Value of Credit allocation .....	31
Figure 4.4: Interest spread of EAC countries from the year 2004 to 2014.....	32
Figure 4.5: Financial development .....	33
Figure 4.6: Supply of credit to the private sector (Domestic credit to Private sector) .....	34
Figure 4.7: Financial liberalization index .....	35

## LIST OF ABBREVIATIONS

<b>CMP</b>	Common Market Protocol
<b>DEA</b>	Data Envelopment Analysis
<b>EAC</b>	East African Community
<b>EAMU</b>	East African Central Bank
<b>GDP</b>	Gross Domestic Product
<b>IOCR</b>	Incremental output capital ratio
<b>NPL</b>	Non Performing Loans
<b>NSE</b>	Nairobi Stock Exchange
<b>RSE</b>	Rwanda Stock Exchange
<b>USE</b>	Uganda Stock Exchange

## **ABSTRACT**

The world's financial system remains weak and policies in the major advanced economies have not been sufficient to rebuild confidence. Financial liberalization is expected to allow for positive real interest rates, and to stimulate the mobilization and efficient allocation of domestic financial resources. At the same time, as the market becomes competitive the costs of intermediation go down, an indication of efficiency in the intermediation of financial assets. In EAC, the foremost structural obstacle in each EAC country is a poor legal system that does not adequately protect property and creditor rights and to liberalise the financial sector operations in each of the country. To achieve this, knowledge on the capital market and interest rates and credit allocation is crucial. This study was motivated by the need to investigate the relationship between financial liberalization and credit allocation in East African Community countries. The study used secondary data from the Capital Markets reports, The Central Banks Publications such as annual reports and statistical abstracts of the bureaus of statistics of the individual countries. World Bank development reports among others. The data was analysed through descriptive statics and inferential statistics. The study found that interest rate spread had insignificant negative effect on the amount of credit allocated while supply of credit to the private sector and financial development directly improved credit allocation among the countries. It was recommended that capital markets authorities and economic policy makers of the EAC countries formulate guidelines on the lending rates and deposit rates so as to provide favourable interest rates which boosts credit accessibility and overall economic growth through increased credit allocation. However, given that the countries fall under almost same ecological zone with almost same economic activities. The findings may be different in other countries with different way of governance and economic activities. It is thus recommended a similar study be done in other countries with other economic powers and with different ecological zones.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the study

McKinnon and Shaw (1973) characterized a financially repressed system as one in which the government determines who gets and gives credit and at what price. A government can exercise or reinforce such control by regulating which financial institutions will be permitted to do business and how they will be permitted to operate, by owning banks and other financial intermediaries, and by exercising control over international capital movements. Conversely, liberalization can be characterized as then process of giving the market the authority to determine who gets and grants credit and at what price.

Full liberalization involves the government's also allowing entry into the financial services industry to any company that can satisfy objectively specified criteria based on prudential considerations (concerning capital, skills, and reputation), giving banks the autonomy to run their own affairs, withdrawing from the ownership of financial institutions, and abandoning control over international capital movements. The same view is echoed by (Odhiambo, 2010), who argued that with the advent of financial liberalization, countries have made deliberate efforts to liberalize their financial sectors by deregulating interest rates, eliminating or reducing credit controls, allowing free entry into the banking sector, giving autonomy to commercial banks, permitting private ownership of banks and liberalizing international capital flows.

### **1.1.1 Financial Liberalization**

According to Kaminsky and Schmukler (2003), financial liberalization can be defined as the deregulation of the foreign sector capital account, the domestic financial sector, and the stock market sector viewed separately from the domestic financial sector. The financial system performs a number of important functions in an economy. Basically, it takes care of mobilizing financial resources, facilitating risk management, allocating resources to the most efficient projects, monitoring the use of financial resources (exerting corporate governance) and providing a payment system that makes trade among economic participants more efficient (Levine,1997).

McKinnon and Shaw (1973), defined financial liberalization to mean the establishment of higher interest rates that equate the demand for, and the supply of savings. They express the views that higher interest rates will lead to increased savings and financial intermediation as well as to improvements in the efficiency of using savings. Higher real interest rates increase the extent of financial intermediation while increased financial intermediation raises the rate of economic growth in developing countries. Evidence is provided on the effects of interest rates on investment efficiency and on economic growth. However, excessively high interest rates will have unfavorable economic effects. Such a situation can be avoided if the liberalization of the banking system takes place under appropriate conditions. The policies that causes financial repression include interest rates ceilings, liquidity ratio requirements, high bank reserve requirements, capital controls, restrictions on market entry into the financial sector, credit ceilings or restrictions on directions of credit allocations , and government ownership or domination

of banks. Flexible interest rates promote genuine competition, with savers and borrowers getting the best return. They allow more diversity in interest rate structure where institutions are able to consider lending proposals involving high risk since they are able to charge higher rates reflecting risk component.

Financial liberalization can be measured using several indicators used in construction of financial liberalization index (FDI). The common measures include; average annual nominal interest rate, Commercial bank assets as a percentage of total financial assets (Liquid liabilities as a percentage of GDP). Liquid liabilities are the sum of currency plus demand and interest-bearing liabilities of banks and other financial intermediaries" divided by GDP. This is the broadest financial indicator of financial intermediation because it looks at the overall size of the financial sector, private credit by commercial banks as a percentage of GDP. It measures the ability of financial intermediaries to carry out their primary function to direct savings to investors. Private credit by commercial banks and other banking institutions as a percentage of GDP, the ratio of commercial bank assets over central bank assets, a widely used measurement of financial development and finally the ratio of stock market capitalization to GDP, an indicator of the size of the stock market (Quispe and Mcquerry, 2001).

### **1.1.2 Credit Allocation**

Credit refers to loans and overdrafts extended to enterprises by formal banking institutions. Bank credit is among the most useful sources of finance for business in Kenya, the provision of credit has increasingly been regarded as an important tool for

raising the incomes, mainly by mobilizing resources to more productive uses. As takes place, one question that arises is the extent to which credit can be offered by commercial banks.

Credit allocation efficiency may be defined as more credit should be advanced to industries that contribute more to GDP (Toboado, 2011). To enhance the efficiency of accessibility to funds and to improve access to a wider variety of services in the formal credit markets, Kenyan government implemented a number of financial sector reforms which included licensing of additional commercial and other financial institutions, review of the Banking Act to widen the definition of banking beyond the commercial banks and removal of restrictive licensing policies and reducing the role of government in the financial sector. Credit allocation is measured by domestic credit provided by the financial sector to GDP.

#### **1.1.4 East Africa Community**

The EAC history is often believed to date back in the 1960s but goes back to 1922 (Zingoni, 2010). The East African Community (EAC) is the regional intergovernmental organization of the Republics of Burundi, Kenya, Rwanda, the United Republic of Tanzania, and the Republic of Uganda, with its headquarters in Arusha, Tanzania. The Treaty for establishment of the East African Community was signed on 30 November 1999 and entered into force on 7 July 2000 following its ratification by the original three Partner States; Kenya, Tanzania and Uganda. The Republic of Rwanda and the Republic of Burundi acceded to the EAC Treaty on 18 June 2007 and became full Members of the

Community with effect from 1 July 2007. The EAC aims at widening and deepening co-operation among the Partner States in, among others, political, economic and social fields for their mutual benefit.

In EAC, there are four equity markets namely; Nairobi securities exchange (NSE), Uganda stock exchange (USE), Dar es Salaam stock exchange (DSE) and Rwanda stock exchange (RSE). Uganda and Kenya liberalized their exchange controls very substantially in the mid-1990s, dismantling controls on the capital account as well as the current account. Tanzania liberalized fully on the current account but has only recently begun to liberalize its capital controls as part of harmonization efforts within the EAC. It is highly likely though not inevitable that the monetary framework adopted by the union wide central bank will be close in outline to the framework currently operated in the three large countries, with a flexible, market determined exchange rate and a largely open capital account. Burundi and Rwanda appear to be on a gradual path to such a regime (Adam, *et al.*, 2012). The protocol for the establishment of the East African Monetary Union article 12 specify that the exchange rate regime for the single currency area shall be free floating.

The reforms in Burundi, Rwanda, Tanzania and Uganda meant that all five EAC countries became open to foreign banks. The entry of foreign banks was expected to make the banking systems more competitive and more active in providing credit.. Foreign bank entry was never a major issue in Kenya, where foreign banks had played an important role since the 1960's. In a nutshell, all three EAC countries have restructured



and privatized the key state owned banks. The state owned banks had mostly become insolvent and were unable to allocate credit efficiently. In Tanzania, the two largest state-owned banks, the National Bank of Commerce and the Cooperative and Rural Development bank, were financially restructured and privatized; partial privatization of the National Micro-finance Bank has also been effected. In Uganda, the government sold most of its shares in the Uganda Commercial Bank. Similarly, in Kenya, the Kenya Commercial Bank was restructured but the government continues to hold a substantial stake in it and progress in restructuring and privatization of the National Bank of Kenya continues to be made.

## **1.2 Research Problem**

For financially repressed economies, financial liberalization was expected to allow for positive real interest rates, and for stimulating the mobilization and efficient allocation of domestic financial resources. At the same time, as the market becomes competitive the costs of intermediation go down, an indication of efficiency in the intermediation of financial assets.

