# Influence of Prudential Regulations on Financial Performance of Commercial Banks in Kenya

[1]MUSABI ANTONY BARASA, [2]Dr MBITHI MUTUA

[1]MBA (FINANCE) Student, [2]SENIOR LECTURER, Department of Business Administration,
Jomo Kenyatta University of Agriculture and Technology, Kenya

*Abstract:* Prudential regulations have often been associated with financial behavior of banks. Efforts to revive ailing and collapsing banks have always focused on tightening prudential regulations in an effort to curb financial crises in the banking sector and promote financial stability in the whole financial system. It's evident that prudential regulations are critical issue in dealing with bank failures that has been discussed in different concepts and perspectives. The main objective of this study is to examine the influence of prudential regulations on financial performance of banks in Kenya. The influence of capital requirement regulations on financial performance of banks in Kenya was the specific objectives of this study. The population was 43 banks for the period 2012 to 2016. Descriptive research design was used since it's suitable for description and measurement of phenomena with high level of accuracy. Survey methodology was applied to all 43 banks since this enhances validity of data obtained by addition of relevant information and cases to the study. Secondary data obtained from CBK annual reports and banks end year financial statement was used since data obtained is valid. SPSS and excel spread sheet was used to analyze data and be presented using tables because this can easily communicate the findings to readers. The study findings showed a positive correlation between prudential regulations and financial performance (R= 0.547 with ROE and ROA). It was evident from results that prudential regulations have positively contributed to financial performance of commercial banks in Kenya and there was variation on financial performance due to changes in capital requirement regulations. This study recommended that banks should adhere to prudential regulations in order to withstand shocks and increase financial performance. The study further recommends that commercial banks should adhere to prudential regulations to ensure financial stability and increased financial performance coupled with increased volume of business. The study concluded that capital regulations influenced financial performance of commercial banks in Kenya.

*Keywords:* Prudential regulations, financial performance.

## 1. INTRODUCTION

**1.1 Background of the Study:**

Macro-prudential regulations refers to policies used to deal with systemic risks and aim at protecting the stability of the entire financial system and ensure its strengthened to withstand adverse shocks, this ultimately ensure enhanced economic growth and development (Bank of Slovenia, 2015). A study by Hartmann (2010) acknowledges that systemic risk is the likelihood that turmoil's in the financial system have greater negative effects on the entire financial market and the real economy that depend on the combined action of financial institutions such as aggregate shocks. However, a study by Stein (2011) on a macro prudential approach to financial regulation views macro prudential regulations as mechanisms that control the social costs caused by increased balance sheet shrinkage when many financial firms are hit with a similar shock. Similarly, a study by Clement (2010) points out that systemic risks results into financial burden when financial institutions decrease their assets simultaneously and don't absorb the losses by adding capital to resist shocks hence there is need for macro prudential regulation to ensure such financial crisis are under control.

Globally, a study by Haldane (2011) shows that macro prudential policy was used in the United States by Roosevelt to boost growth as the country faced double-dip recession and reduced lending to the real economy. A study by Erdem Özen and Ünalmış (2017) shows that macro prudential policies are effective in dealing with credit growth and the number of MPP tools matters a lot since defective measures may fail in tackling leakages and hinder their ability to deal with global liquidity shock. A study by IMF (2013) on key aspects of macro-prudential policy find that it assesses systemic risk and endeavour to fill regulatory and information gaps, but its cross-border effects requires international coordination. Moreover, IMF (2011) acknowledges that studies done by central banks provide an overview of its experience with macro prudential regulations; they found that macro prudential regulations have been most widespread in emerging market countries in Asia and Latin America.