Elizabeth (2008) notes that many countries that have followed the advice of liberalization theorists and have deregulated their financial markets, faced heavy financial crises followed by a breakdown of growth rates and rising inflation and unemployment rates. Examples mentioned in this context are the banking crises of Japan, Argentina, and Mexico in the 90's. It seems logical that due to growing instabilities in liberalized financial markets, economists, especially post Keynesian economists like Arestis and

Demetriades (1999) have been heavily criticizing the basic assumptions of perfect competition and perfect information among market participants made by liberalization economists. They come to the conclusion that the liberalization process has negative impacts on output and promotes financial instability and that liberalization framework can increase banking instability.

Financial systems in the EAC are dominated by commercial banks, which typically have not been reliable sources of long-term capital. Non-bank sources of medium to long-term financing for example, leasing, mortgage and contractual savings are also underdeveloped (World Bank, 2002). Hence, a principal component of financial sector development efforts in the EAC is the expansion of capital markets in the Community, with the objective of developing long-term debt and equity capital for the private sector.

Capital markets in the region have not been able to provide effective support for the private sector because they are small, underdeveloped and have limited activity (World Bank, 2002). Although there are on-going efforts in individual countries to alter this situation and expand capital markets, all the EAC countries have recognized that regional financial integration could potentially address several limitations associated with the country-focused approach, and they have placed substantial emphasis on the pursuit of a regional approach. It is expected that a regional market will ensure that capital markets fulfill their potential in providing long-term finance to support private sector activities in the small, fragmented financial markets in EAC region. Regional financial integration has been proposed in the literature as a solution to stock market development in smaller

emerging countries (Tahari *et al.*, 2007; Shah *et al.*, 2007; Adelegan, 2008; Demirguic-Kunt *et al.*, 2008).

Global studies such as De Gregorio (1992), for instance, argues that credit to the private sector was negatively related to growth in the 1970s and 1980s in Latin America. The author attributes this negative correlation to inefficient lending by banks in the light of poor regulatory incentives. Capoglu (1990), while examining the effect of reforms in Turkey, which began in 1980, found that the reforms had made very little difference to the functional efficiency of the financial sector (as measured by the spread between lending and deposit rates). The author argues that even when Cho (1988) method of assessing the quality of investment was used, there was still no evidence that financial reforms in Turkey had led to a rise in investment efficiency. Jayaratne and Strahan (1996) find that the deregulation of bank branches in the United States in the 1970s did not increase the volume of bank lending, and Sancak (2002) finds that the 1980 financial reforms in Turkey did not lead to a reduction in financing constraints.

IMF (2011) notes that the world's financial system remains weak and policies in the major advanced economies have not been sufficient to rebuild confidence. Changes in the global financial structure is not visible yet, in part because policy makers and bankers have delayed implementation of reforms in some places intentionally or unintentionally and because some reforms are meeting resistance. Banks are still weak in many countries; as a result many borrowers still face very tight borrowing conditions. This creates a feedback loop of tight credit that stifles investment and growth. The report also notes that

risks to financial stability have increased and financial markets remain volatile as the crisis in Europe continues. The report also notes that reforms are heading in the right direction but they have not delivered a safer financial system.

Interest rates and spreads are symptoms of deeper structural impediments to private lending (Beck and Hesse, 2006, Rojas-Suarez, 2000, Chirwa and Mlachila 2004 and Birungi 2006). The foremost structural obstacle in each EAC country is a poor legal system that does not adequately protect property and creditor rights. In particular, an inefficient corporate bankruptcy process is detrimental to increased private lending. An efficient bankruptcy process will decrease borrower moral hazard, increase bank willingness to lend, and decrease the interest charged on loans, which currently must be high enough to cover the large costs of collection. A new reform strategy in EAC is therefore required in order to create the opportunity for banks to lend profitably at lower spreads by removing obstacles to lending and encouraging them to use available opportunities by supporting competition in the banking systems. It is also important to indicate areas in which authorities could intervene. This study therefore sought to answer the following question: what is the effect of financial liberalisation on credit allocation in the EAC?

### **1.3 Research Objectives**

The main objective of the study was to investigate the effect of financial liberalization on the allocation of credit in East African Community countries.

The Specific objectives were to investigate the;

- i. Relationship between interest rate spread and credit allocation in East African Community countries.
- ii. Relationship between capital market deepening and credit allocation in East African Community countries.

#### **1.4 The Value of the Study**

The study adds to the body of knowledge, specifically in regard to financial market development in light of the fast changing financial sector environment it also will add to existing literature, and is an invaluable tool for students, academicians, institutions, corporate managers and individuals who want to know more about the financial development nexus.

The study will aid investment advisors: their role of advising government entities on the general macroeconomic conditions that they should invest in and when to divest from those that are non performing in the context of liberalized financial markets

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter contains the review of various studies that are relevant to financial liberalization and credit allocation. It presents a review of the relevant theories that explain financial liberalization and the credit allocation among East African Community Countries.

#### **2.2 Theoretical Framework**

This study is guided by three theories namely: financial liberalization theory, Neo-Structuralists theory and allocative efficiency theory. These theories provide theoretical evidence of various arguments by different scholars and researchers in relation to financial liberalization and efficient credit allocation.

##### **2.2.1 The Financial Liberalization Theory**

The seminal works of McKinnon (1973) and Shaw (1973) attributed financial repression as the cause of the unsatisfactory growth performance of developing countries. Both McKinnon and Shaw advocated that financial liberalisation was needed to remedy the problems caused by the financial repressive policies of developing countries. Broadly speaking financial liberalisation is used to mean all those policies aimed at freeing "repressed" economies from the effects of such growth-retarding policies as low and often negative real interest rates and directed credit policies. Such financial liberalisation

policies include interest rate liberalisation, abolition of directed credit allocation, bank denationalisation, liberalising entry into the banking sector, and strengthening of prudential regulation.

According to the financial liberalisation theory, financial repression through interest rate ceilings keeps interest rates low and this discourages savings with the consequence that the quantity of investment is stifled. Thus investment is constrained by savings. The quality of investment is also low because the projects that will be undertaken under a regime of repression will have a low rate of return. With financial liberalisation, interest rate deregulation means that the interest rate will rise, thereby increasing savings and also investment. The increased investment results in the rationing out of low-yielding projects and the subsequent undertaking of high-yielding projects. The quality of investment rises and this will ultimately increase economic growth. McKinnon and Shaw therefore advocated the liberalisation of such repressed financial systems so as to promote economic growth.

McKinnon (1973) and Shaw (1973) advocated for a liberalized financial markets in which the free market determine the allocation of credit. With the real rate of interest adjusting to its equilibrium level, at which savings and investment are assumed to be in balance, low yielding investment projects would be eliminated, so that the overall efficiency of investment would be enhanced. Also, as the real rate of interest increases, saving and the total real supply of credit increase, which induce a higher volume of investment. Economic growth would, therefore, be stimulated not only through the

increased investment but also due to an increase in the average productivity of capital. Moreover, the effects of lower reserve requirements reinforce the effects of higher saving on the supply of bank lending, whilst the abolition of directed credit programs would lead to an even more efficient allocation of credit thereby stimulating further the average productivity of capital.

The McKinnon Shaw framework therefore advocated for the implementation of financial liberalization policies as a way of increasing financial savings mobilization, improving efficiency with which resources are allocated among alternative investment projects and therefore enhancing economic growth. McKinnon (1973) developed a model of developing countries based on two important assumptions. Firstly, investors in a typical developing economy have limited opportunities for external finance and are thus confined to self-finance. Secondly, investment expenditures are lumpier than consumption expenditure and potential investors must first accumulate money balances prior to undertaking relatively expensive and indivisible investment projects. The accumulation of money balances is expected to generate greater investment, a phenomenon referred to as 'conduit effect' of money balances. Such a complementary role between money and physical capital is referred to as the complementarity hypothesis

Shaw (1973) however focused on the benefits of an efficient and well-functioning financial system. His debt intermediation 'view suggests that financial intermediaries promote investment and raise output growth through the intermediation process. Shaw argues that higher deposit rates will increase financial savings and expand the role of



financial institutions in channeling funds from surplus to deficit units in the economy. The development of the financial system will create the incentive to save, which will raise the volume and efficiency of investment and thus accelerate economic growth.

### **2.2.2 Neo-Structuralists Theory**

The McKinnon-Shaw hypothesis has generated very rich strand of literature. In the early 1980s, the neo-structuralists provided an alternative view of the effect of financial liberalization, which criticized the McKinnon-Shaw paradigm for not incorporating the informal financial markets in their framework. The neo-structuralists school, led by Wijnbergen (1983) and Taylor (1983), postulates that financial liberalization may not result in increased output growth in situations of efficient curb markets. In particular, Wijnbergen (1983) argues that financial liberalization is likely to reduce the rate of economic growth by reducing the total real supply of credit available to investors due to the effects on the curb market.