Locally, a study by Chepkemoi (2016) on corporate governance and banking sector in Kenya found that widespread existence of systemic challenges in the banking sector: questionable governance practices, weak supervision and rampant fraudulent activities. These results are consistent with Begley, Purnanandam and Zheng (2014) that found out that banks under estimate their risks so as to lower their current regulatory capital requirements at the cost of potentially higher future capital requirements that follow if the under estimation is detected. Conversely, a study by Kivwanyiri, Mutua and Malenya (2016) investigated how bank regulation affects non-performing loans and find that there is negative correlation between bank regulation and non-performing loans. Moreover, PWC (2014) proposes that cosy environment in banking industry no longer exist, having been disrupted with the crisis that have affected the public confidence in banks and made transparent the cost of state guarantees and subsidies, eventually prompting macro prudential regulations. However, CBK Supervisory Department(2013), Prudential Guidelines which took effect on 1st January 2013 outlines the prudential requirements for capital adequacy, liquidity, single borrower limits and restrictions on facilities to insiders on both a consolidated and a solo basis. Regulations are enforced by government regulatory bodies and international groups. Similarly, in Kenya the financial sector is regulated by the CBK which is a government institution.

### 1.1.1 Macro Prudential Regulations:

Macro prudential regulation deals with systemic risks and recognizes the relevance of general equilibrium effects and how the financial sector interacts with the real economy (Hansen *et al*., 2014). On other hand, Mayer and Gordon (2011) Systemic risks necessitate regulators switch from "micro prudential" to "macro-prudential" regulation. Additionally, IMF (2011) argues that the former regulates individual institutions while the latter protects financial systems as a whole.

### 1.1.2 Financial Performance:

According to the Monthly Economic Review (2016) as per CBK records total profit before tax among banks increased from 110.1 billion in August 2016 to 121.0 billion in September 2016, total liquidity ratio rose from 41.9 billion to 42.9 billion, while total assets grew from 3689.2 billion to 3784.6 billion. Financial results for 1st quarter ended march, 2017 shows banks drop in profit due to tighter operating environment especially capping of interest rates (Njini, 2017). CBK quarterly report (2016) points out that Chase bank and imperial bank were excluded because they are under receivership and statutory management respectively.

According to Maniagi, Mukanzi and Mukanzi (2016) companies possessing related characteristics may have dissimilar returns from the other companies. The financial performance of banks has gained a lot of awareness, remarks and interests from financial experts, researchers, the general public and the management of entities (Mukanzi *et al*., 2016). Research by Vianney (2013) in Rwanda shows there was no relationship between regulations and the financial performance of commercial banks in Rwanda.

Financial performance of commercial banks is measured by ascertaining whether they adhered to capital adequacy requirement of kshs 1 billion, looking at liquidity ratios, return on equity (ROE), return on capital and return on assets (Understanding Financial Ratios, 2015).

### 1.2 Statement of the Problem:

Kenya has experienced sudden unexpected systemic collapse of three banks (Musyoka, 2016). This is evident by placing of Imperial bank and Dubai bank under receivership and subsequent collapse of Chase bank considered as too big to fail send panic across banking sector in Kenya (CBK, 2016). The key cause of failure of banks is attributed to violation of banking laws, macro prudential regulations coupled with deteriorating cash reserves (Abdallah, 2016). Systemic failure of prominent banks took place recently in the year 2015/2016. Based on statistics from Info Hub Kenya 2016 report, a total of 13 banks had previously collapsed in Kenya and the recent 3 banks raises the totals to 15 banks, which points to a

worrying trend. This pose risk to safety of stakeholders deposits, cause bank panic withdrawals and erode their confidence and loyalty. The banking sector was further in turmoil when National Bank of Kenya posted sh15 billion loss in the year 2016 with vicious rumour that other banks could follow suit (Fusion Investment Management, 2015). Essentially, Piskadlo (2016) accuses CBK for failing to crack the whip on rogue banks with weak governance system who continuously engage in illegal transactions. For instance, severe governance problem was witnessed at Chase bank when directors awarded themselves large amount of loans worth kshs 1.35 billion each. Experts warn that the extent of deterioration is huge and the worst is yet to come for the banking sector while Acharya (2011) acknowledges that there is need of credible resolution mechanism to deal with multiple, large banks failures by regulating systematic risks posed by externalities and government guarantees. Thus, there is need to conduct further studies on whether macro prudential regulations have succeeded in curbing financial crises and their influence on overall financial performance of banks. Studies already conducted in Kenya on the influence of macro prudential regulation on banks have given different perspective and ideas. Balogh and Trenca (2013) did a study on impact of capital regulation on banks and found that these measures are intended to ensure resilience of banking sector but using them to pursue both industrial and financial stability goals is not justified. Further, Sunderam (2017) argue that these regulations come with costs hence they need to be reformed so as to reduce regulatory burden especially on smaller banks. KPMG (2017) concludes that macro-prudential regulations greatly influence performance of banks and there should be mechanism for identifying financial crises and systemic risk so that we are not caught unaware by bank failures. Hence more has to be done on strengthening enterprise risk governance systems in order to ensure banks are able to withstand shocks that threaten their existence. From above literature, it's evident that macro prudential regulation is a critical issue in dealing with bank failures that has been discussed in different concepts hence there is need for this study to bridge the gap and explore deeply on the influence of macro prudential regulation on performance of banks in Kenya.