The Neo-structuralists assume that households allocate their wealth among gold or currency, bank deposits and curb market loans which are substitutes for one another; commercial banks are subject to fractional reserve banking practices and the curb markets are efficient in intermediating between savers and investors. Based on these assumptions, a rise in the bank deposit rates following financial liberalization will create the incentive for households to shift funds away from curb markets that provide one for one intermediation to the formal banking systems that offer only partial intermediation as a result of fractional reserve banking practices. This reduces total credit supply to the

informal sector. Also, the cost of obtaining working capital from the informal market will increase as informal market rates would rise following the liberalization of interest rates. Hence, some of the beneficiaries of the informal credit market will be crowded out of the credit market as funds are transferred to the formal banking system.

### **2.2.3 Allocative Efficiency Theory Solow (1956)**

The first view, Allocative Efficiency, draws heavily on the predictions of the standard neoclassical growth model pioneered by Solow (1956). In the neoclassical model, liberalizing the capital account facilitates a more efficient international allocation of resources and produces all kinds of salubrious effects. Resources flow from capital-abundant developed countries, where the return to capital is low, to capital-scarce developing countries where the return to capital is high.

The flow of resources into the developing countries reduces their cost of capital, triggering a temporary increase in investment and growth that permanently raises their standard of living. Related literature has been, to a great extent, based on the neoclassical view that financial liberalization mobilizes savings and allocates capital to more productive uses, both of which help increase the amount of physical capital and its productivity. By this means, financial liberalization increases economic growth.

### **2.3 Determinants of Credit Allocation**

Several factors determine credit allocation these are bank specific factors, industry specific factors and macro-economic factors.

### **2.3.1 Bank Specific Factors**

The following are some of the bank-specific factors that impact credit allocation: bank ownership structure, Operating expenses, efficiency of management, deposit composition and quality, asset quality, capital and size and bank reserve requirement. For bank ownership and structure, Demirguc-Kunt and Huizinga (1998), find in their research study that foreign banks have higher margins and profits compared to domestic banks in developing countries, while the opposite holds in developed countries.

Garcia (2006), also observes that foreign banks generally count with a better production technology, which allows them to be more efficient and, thereby, more profitable. Second, foreign banks could actually enjoy better regulatory or tax conditions (as a way to attract them), which should also improve profitability. On the other side of the coin, foreign banks may face information disadvantages. Dietrich and Wanzenried (2009) however indicate that foreign banks in Switzerland are less profitable than Swiss owned banks. Bashir (2000) also maintains that foreign-owned banks are more profitable than their domestic counterparts among Islamic banks.

### **2.3.2 Industry-Specific Factors**

These factors are competition and the financial sector development. On competition, Anginer et al. (2012), Rose and Hudgins (2008) and Demirguc-Kunt and Huizinga (1998) all agree that competition is good for the banking sector as greater competition encourages banks to take more diversified risks, making the banking system less fragile to shocks. That competition tends to squeeze the difference between average asset yields

and average liability costs. In the view of Jimenez and Saurina (2006), strong competition among banks or between banks and other financial intermediaries erodes margins as both loan and deposit interest rates get closer to the interbank rate.

### **2.3.3 Macroeconomic Variables**

The importance of the macro economy is captured in the words of Jimenez and Saurina (2006) who observe that banks' lending mistakes are prevalent during upturns than in the midst of recession. Bashir (2000) observes that favourable macroeconomic conditions impact performance measures positively. Similarly, Al-Smadi and Ahmed (2009) also reveal that at macro level, conditions associated with good economic periods contribute in decreasing the banks' credit risk exposure. Ramlall (2009) considers the following macroeconomic factors in his research: interest rate, cyclical output, the level of economic development and stock market capitalisation.

Cyclical output and the level of economic development are usually used to represent the business cycles since banks' profits are expected to be correlated with the business cycles, being higher in case of upswings and lower in case of downswings (Demirguc-Kunt & Huizinga 1998 and Bikker & Hu, 2002).

### **2.4 Empirical Literature Review**

Jaramillo et al. (1992) found that, after controlling for firms' other characteristics, there was an increase in the flow of credit to more technologically-efficient firms after financial liberalisation. Specifically, the author found that the flow of credit moved from

smaller to larger firms after liberalisation. This shows that the small-scale firms had been subsidised during the period prior to reform in Ecuador. The shift in credit toward large firms was, therefore, a case in which credit shifted to the area that had been discriminated against under the system of financial repression.

In Indonesia, Siregar (1992) and Harris et al (1992) find that after liberalization more technologically-efficient firms received a greater proportion of new credit. In Argentina, Morisset (1993) finds that although the effect of financial liberalisation on the quantity of investment was weak (and even negative in some tests), the effect on the quality of investment was consistently positive.

Oshikoya (1992) investigated how interest rate deregulation has affected investment in Kenya over the period 1970-1989. The dependent variable is the private investment ratio, while explanatory variables are: the real economic growth rate, real deposit rate of interest, changes in terms of trade, public investment ratio, inflation rate, and the lagged debt service ratio. The author found that the real rate of interest is significantly positively related to the private investment rate thus offering support to the financial liberalization hypothesis.

In Korea, Atiyas (1992) presents evidence that small firms gained improved access to external finance after liberalisation. Credit flows in this case moved from light industrial and manufacturing firms to services, utilities, and construction. In a similar study, Gelos (1997) provides econometric evidence that financial constraints were eased for small firms in the Mexican manufacturing sector following financial liberalisation.

Ndungu (1997) in his study on the effect of financial liberalization on nine African countries using different measures of financial liberalization established that financial liberalization caused a decline in investment and reduced the efficiency of intermediation as measured by the spread between deposit and lending rates and a decline in GDP growth rate. He also noted that there was an increase in savings in some of the countries that formed his study. Thus financial liberalization affects the performance of commercial banks negatively thus affecting credit allocation process.

Galindo, Schiantarelli and Weiss (2002) also report a positive and significant effect of liberalization on a measure of allocative efficiency, using firm-level data for 12 developing countries. Finally, in a somewhat different context, Chari and Henry (2003) find that capital account liberalization improves the allocation of capital across countries, just as financial liberalization improves the allocation of capital within countries.

Using firm level data for Jordan, Korea, Malaysia and Thailand, Chari and Henry (2002) show that the typical firm experiences an increase in both Tobin's  $q$  and investment after account liberalization. However the reallocation of investment is not significantly correlated to changes in systematic risk or investment opportunities. In this study, the impact of financial sector reforms on investment efficiency in Tanzania has been examined using the recently developed ARDL-Bounds test approach proposed by Pesaran et al. (2001). The empirical analysis of the investment efficiency (IOCR) function was based on the assumption that the average investment efficiency is monotonically related to the incremental output capital ratio (IOCR). Contrary to the

results obtained in other previous studies, the empirical results of this study find a distinct positive relationship between real interest rate and investment efficiency in Tanzania in the short-run. The coefficient of the lagged real interest rate in the investment efficiency function is found to be positive and statistically significant as expected. This shows that interest rate reforms have a short-run positive influence on the quality of investment in Tanzania. It also implies that the current financial liberalisation taking place in the Tanzania has succeeded in transferring capital from projects with low returns to projects with high returns. This result is consistent with Odhiambo (2007), Jayaraman and Ward (2004) and Fry (1979).

Ambunya (2003) in “*The Financial Liberalization and Economic Growth in Kenya*” traced the impact of financial liberalization on financial deepening and growth through the increment in credit channel to the private sector following financial deregulation. Based on the evidence of the sample period 1991-2002, it was found that the growth of the financial sector and the real sector moved interdependently in the period of financial liberalization (reverse-causation) in Kenya. The results showed that financial reforms undertaken in Kenya impacted positively on economic performance. There was an improvement in financial deepening but deeper financial liberalization still needs to be undertaken. Credit to private sector continued to rise.

Galindo et al. (2005) and Jaramillo et al. (1992) find that investment flows to firms with a higher marginal return to capital following liberalization episodes suggested that financial liberalization increases the efficiency with which investment is allocated across firms.

Abiad et al. (2007) look at the dispersion of expected marginal returns to capital before and after financial liberalization. They find that financial liberalization decreases the variability of the marginal return of capital. This supports the view that financial liberalization facilitates the equalization of the marginal return of capital across sectors and promotes an efficient allocation of funds.

Other studies were performed in some countries of East Africa, the study of Anne (2011) as well as the study by Aikaeli (2008). Both studies used DEA approach to obtain estimated efficiency, Anne (2011) investigated the efficiency and productivity of banking sector in Kenya post liberalization using DEA ,the major findings of the study indicate most banks performed fairly with more chance of improvement, the estimated scores were not less than 40 percent during the year of study, more over the results revealed foreign banks were more efficient than domestic banks, where as in local category local private are more efficient than local public, in terms of size large sized banks were found to be relatively efficient than small and medium sized banks.

Ndirangu, (2008) analyzed the effects of financial liberalization on savings in Kenya during the period 1971 to 2004. The results illustrates that financial liberalization, combined with adequate prudential regulation and strong supervision of banking can breed a sound and deep financial system able to boost savings over an extended period. The ambiguity in these results perhaps suggests that liberalization process was introduced in a hurry when the financial sector was in crisis and without proper macroeconomic



stability. The study recommends that maintenance of a stable financial system is important for the achievement of positive results from the liberalization process.