### 1.3 Research Objectives:

### 1.3.1 General Objective:

The main objective of this study is to establish the Influence of prudential regulations on financial performance of Commercial Banks in Kenya.

### 1.3.2 Specific objectives:

To determine the influence of capital requirement regulations on financial performance of commercial banks in Kenya.

### 1.4 Research Questions:

How does capital requirement regulations influence financial performance of commercial Banks in Kenya?

### 1.5 Significance of the Study:

### 1.5.1 Policy makers:

This study will be useful to policy makers such as ministry of finance since it influence them when revising and formulating prudential regulations for commercial banks. This is through manipulation of macro prudential variables and knowing how they influence financial performance of banks.

### 1.5.2 Kenya Revenue Authority (KRA):

This study is useful to current and future reforms being undertaken by Kenya Revenue Authority. It will aid in formulation of stringent prudential regulation that will curb tax evasion by individuals and corporates that has increased inequality, tax burden on the poor and caused social exclusion among Kenyans.

### 1.5.3 Commercial Banks:

The findings of this study will be useful to banks since they will establish how macro prudential regulations influence their financial performance. This will also enable them avoid unnecessary costs that come with violation of macro prudential regulation.

### 1.5.4 Researchers, Scholars and Students:

A part from enabling researchers to identify areas for further research, the findings of this study will enable them to benefit immensely in terms of knowledge on influence of macro prudential regulation on financial performance of banks. Further, it will contribute to reference material for researchers and other scholars.

### 1.5.5 Investors:

The finding of this study will also aid investors in making the right investment decision and shun unscrupulous banks that do not adhere to macro prudential regulations.

### 1.6 Scope of the Study:

The scope of this study is on influence of macro prudential regulation on financial performance of banks. The study focused on capital regulations, liquidity regulations, interest rate regulation and credit facilities regulation. The target population is 43 banks established under the banking act and licensed by CBK. Geographical scope was Kenya within time scope of 2017 using CBK annual reports from the year 2012 to 2016 and the total cost of this study was Kshs 57,500

### 1.7 Limitation of the Study:

The study was limited to determining influence of prudential regulation on financial performance of commercial banks in Kenya. The study was based on five year period 2012 to 2016. Use of more years would have made it possible to capture periods of different economic significances hence this gives the study broader outlook.  The study was also limited to commercial banks in Kenya and also limited to the degree of precision of data obtained from secondary source. Despite verifying the data, it still could have been prone to this limitation.