Chacha(2013) study finds that lending rates have a detrimental impact on the economic growth. An increase in lending rates reduces the economic growth rate. The study further concludes that the lending rates have been on increase over the past years. This has a negative effect on the allocation of credit.

Bundi (2013) studied the effects that interest rate liberalization, opening of financial sector to foreign investors and credit control elimination has had on private domestic savings in Kenya using annual time series data for the period 1975-2011. The results indicate that interest rate liberalization together with credit control elimination have a negative effect on private domestic saving. Opening of financial sector to foreign investors was found to positively affect private domestic savings. This implies that financial liberalization has worked only through financial intermediation. The results of the study therefore suggest the need to formulate policies to change the negative influence of real deposit interest rate to positive influence and promote financial deepening and as a result improve allocation of credit. Clearly, it then follows that financial liberalization has an effect on credit allocation in commercial banks.

## **2.5 Summary of Literature Review**

Several factors provided an impetus for the move to financial liberalization: poor results, high costs, and pressures from globalization. Poor results together with the limited

mobilization and inefficient allocation of financial resources slowed economic growth (McKinnon 1973; Shaw 1973). Low interest rates discouraged the mobilization of finance, and bank deposit growth slowed in the 1980s in many countries. Capital flight occurred despite capital controls (Dooley et al. 1986). Allocation of scarce domestic credits and external loans to government deficits, public sector “white elephants,” and unproductive private activities yielded under increasing pressure from the growth of trade, travel, and migration as well as the improvement of communications.

Since the direction of the study is thus theoretically ambiguous, it is perhaps not surprising that empirical studies find mixed, effects of liberalization. Ambunya (2003) in *The Financial Liberalization and Economic Growth in Kenya* traced the impact of financial liberalization on financial deepening and growth through the increment in credit channel to the private sector following financial deregulation. The results showed that financial reforms undertaken in Kenya impacted positively on economic performance and that credit in the private sector was on the increase. Although these approaches of the studies carried out above provide useful insights on some of the consequences of financial development or of financial reform in different countries, they do not address directly and comprehensively the question of whether financial liberalization has resulted in a more efficient allocation of investment funds in developing countries.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter reviews the methodology that was used to collect and analyze data. The chapter covers the research design that was used to collect and analyze the data, the target population, and the sample size, nature of data collected including both the primary and secondary data. The statistical tools that was used to analyze the data have also been reviewed as well as their suitability. The chapter also reviews measures of ensuring validity and reliability of the secondary data that was collected.

#### **3.2 Research Design**

The study adopted a descriptive research design. The main reason for selecting descriptive research design was to provide a knowledge base since little was known about a phenomenon or such things as clarification of a situation, classification of information, or description of subject characteristics that would aid in the refinement of the research problem, formulation of the hypothesis, or design of data collection and analysis procedures (Mugenda and Mugenda, 2003). It also allows one to establish a relationship between variables.

According to Rajendra (2008) a research design is the linkage and organization of conditions for collection and analysis of data in a manner that aims at combining relevance to the research purpose with economy in the procedure. Vaus (2005) also

asserts that research design focuses on the structure of an enquiry, which leads to the minimization of the chance of drawing the wrong casual inferences from the data.

### **3.3 Population**

According to Ngechu (2004), a population is a well-defined or set of people, services, elements, events, group of things or households that are being investigated. This definition ensures that population of interest is homogeneous. Population studies are more representative because everyone has equal chance to be included in the final sample that is drawn. There were a total of 5 official East African Community member countries i.e. Kenya, Uganda, Tanzania, Rwanda and Burundi. Southern Sudan and Sudan have also applied to join the community. This study focused on the five official EAC member countries namely: Kenya, Uganda, Tanzania, Rwanda and Burundi for a ten year period between the years 2004 to 2014.

### **3.4 Data Collection**

Data was collected from secondary sources. Data on GDP, M2 and M3, Private credit, reserve requirements, directed credit programs, interest rates spreads and Capital Markets reports were obtained from The Central Banks Publications such as annual reports and statistical abstracts of the bureaus of statistics of the individual countries., World Bank development reports, International Financial Statistical Year Books of the IMF, Security Exchanges for EAC countries. The data was for the years 2004 to 2014.

### 3.5 Data Analysis

According to Mugenda (2003), data must be cleaned, coded and properly analyzed in order to obtain a meaningful report. The data was for the years 2004 to 2014. The study focuses on five key variables namely the dependent variable which was measured using by Domestic Credit provided by financial sector % GDP, financial liberalization index is measured using the independent variables namely: level of economic development, financial liberalization, and level of interest rate.

Coefficient of determination was used to determine whether the model was a good predictor. Correlation was used to establish the relationship between financial liberalization and credit allocation. An f-statistic test was used to determine the significance of the independent variables in influencing credit allocation in commercial banks in Kenya computed at 95% confidence level.

The model to be used in the analysis of data in this study was of the form.

Linear regression equation model:

Efficiency of credit allocation=f(lib, control variables)

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \epsilon_i$$

**Y**= Dependent variable i.e. Credit allocation, measured by Domestic Credit provided by financial sector % GDP for each country for the period 2004 to 2014.

**B<sub>0</sub>**= Constant

**β<sub>1</sub>, β<sub>2</sub>, β<sub>3</sub>, β<sub>4</sub>, β<sub>5</sub>** = Regression coefficients/slope

**X<sub>1</sub>**= Interest Rate Spread; was measured by, (Interest Received/All interest bearing assets)-(Interest paid/Interest earning liabilities).

**X<sub>2</sub>**= Financial Development measured by Private credit to GDP

**X<sub>3</sub>**= Domestic Credit to Private Sector; was a measure of the supply of credit to the private sector as a share of total domestic credit or a ration of GDP.

**X<sub>4</sub>**= Financial liberalization index; was measured by market capitalization over GDP.

**i** = represented the specific country

**t**= time period

**ε<sub>i</sub>** = Error term represents the deviations of the observed values Y, from their mean.

## CHAPTER FOUR

### DATA ANALYSIS, RESULTS AND INTERPRETATION

#### 4.1 Introduction

This chapter presents the study findings, presentation of the finding and interpretation. The chapter covers the background of the EAC countries, findings on credit allocation and parameters of financial liberalization which include the interest spread, financial development, supply of credit to the private sector and the financial liberalization index. The chapter has a section which discusses the findings in line with the previous studies and literature.

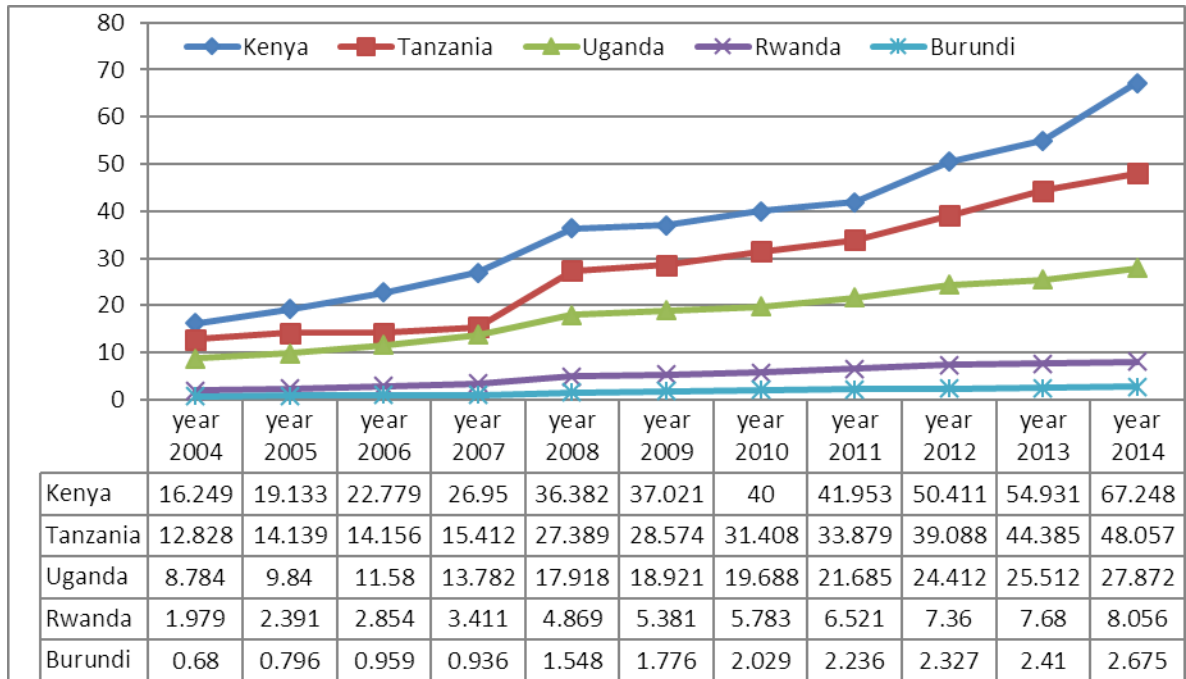
#### 4.2 Descriptive Statistics

##### 4.2.1 GDP values for EAC countries between 2004 and 2014 (at current markets prices)

The GDP values (at current market) values for the EAC countries from 2004 to 2014 are shown in figure 4.1.

**Table 4.1: Descriptive statistics of the study variables**

<b>Descriptive Statistics</b>			
	Mean	Std. Deviation	N
Domestic_credit	21.607560	13.1515105	24
Interest_Spread	9.309522	1.6131974	24
Financial_Dev	17.265621	9.0142661	24
Domestic_Private	17.006845	7.6783435	24
Financial_index	18.830142	15.1744452	24



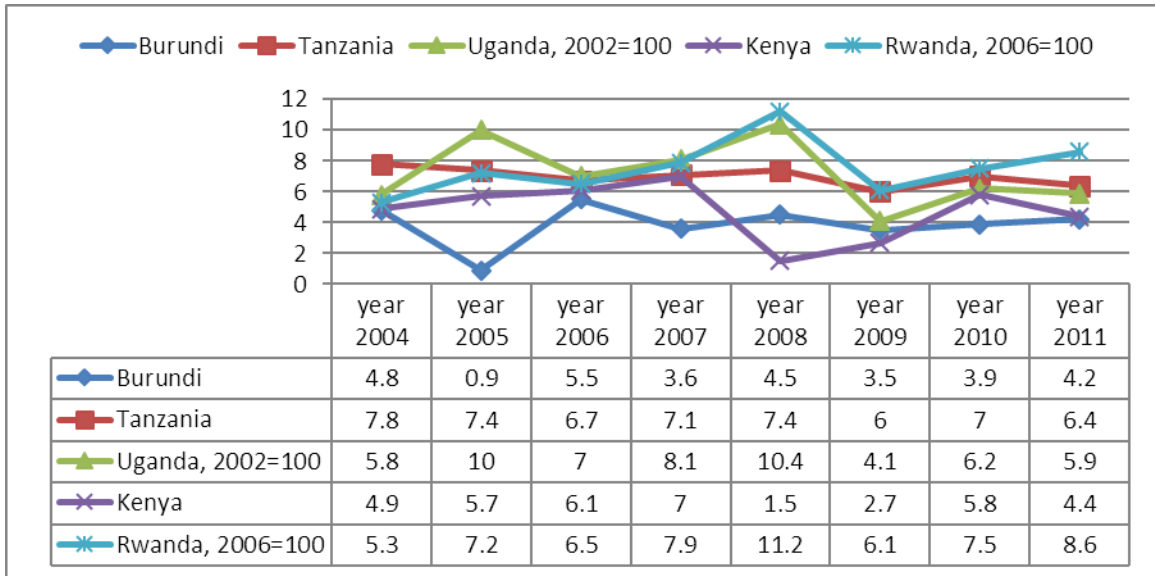
**Figure 4. 1: GDP values for EAC countries between 2004 and 2014 in current markets prices**

The figure shows that Kenya has had high GDP values since 2004 at 16.249 million dollars to 67.248 million dollars in 2014. Burundi on the other hand has experienced slow growth from 2004 at 0.680 million dollars to 2.675 million dollars at 2014. The results show that the countries experienced a sudden sharp increase in GDP in the year 2008.

#### **4.2.2 Real GDP growth rates**

The real GDP growth rates for the EAC countries between 2004 and 2014 are shown in figure 4.2.





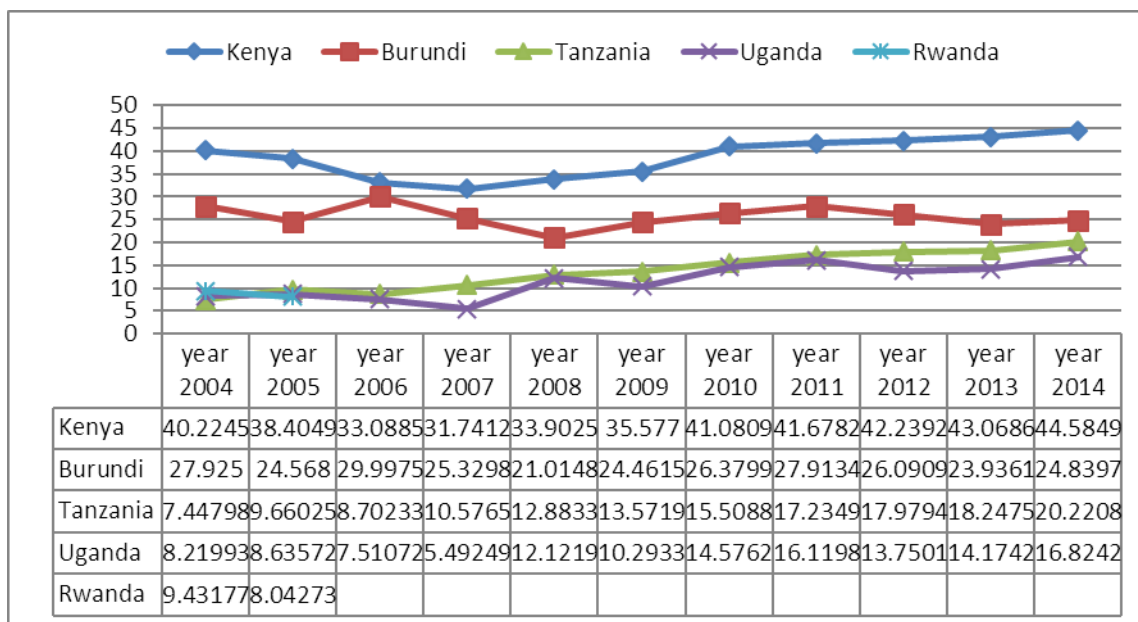
**Figure 4.2: Real GDP growth rates**

Figure 4.2 shows that that the EAC countries have an average growth rate of between 5 and 8.. The least value of growth rate was recorded in Burundi of 0.9 in the year 2005 and the highest value in Rwanda of 11.2 in the year 2008. The countries have progressive growth rate values of less than 10 as shown by the line graphs.

### 4.2.3 Credit allocation

The researcher collected data on allocation of credit among the EAC countries. The values of credit allocation for the countries are shown in figure 4.3. The value of credit allocated was calculated through the formula.

$$\text{Credit allocation} = \frac{\text{Contribution of domestic credit from financial sector to GDP}}{\text{GDP}} \times 100$$



**Figure 4.3: Value of Credit allocation**

The figures shows that the contribution of domestic credit from financial sector to the value of GDP has been very high in Kenya going to as high as 44.58% in 2014. The least contribution of domestic credit from financial sector to GDP was recorded in Uganda in the year 2007 with a value of 5.49%. The proportion of credit allocation has been representing more than 10% of the value of GDP in most of the countries from the year 2004 to the year 2014. This shows that in most of the countries the domestic credit from financial sector has been contributing more than 10% of the GDP for the period between 2004 and 2014.

#### **4.2.4 Financial liberalization**

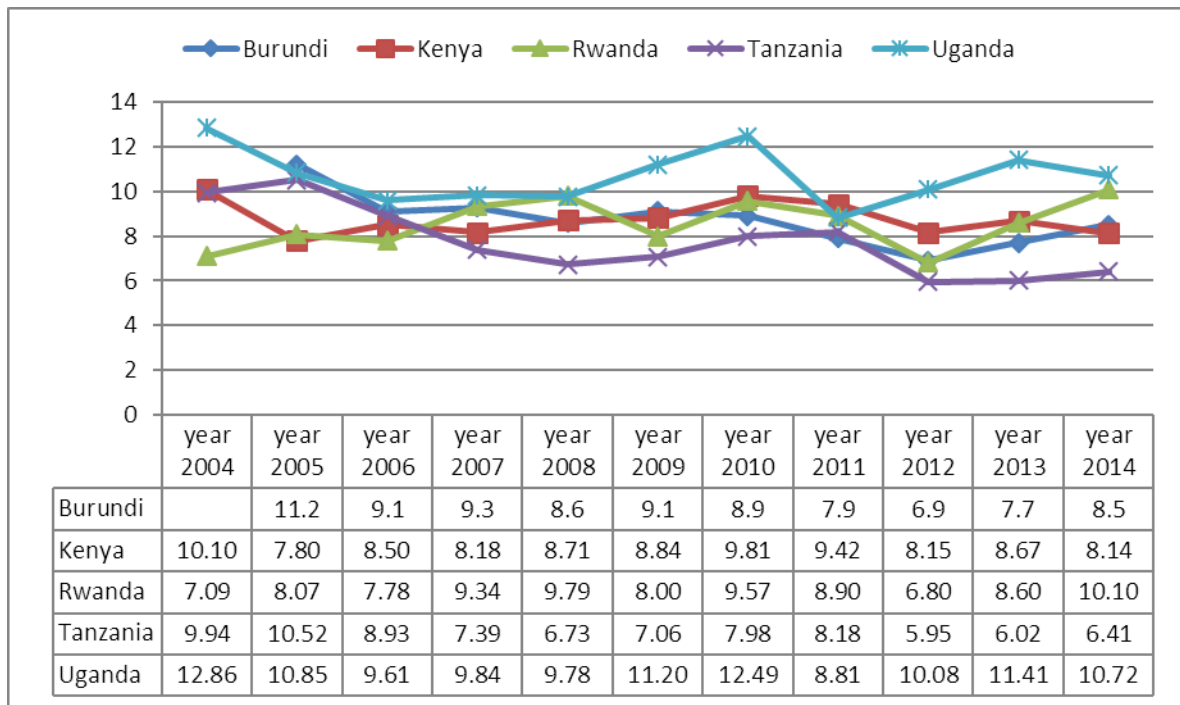
This section presents the findings on the financial liberalization of the countries in EAC for the period between 2004 and the year 2014. This study collected data on the possible

measures which could be used to calculate the financial liberation index of the countries in the EAC.