## 2.   LITERATURE REVIEW

### 2.1 Introduction:

This chapter highlights literature on influence of macro prudential regulation on financial performance of banks and specifically Kenya. This aide in avoiding reproduction of similar work by different scholars. Literature review analyses theories on the subject and identifies the gap that prevails between the variables under study. conceptual framework is identifies the model under study and the relationship between dependent and independent variables (Mugenda, 2003). Independent variable is one that cause changes in dependent variable that researcher wishes to explain. Conceptual framework describes concepts relevant to the study and map conceptual scope (Tromp, 2012).Therefore, by interlinking theoretical and empirical review models that support the study are derived and variables that form the conceptual framework are obtained. Without doubt, this clearly illustrates the link between independent and dependent variables.
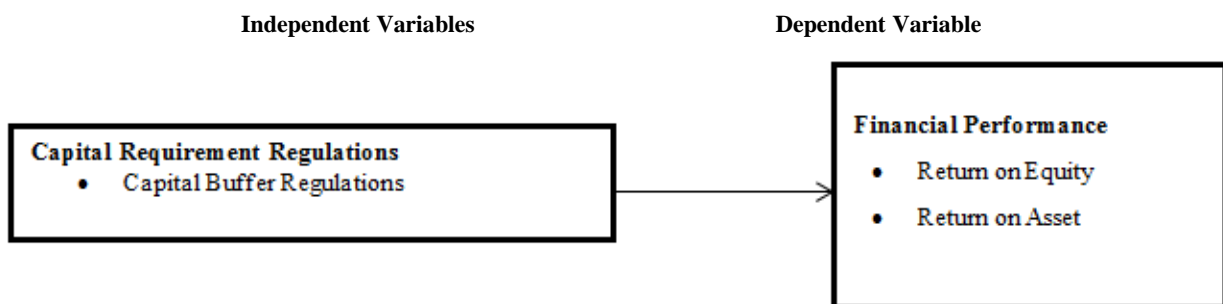


**Figure 2.1: Conceptual Framework**

### 2.2 Review of Variables:

### 2.2.1 Capital Requirement Regulations:

Capital requirement regulation is the amount of capital a bank has to hold as required by its financial regulator (Masinde, 2014). Moreover, Spencer (2017) defines capital requirement as minimum funding that banks are required to hold so as to cushion, and enable them to absorb any losses that may occur. Equiniti (2017) found that banks should closely monitor fluctuations in financial system that may require adjustment of its capital base so as to ensure it meets capital requirement set by the regulator. Likewise, Li (2017) asserts that sufficient capital requirement enforced by CBK can greatly reduce the motivation for risk taking activities since banks will be holding safe deposits. Consistent to this finding is Kremmling (2011) who adds that banks should hold enough and additional capital to enable them absorb losses by requiring owners to invest in them banks more funds. Similar result were put forward by Olingo and Anyanzwa (2015) who found that Kenyan government through the national treasury proposed to increase minimum core capital for lenders from $10.1 million to $50.54 million. Elsewhere, Janda (2017) notes that Australian prudential bank regulator increased minimum capital

requirement that all banks are expected to hold in an effort to strengthen the banking system and equip them to handle adversity and threats that result from vulnerable banking sector. In this context, A Study by Odongo, Ngoka and Oduor (2017) on capital requirement and stability in Africa find that increased capital requirement may lead to financial instability in Africa except in big banks due to fear that it may force interest rates to rise. These results are consistent with Juma (2015) finding that this measure is a crisis in waiting since it can spark wave of takeovers, stifle competition, empower big banks and threaten small banks.

But the findings by Anyanzwa (2016) notes that this measure to increase capitalization of banks ensures strong and stable banking system. Further, Zoli and Zhang (2014) illustrate that capital regulations monitor, detect and control systemic risk in the financial system and the amount of additional capital requirement to be imposed by Kenyan prudential regulator depends on state of financial sector. This is further, pointed out by Woods, Hallissey and Grace (2015) who agrees that capital requirement regulations are meant to build up capital in good times so as to boost the ability of financial sector to withstand shocks. Contrary, Aiyar, Calomiris, and Wieladek (2014) disagrees by arguing that capital regulations don't affect the strength of systemic threats and shocks resulting from capital flows and its credit given by banks that influences capital requirements.

Moreover, Financial Stability Department (2016) found that capital requirement regulations mitigate and lower the risk of financial crises. However, a similar study by Korinek (2013) find that capital regulations that deal with financial shocks promote efficiency in financial system but since regulatory bodies such as CBK faces a number of challenges when selecting macro prudential instruments, there is need for coordination. In this context, Kandie (2015) asserts that increase in minimum capital requirement is good for financial stability but it comes at cost and whether cost outweighs benefits is debatable. Further finding that capital requirements are effective were made by Jane Rumsey and Ozge (2015). On other hand, Mwega (2014) identifies the capital requirements that all banks are expected to meet and they are a core capital to total risk weighted assets ratio of 8 percent, a core capital to total deposit liabilities ratio of 8 percent, a total capital to total risk weighted assets of 12 percent and a minimum core capital of Ksh 1 billion. This study will be useful in formulation and implementation of macro prudential regulations and will provide additional information to policymakers on scholarly work and will contribute extensively to policy debates.