#### 4.2.5 Interest spread

The researcher collected information on the interest spread as a component of measuring the extent of financial liberalization among the EAC countries for the period between 2004 and 2014 as shown in figure 4.4. The value of interest spread was calculated by:

$$\text{Interest spread} = \left( \frac{\text{Interest Received}}{\text{All interest bearing assets}} \right) - \left( \frac{\text{Interest paid}}{\text{All interest bearing liabilities}} \right)$$



**Figure 4.4: Interest spread of EAC countries from the year 2004 to 2014**

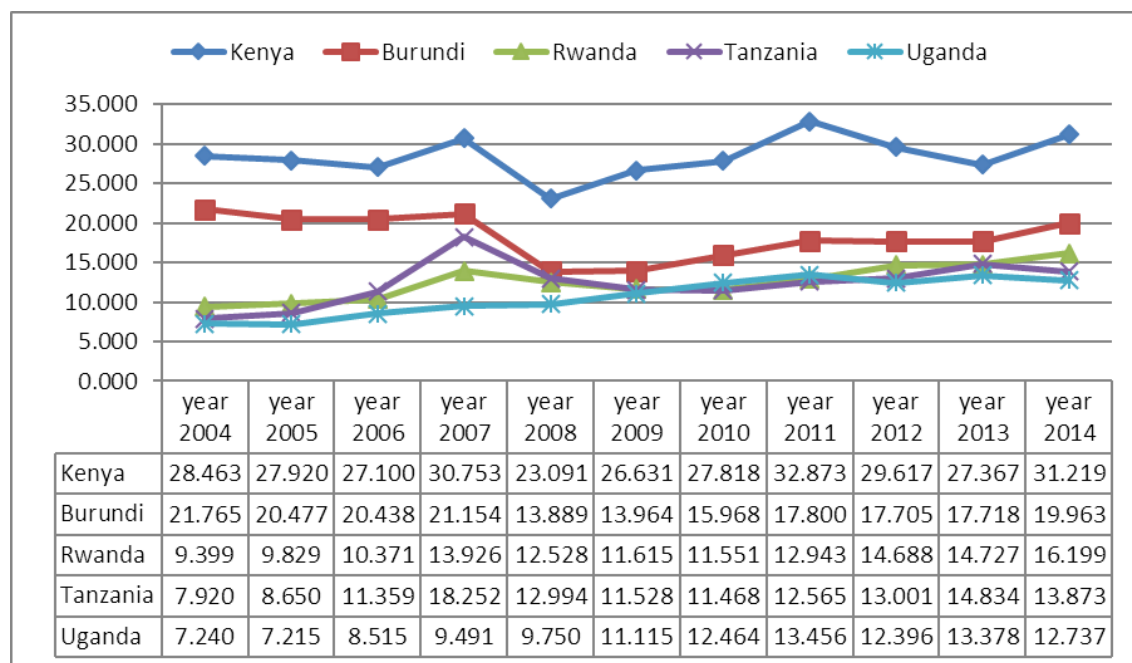
The values of interest spread was very high in Uganda in the year 2004 at 12.86. The lowest value was recorded in Tanzania in the year 2012 at 5.95. Also the result shows that most of the countries have had a steady interest spread apart from Uganda whose

interest spread curve is not smooth from the figure. A high interest spread could be an implication of unstable financial sector which influences negatively the credit allocation leading to reduced economic growth rates.

#### 4.2.6 Financial development

Another component of financial liberalization was the financial development. This was calculated for the period between 2004 and 2014 for the EAC countries. The value of financial development was measured by the value of private credit as a proportion of the GDP:

$$\text{Financial development} = \frac{\text{Private credit}}{\text{GDP}} \times 100$$



**Figure 4.5: Financial development**

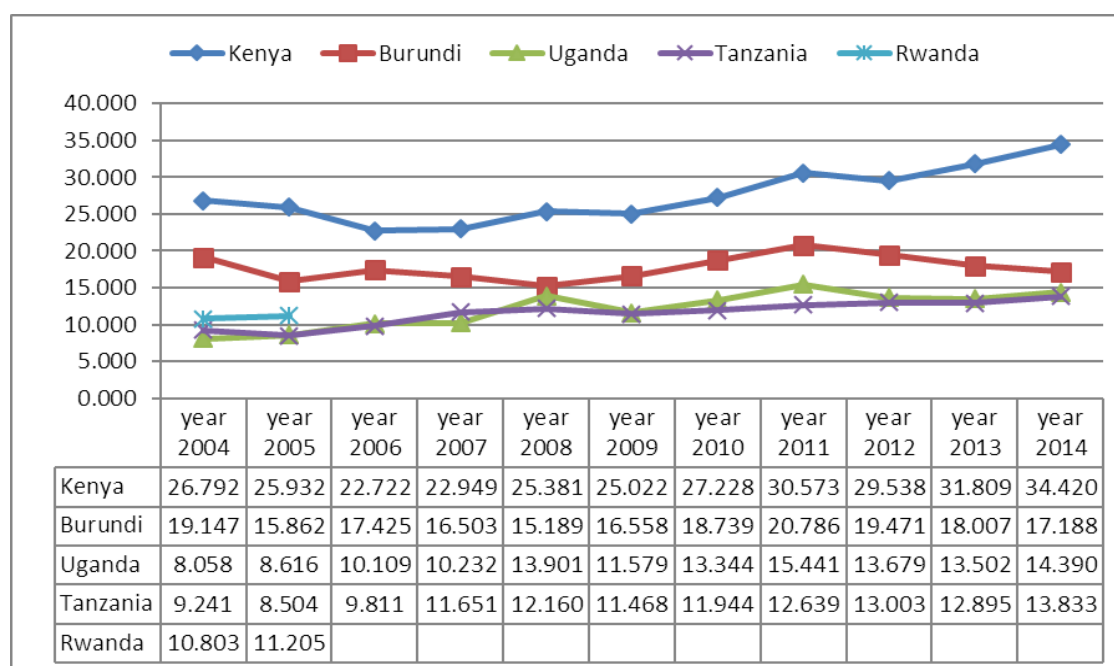
The extent of financial development was over the period high in Kenya compared to the rest of the EAC countries. The highest value was recorded in Kenya in the year 2011 at

32.873 and the least value in Uganda at 7.215 in the year 2005. The results show a sudden increase in financial development in the year 2007 for all the countries under the EAC bloc. An increase in financial development shows the extent to which private credit would finance investment activities in a region.

#### 4.2.7 Supply of credit to the private sector (Domestic credit to Private sector)

The researcher collected data on the extent to which private sector was receiving domestic credit compared to the total domestic credit. This was used as a measure of the supply of domestic credit to the private sector. The formula below was used to calculate the value of domestic credit extended to private sector:

$$\text{Credit supply to private sector} = \frac{\text{Domestic credit supply to private sector}}{\text{Total domestic credit}}$$



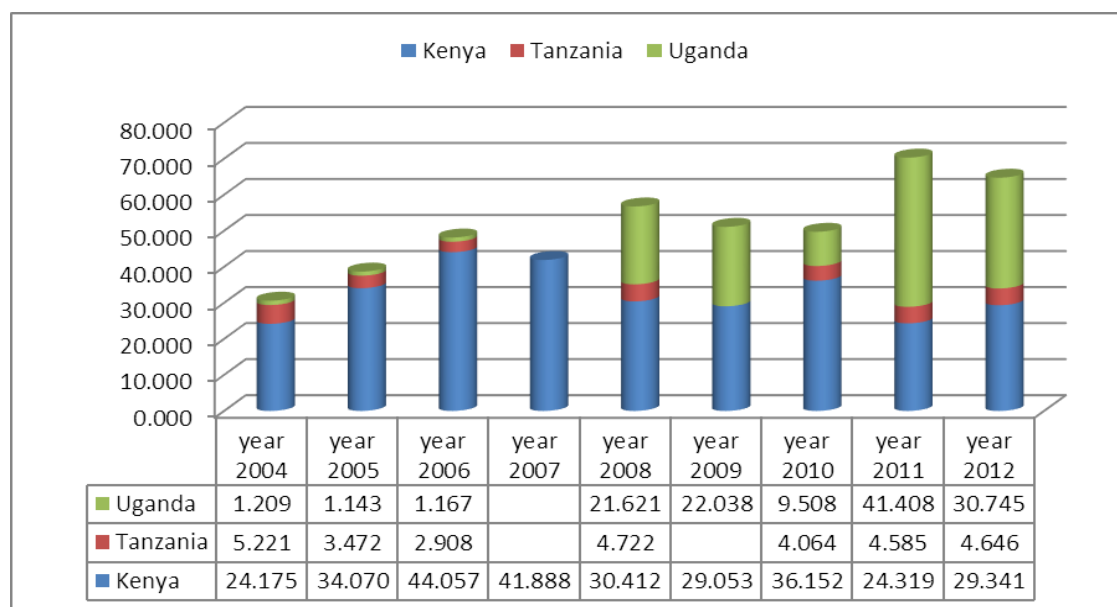
**Figure 4.6: Supply of credit to the private sector (Domestic credit to Private sector)**

The proportion of domestic credit supplied to private sector was higher in Kenya than the rest of the countries under EAC bloc for the period between 2004 and 2014. The highest proportion was recorded in Kenya in the year 2014 at 34.42. The least proportion of credit was recorded in Uganda in the year 2004 at 8.058. A higher level of credit to private sector would lead to a higher the credit in circulation and subsequently the higher the GDP.

#### 4.2.8 Financial liberalization index

The value of financial liberalization index for the EAC countries was considered for three (3) countries which had stock market operations. The results on financial liberalization index was calculated through the formula.

$$\text{Financial Liberalization index} = \frac{\text{Market capitalization}}{\text{GDP}}$$



**Figure 4.7: Financial liberalization index**

The index values of the countries are shown in figure 4.7. The highest values reported was in Kenya at 44.057 in the year 2006 and the least was in Uganda in the year 2005 at 1.143. A low value of financial liberalization index would imply less share trading in a country.

### 4.3 Diagnostic test for Normality and Collinearity

#### Test for normality

The normality test showed a Shapiro-Wilk value of 0.001 for domestic credit, 0.81 for interest spread, 0.001 for financial development, 0.003 for domestic credit to private sector and 0.06 for financial index. This means only interest spread and financial index were normally distributed.

**Table 4.2: Test for normality**

Tests of Normality						
	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Domestic_credit	.234	24	.002	.831	24	.001
Interest_Spread	.104	24	.200*	.976	24	.814
Financial_Dev	.289	24	.000	.828	24	.001
Domestic_Private	.240	24	.001	.860	24	.003
Financial_index	.232	24	.002	.871	24	.060
*. This is a lower bound of the true significance.						
a. Lilliefors Significance Correction						

**Table 4.3: Collinearity**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-5.326	3.315		-1.61	0.125		
Interest rate spread	-0.134	0.268	-.016	-0.5	0.624	.877	1.140
Financial development	0.418	0.182	.286	2.3	0.033	.054	18.635
Domestic credit to private sector	1.314	0.216	.767	6.1	.000	.054	18.361
Financial liberalization index	-0.074	0.040	-.085	-1.84	0.082	.533	2.311

**4.4 Correlation analysis**

The researcher did some correlation analysis to establish the relationship between the components of financial liberalization and credit allocation. The study was done at 95% level of confidence. The correlation results are shown in table 4.1.

**Table 4.4: Correlation analysis**

		Credit allocation	Interest spread	Financial development	Credit supply to private	Financial liberalization
<b>Credit allocation</b>	r	1				
<b>Interest spread</b>	r	-0.1795	1			
	sig	0.2381				
<b>Financial development</b>	r	0.945	-0.1523	1		
	sig	.000	0.2716			
<b>Credit supply to private</b>	r	0.969	-0.1544	0.9360	1	
	sig	.000	0.3112	.000		
<b>Financial liberalization index</b>	r	0.705	-0.1788	0.7433	0.7484	1
	sig	0.000	0.4033	.000	.000	



The correlation shows that interest spread and credit allocation had an insignificant weak negative correlation ( $r=-0.1795$ ,  $p=0.2381$ ). This implies that an increase in interest spread corresponding to a decline in credit allocation. Financial development and credit allocation had a significant strong direct relationship ( $r=0.9737$ ,  $p<0.001$ ) same to credit supply to private sector and credit allocation ( $r=0.9865$ ,  $p<0.001$ ). Financial liberalization index had a strong direct relation with credit allocation ( $r=0.705$ ,  $p<0.001$ ). The results imply that credit supply to private sector; financial development and financial liberalization index have a direct relationship with credit allocation.

#### 4.5 Regression analysis

The researcher performed a regression analysis to establish the effect of interest rate spread and capital market deepening variables on the credit allocation. The results are shown in the following sections.

**Table 4.5a: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.990 <sup>a</sup>	.981	.977	1.999

The regression model summary shows the overall contribution of the model predictors on the variation of the dependent variable. From the table, the value of r square is 0.981. This shows that the model predictors explain 98.1 of the dependent variable thus interest spread and capital market deepening explain 98.1% of the variations in credit allocation.

**Table 4.5b: ANOVA**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3902.223	4	975.556	244.180	.000 <sup>b</sup>
	Residual	75.909	19	3.995		
	Total	3978.132	23			

The ANOVA regression test was useful in determining the significance of the model predictors on the variation of dependent variable. This was used to determine the goodness of fit of the model. According to the results, the F statistic was (F(4, 19) =244.180, p<0.001). This shows that the capital market deepening and interest rate spread were statistically significant in affecting the variations in credit allocation.

**Table 4.5c: Coefficients**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
	(Constant)	-5.326	3.315				-1.61
Interest rate spread	-0.134	0.268	-.016	-0.5	0.624	-0.69508	0.427754
Financial development	0.418	0.182	.286	2.3	0.033	0.037565	0.797967
Domestic credit to private sector	1.314	0.216	.767	6.1	.000	0.862992	1.765521
Financial liberalization index	-0.074	0.040	-.085	-1.84	0.082	-0.15744	0.010183

The results shows that financial development and domestic credit to private sector were significant predictors of the credit allocation within EAC countries (the variables had a p= value of less than 0.05). The rest of the predictors were not significant in affecting the degree of credit allocation since their p values were greater than 0.05 implying that their values could be explained by chance.

The resulting model of the study became:

$$\text{Credit Allocation } (Y_{it}) = -5.326 - 0.134X_{1it} + 0.418X_{2it} + 1.314X_{3it} - 0.074X_{4it}$$

Where

$X_1$ = Interest Rate Spread

$X_2$ = Financial Development

$X_3$ = Supply of credit

$X_4$ = Financial liberalization index

The results show that when there financial liberalization is at zero then the amount of credit allocation decreases to -5.326 units. This shows that the amount of credit allocated is heavily influenced by financial liberalization components. A unit increase in interest spread holding other variables constant leads to a decline in credit allocation by 0.134 units. A unit increase in financial development holding other factors constant increases the credit allocation by 0.418 units. A unit increase in credit supply to private sector holding other factors constant increases credit allocation by 1.314. Lastly a unit increase in financial market capitalization holding other factors constant reduces the credit allocations by 0.074.

The findings shows that interest rate has an insignificant negative contribution effect on the credit allocated while financial development and supply of credit to private sector have a strong direct contribution to the amount of credit allocated in a country. Financial index reduces the amount of credit allocated. This would possibly be due to the fact that issue of shares drains liquid money from the economy.

#### **4.6 Discussion of the findings**

The study collected data from countries in EAC bloc for the period between 2004 and 2014. The objective of the study was to collect data on the credit allocation among the countries over the years and data on the aspects of financial liberalization. The findings show that the countries have been experiencing an increasing GDP growth rate from the year 2004 to 2014. The region is characterised by commercial banks, which typically have not been reliable sources of long-term capital and underdeveloped Non-bank sources of medium to long-term financing (World Bank, 2002).

The study found that Kenya had the highest credit allocation over the years which had an increasing trend. The highest value of credit allocation as a percentage of GDP was recorded in Kenya at 44.58% while the least was recorded in Uganda at 5.49% in 2007. Financial liberalization was measured by considering the values of interest spread, financial development, supply of credit to private sector and the financial index value. All the components can be found in Kaminsky and Schmukler (2003) definition of financial liberalization as that of deregulating the foreign sector capital account, the domestic financial sector and the stock market sector.

One of the objectives of the study was to establish the relationship between credit allocation and the interest spread. To achieve this objective, a correlation test was run at 95% level of confidence. The findings revealed that interest spread and credit allocations were weakly and negatively related. The results agree with Beck and Hesse (2006) that Interest rates and spreads were symptoms of deeper structural impediments to private lending. Further the association was not significant ( $p=0.2381$ ). This meant that increase in interest spread corresponded to a decline in the amount of credit allocated.

The study found that financial development and credit allocation had a strong positive correlation ( $r=0.945$ ,  $p<0.001$ ) implying that an increase in financial development corresponded with an increase in credit allocated. Similarly the amount of credit supplied to the private sector was strongly positively related with credit allocated ( $r=0.969$ ,  $p<0.001$ ). Lastly, financial liberalization and credit allocation were positively and statistically strongly correlated. The results agree with Galindo, Schiantarelli and Weiss (2002) who reported a positive and significant effect of liberalization on a measure of allocative efficiency, using firm-level data for 12 developing countries. Chari and Henry (2003) further affirmed that capital account liberalization improves the allocation of capital across countries, just as financial liberalization improves the allocation of capital within countries.

The study used multiple-linear regression to test the effect of financial liberalization on the credit allocation. The study revealed that financial liberalization explained 98.1% of the variation in credit allocation. This was further affirmed by the goodness of fit test

through ANOVA test which found the overall model being statistically significant in explaining the variation in Credit allocation.