Minimum capital requirement is the least amount of capital that banks should hold based on CBK capital regulatory directive for banks (Reserve Bank, 2017). As further stated by KPMG (2017), minimum capital requirement enables banks to be unquestionably strong and resilient to systemic risk in financial system. But Malherbe and Bahaj (2017) disagrees and notes that capital requirement may cut lending in bad times as a result of increased cost of equity offering. While Monetary Board (2016) adds that regulatory supervisor may intervene to prevent capital from falling below the stipulated minimum capital requirement and prevent severe effect on the stability of financial system. Specifically, Covas (2017) summarises that it is a way of ensuring availability of capital cushion in case banks erred in conduct of their activities that may give rise crisis in the whole financial system.

Capital buffer regulations is additional capital that banks are expected to hold on top of the minimum capital requirement (Basel Committee on Banking Supervision, 2010). As further stated by Capital Adequacy Framework (2015) it has effect of protecting banking sector from excess aggregate credit growth resulting from build-up of system wide risk. Restrictions are imposed on those who fail to adhere to this regulation since it enables banking sector to continue performing their role even when hit by crises by using the extra capital during bad times (Dutch Banking Association, 2017). Concurrently, this provides sufficient cushion that enable banks as a whole to absorb losses and withstand catastrophic losses arising from severe crises that threaten financial stability of banking sector. A study by Kashyap and Stein (2004) found that capital buffers maintain credit creation but Hanson *et al* (2010) disputes this finding by arguing that this regulatory constraint might be insufficient to enable whole market continue supporting financially troubled banks. While Frost and Van Strain (2016) add that capital buffers may limit growth of credit and cause income inequalities. In spite of this, Wood *et al.* (2015) fully agrees that capital buffers are sure ways of strengthening resilience of financial system so as to enable it deal with system wide shocks.

**2.2.2 Macro Prudential Regulations:**

Macro prudential regulation deals with systemic risks and recognizes the relevance of general equilibrium effects and how the financial sector interacts with the real economy (Hansen *et al*., 2014). On other hand, Mayer and Gordon (2011) Systemic risks necessitate regulators switch from "micro prudential" to "macro-prudential" regulation. Additionally, IMF (2011) argues that the former regulates individual institutions while the latter protects financial systems as a whole.

### 2.2.3 Financial Performance:

According to the Monthly Economic Review (2016) as per CBK records total profit before tax among banks increased from 110.1 billion in August 2016 to 121.0 billion in September 2016, total liquidity ratio rose from 41.9 billion to 42.9 billion, while total assets grew from 3689.2 billion to 3784.6 billion. Financial results for 1st quarter ended march, 2017 shows banks drop in profit due to tighter operating environment especially capping of interest rates (Njini, 2017). CBK quarterly report (2016) points out that Chase bank and imperial bank were excluded because they are under receivership and statutory management respectively.

According to Maniagi, Mukanzi and Mukanzi (2016) companies possessing related characteristics may have dissimilar returns from the other companies. The financial performance of banks has gained a lot of awareness, remarks and interests from financial experts, researchers, the general public and the management of entities (Mukanzi *et al*., 2016). Research by Vianney (2013) in Rwanda shows there was no relationship between regulations and the financial performance of commercial banks in Rwanda.

Financial performance of commercial banks is measured by ascertaining whether they adhered to capital adequacy requirement of kshs 1 billion, looking at liquidity ratios, return on equity (ROE), return on capital and return on assets (Understanding Financial Ratios, 2015).

### 2.3 Empirical Literature Review:

Vianney (2013) carried out a study in Rwanda to obtain relationship between regulation and the financial performance of commercial banks in Rwanda. He incorporated a descriptive research design. The sample size was 10 banks. The study established that regulation is not a significant determinant of financial performance of commercial banks in Rwanda. The study recommended that the government of Rwanda ought to develop policy that will help banks to operate in a conducive environment that can create financial stability of financial institutions in the country. This study therefore notes that regulations have no impact on the financial performance of financial institutions.