Further the regression test revealed that only financial development and the proportion of credit supplied to the private sector were significant in explaining the variation in credit allocation. The findings concur with Ambunya (2003) was found that the growth of the financial sector and the real sector moved interdependently in the period of financial liberalization (reverse-causation) in Kenya.

According to world bank report (2002) capital markets in the region had not been able to provide effective support for the private sector because they are small, underdeveloped and had limited activity. This study found insignificant negative effect of financial liberalization index on the credit allocation. This shows that increase in market capitalization led to reduced access to loans and credit. This could be explained by the fact that people hold no liquid cash but cash in form of securities for trading.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter presents the final chapter of the project. The chapter has sections on the summary of the findings of the study, conclusions, recommendation of the study and the suggestions for further studies.

#### **5.2 Summary of findings**

The study sought to establish the relationship between financial liberalization and credit allocation in EAC countries. The study tested the relationship between components of financial liberalization and the amount of credit allocated. Firstly, the study found an insignificant weak negative relationship between interests spread and credit allocation. Both financial development and credit supply to private sector had strong positive correlation with credit allocation. Thus increases in activities which liberalise financial sector tend to correspond with credit allocated.

The regression test revealed that lack of financial liberalization would lead to negative values in credit allocated. Interest spread was found to have contributed negatively to the amount of credit allocated. This could be attributed by the fact that increased rates of interest scares away investors leading to less number of people willing to take up loans and credit, the overall effect is reduced amount of credit for investment in the economy.

Liberalising the financial sector would enable more credit to the private sector and improve financial development. Financial development and supply of credit to the financial sector increases the amount of credit allocated. The financial liberalization index as captured by the total market capitalization had a negative effect of the amount of credit allocated. This could be due to the fact that increase in market capitalization would lead to less liquid cash in the economy for investing and for facilitating credit.

### **5.3 Conclusion**

The study notes that interest spread and credit allocation among EAC countries for a period between 2004 and 2014 is weak and inverse. An increase in interest spread leads to a decrease in the amount of credit allocated to the private sector.

There exists a positive relationship between financial development and credit allocation. Similarly supplies of credit to private sector and credit allocation have a positive relationship. The two components also affect the amount of credit allocated. Thus capital market deepening is associated with increase in credit allocated for GDP growth in a country.

The amount of credit allocated to private sector is affected by the market capitalization. An increase in the value of market capitalization or the increase in the number of shares bought drains the public liquid cash for investing and giving credit thus leading to reduced amount of credit being allocated.



Chacha (2013) study finds that lending rates have a detrimental impact on the economic growth. An increase in lending rates reduces the economic growth rate. In this study, the value of interest spread affected the credit allocation inversely. This could be explained by the fact that increase in lending rates discouraged investors from taking credit and loans from banks thus reducing the amount of loans and credit to the investors. Thus in a nutshell the provision of credit to the financial sector widened the amount of credit which was extended towards contribution of the GDP. This shows that financial liberalization has had some positive tangible effect on the credit allocated and subsequently the GDP. Interest spread affects negatively the allocation of credit and general GDP growth.

#### **5.4 Recommendations**

The study found that amount of credit allocated was negatively affected by an increase in the value of interest spread. An increase in the value of the spread reduced the amount of credit allocated and vice versa. It is recommended that capital markets authorities and economic policy makers of the EAC countries formulate guidelines on the lending rates and deposit rates so as to provide favourable interest rates which boosts credit accessibility and overall economic growth through increased credit allocation.

The study found that supply of credit to private sector increases the value of credit which is useful in contributing to the growth of the economies. It is recommended that policy makers provide conducive environment to ensuring that more credit is extended to the private sector to increase the value of credit allocation.

## **5.5 Suggestions for further studies**

The study collected data on the credit allocation and financial liberalization components for the period between 2004 and 2014 in EAC countries only. However, given that the countries fall under almost same ecological zone with almost same economic activities. The findings may be different in other countries with different way of governance and economic activities. It is thus recommended a similar study be done in other countries with other economic powers and with different ecological zones.

There is need to investigate whether the relationship between credit allocation and financial liberalization is a linear function. This study assumed the relationship is linear. This is just one of the possibilities. It therefore must be empirically confirmed that the relationship is linear. If not, then the true relationship should be found and used to provide true results.

The key challenge remains the need to improve the intermediation of savings in the EAC region, reduce the cost of credit and increase availability of credit to support sustainable development and poverty reduction. Regional integration will need to be complemented by the creation of a positive credit culture. A positive culture needs to be strengthened by enforcing creditor rights, improving financial information and reporting as well as strengthening governance of financial institutions.

## REFERENCES

- Abiad and Mody (2005) and Taiwan: Growth, Repression by Hugh T. Patrick Yung Chul Park.
- Abuka A. and Alpha K. Egesa (2007) An assessment of private sector credit evolution in the East African Community: The candidates for a region wide reform strategy for the financial sector Charles Bank of Uganda.
- Abuka C.A. (2007). An assessment of private sector credit performance in East Africa Community: The candidates for a region wide reform strategy for the financial sector Prepared by, Research Proposal Submitted to the AERC, Nairobi.
- Ambunya, A. N. (2003). *Financial Liberalization and Economic growth in Kenya*. Nairobi:, *Unpublished MBA Project*, University of Nairobi, Department of Economics.
- Bagehot, W. (1873), *Lombard Street: A Description of the Money Market*, London: John Murray.
- Banking in Africa (2013). *The Impact of Financial Sector Reform.. Developing Country Studies* www.iiste.org ISSN 2224-607X (Paper) ISSN 2225-0565 (Online) Vol.3, No.11.
- Bundi, J. (2013). *Effects of Financial Liberalization on Private Domestic Savings in Kenya*. *Unpublished MBA Project*, University of Nairobi.
- De Gregorio, J. (1992), “Economic Growth in Latin America”, *Journal of Development Economics* 39(1): 58-84.
- De Gregorio, J. and Guidotti, P.(1995), “Financial Development and Economic Growth”. *World Development* 23(3): 433- 448.

- Demirguc-Kunt, A. & Levine, R. (2001). *Financial Structures and Economic Growth: Across-country comparison of Banks, Markets and Development*, MIT Press, Cambridge, MA.
- Fabio Schiantarelli (Boston College) Andrew Weiss (Boston University), 2003. Does Financial Liberalization Improve The Allocation Of Investment? Micro Evidence from Developing Countries Arturo Galindo (Inter-American Development Bank)
- Economic Efficiency in the Republic of Korea? Evidence from Firm-Level and Industry-Level Data by Jungsoo Park and Yung Chul Park.
- Myriam Q. and Elizabeth M. (1998) *Measuring Financial Liberalization in Latin America: An Index of Banking Activity*, Federal Reserve Bank of Atlanta
- Morisset, J. (1993). Does financial liberalisation really improve private investment in developing countries? *Journal of Development Economics* 40 (February): 133-150.
- Financial Liberalization and Savings Mobilization in Sierra Leone: A Test of Mckinnon's Complementarity Hypothesis Santigie M. Kargbo.
- How has financial liberalization improved the flow of external finance for SMEs in Nigeria Atsede Woldie (UK), Adeniji Kolawoleadeniji (UK)
- IMF. (2002), International Financial Integration and Economic Growth. *Journal of International money and finance* 9(3), 503-17.
- Investment and Institutions Stijn Claessens, Kenichi Ueda, and Yishay Yafeh , 2010

- Jaramillo, F., Schiantarelli, F. and Weiss, A. (1992), “The Effect of Financial Liberalisation on the Allocation of Credit: Evidence from a Panel of Ecuadorian Firms”, World Bank Working Paper, No. 1092, Washington, D.C., World Bank (February).
- Jeffrey Wurgler (2000 ) Financial markets and the allocation of capital *Yale School of Management*,
- Kamau, A. W. (2011). Intermediation efficiency and productivity of the banking sector in Kenya. *Interdisciplinary Journal of Research in Business*, 1(9), 12-26.
- Kaminsky, L. and Schmukler S. (2003) Short Run Pain, Long Run Gain, Brookings institution
- Love and Laeven (2003) for micro evidence for several countries. The former focuses on financial development, the latter on financial reform.
- McKinnon, R. I., (1973), Money and Capital in Economic Development. Washington, DC: The Brookings Institution.
- Morisset, Jacques, (1993), “Does Financial Liberalisation Really Improve Private Investment in Developing Countries” *Journal of Development Economics* 40 (February): 133-150:
- Ndirangu, N. (2008). *The impact of financial liberalization on savings in Kenya*. Research thesis submitted to the School of Business, University of Nairobi. Available at <http://erepository.uonbi.ac.ke:8080/xmlui/handle/123456789/20045>
- Nicholas M. Odhiambo (2011) The Impact of Financial Liberalisation in Developing Countries: Experiences from Four Sadc Countries.

- Singh. (2008). A Cross country comparison of banking efficiency: Asian Pacific Banks. *International Review of business research papers*, 4(3), 73-95.
- Sobudu et al. (1998). *Bank performance and supervision in Nigeria: Analysis the transition to a deregulated economy*. MIC Research Consortium Nairobi.
- Zingoni, T. (2010). Regional integration in East Africa- towards a united state of Africa (unpublished PhD Thesis). University of Stellenbosch, Stellenbosch, USA.