Gahuthu, (2016) conducted a study on the impact of prudential regulation on financial performance of deposit taking financial institutions in Kenya. The methodology of data collection was mining secondary data from Sasra data base and the analytical tool was the statistical package for social sciences (SPSS). The study used comparative design and a linear regression model to establish the impact of prudential requirements. The data was able to show low performance before legislation and higher performance after legislation. Further analysis, compared the Betas of various independent and dependent variables before the regulatory reforms and after. On comparison, all the betas showed that the independent variables, namely core capital, credit management, membership growth and liquidity were not strong predictors of financial performance but after the prudential regulations they all became strong predictors. The study recommends that financial institutions should abide by prudential regulations to enable them enjoy benefits of increased volume of business.

Mwogeli (2012) carried out a study on effect of regulations on financial performance of commercial banks in Kenyan. The population of study was the 43 commercial banks in Kenya and the period of study was between 2010 and 2015. Chi-Square test of independence was used to analyse the relationship between the two variables. The test was carried out on each of the ratios and the findings were that there is no relationship between regulations and financial performance of commercial banks. This study did not factor in macroeconomic factors that may affect the financial performance of commercial banks.

### 2.4 Critique of Existing Literature:

Despite the fact that many studies have been conducted in many countries on the influence of macro prudential regulations on financial performance of financial institution. This has not been the case in Kenya which has experienced limited research on the same area despite financial crises that have rocked it recently. A study by Adegbe and Adigun (2013) dwelled on implementation of macro prudential regulations in Nigeria and found that sources of systemic risks need to be identified, measured and right mix of prudential instruments chosen with emphasis on the right attitude and motivation. While, Lugaliki (2009) focused on Kenyan perspective and the finding was that MPP affects financial system ability to innovate and take risks. Worth noting is that current literature on influence of macro prudential regulations is that it has limited its scope on advanced countries like Europe, America, Canada and Netherland. Furthermore, they over relied on mathematical models with little use of one peak model, twin peak model and credit scoring model. Neither did they explain how their models support their study.

# 3. RESEARCH METHODOLOGY

Descriptive research design is basically an outline that guides the researcher when collecting, measuring and analysing data and it the intent of research design is to guide the whole process of research. Furthermore, a descriptive research design endeavours in establishing the relationship that exist among variables and details the key features of the population. This study employs descriptive research design. This study employed survey methodology. Survey methodology involves collection of data to facilitate the prediction of the relationship between variables. Population of the study was 43 banks in Kenya.

Target population of this study will be 43 banks in Kenya.  In a nutshell, secondary data worksheets were used to collect data on both macro-prudential regulations and financial performance of banks. This was obtained from annual reports by Central Bank of Kenya (Kivwanyiri, 2016). Data was collected from Central bank annual reports and from banks end year financial statement from 2012 to 2016 (Parab, 2013). This covers five recent years when banking sector has been experiencing macro prudential reforms despite the sudden failure of banks. .

Data analysis when using descriptive survey design involves various descriptive and inferential statistics. In this study, data was coded and analysed using SPSS. Inferential statistics on the other hand shows the relationship between and among the variables. Inferential statistics adopted include regression analysis and Pearson correlation. This was crucial in finding out the strength and relationship that exists between independent and dependent variables. Data was presented in form of table because they easily communicate research findings to the reader. Regression model was used in analysing the influence of prudential regulations on financial performance of banks in Kenya.

The Model was $YFP = \beta o + \beta_1 X_1 + e$

Where YFP = Financial Performance of Banks

Bo   =  Constant Term

e    =  error term

$X_1$  =  Capital Requirement Regulations

$\beta_1$   =  Regression Coefficient

# 4. RESEARCH FINDINGS AND DISCUSSION

## 4.1 Introduction:

Both descriptive statistics and inferential statistics were used as the basis to analyze data for years between 2012 and 2016 using SPSS and presented by tables.

## 4.2 Descriptive Analysis:

In an attempt to determine the influence of independent variable as represented by  capital requirement regulation, liquidity requirement regulations, credit facilities regulations and interest rate regulations on financial performance of banks as represented by return on equity and return on asset. The results of descriptive analysis are presented as follows:

### 4.2.1 Capital Requirement Regulations:

The study investigated whether capital requirement regulations influence financial performance of banks in Kenya. Capital requirement was operationalized using minimum capital requirement and capital buffer regulations and the results are shown in table 4.1

**Table 4.1: Capital Requirement Regulations**

| No. | Constructs of CRR | Mean | Std   Deviation |
|-----|-------------------|------|-----------------|
| 1 | Minimum capital requirement regulation | 40800 | 2167.95 |
| 2 | Capital buffer Regulations | 371452 | 84282.75 |

From the table above capital requirement regulations as operationalised  by minimum capital requirement regulations has a mean of 40800 and  standard deviation of 2167.95 while when capital requirement regulations is operationalised by capital buffer regulations;  it has a mean of 371452 and standard deviation of 84282.75

### 4.2.2: Financial performance:

The study also analysed financial performance using descriptive statistics. Financial performance was operationalised using return on equity and return on asset and their results presented in table 4.2.

**Table 4.2: Financial performance**

| No. | Constructs of FP | Min | Max | mean | Std Deviation |
|-----|------------------|-----|-----|------|---------------|
| 1 | Return on Equity | 23.90 | 30.00 | 26.88 | 2.703 |
| 2 | Return on Assets | 2.90 | 4.70 | 3.80 | 0.8426 |
| | | | | | |

**Table 4.3 Correlation Matrix**

| | | FP | |
|---|---|---|---|
| Capital Req. Regulations | Pearson Correlation | .904[*] | 1 |
| | Sig. (2-tailed) | .035 | |
| | N | 44 | 44 |

Capital requirement regulation and financial performance showed a strong positive association with a Pearson correlation coefficient of r=0.904 and the level of confidence was 0.05 as shown in table 4.3. Odongo *et al*. (2013) and Nyawira (2017) also found a strong positive association between capital requirement regulation and financial performance. They are however inconsistent with the findings of Vianney (2013) who found that no relationship exist between capital requirement regulation and financial performance.

### 4.3 Regression Analysis:

### 4.3.1 Capital requirement Regulations and Financial Performance:

Linear regression was used to show how the independent variable can be used to predict the dependent variable. The results of regression as shown in table 4.4 revealed a coefficient of determination ($r^2$) of .816 which means 81.6% of financial performance can be explained by capital requirement regulations. The regression results also show that the relationship between capital requirement regulations and financial performance is significant with change in capital requirement regulations by 0.001 resulting in changes in financial performance by 1%.

**Table 4.4: Capital Requirement Regulation and Financial Performance**

| Model Summary | | | | | | |
|---|---|---|---|---|---|---|
| Model | R | R Square | | Adjusted R Square | Std. Error of the Estimate | |
| 1 | .904[a] | .816 | | .755 | 1.33750 | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | -19.085 | 12.60 | | -1.51 | .227 |
| | Capital Requirement Regulation | .001 | .000 | .904 | 3.65 | .035 |

### 4.4 Overall Regressions Analysis:

Multiple Linear Regression analysis for Macro Prudential Regulation dimensions on financial performance was conducted in order to find out whether Macro prudential dimension as a whole jointly influence financial performance of banks in Kenya. This facilitated the formulation of the model of the study and its R square. The outcome of the analysis is in table 4.5 below.

**Table 4.5: Overall Regression Analysis**

| R | $R^2$ | Adjusted $R^2$ | Df | F | Sig. |
|---|---|---|---|---|---|
| .547[a] | .299 | .261 | (1,43) | 23.106 | .000[b] |

a. Predictors: (Constant), Capital Requirement Regulation, Liquidity Requirement Regulation, Interest Rate Regulations and Credit Facilities Regulations.

b. Dependent Variable: Financial performance

From table 4.5, it is evident that there is positive moderate linear relationship between Financial Performance and all the independent variables which included capital requirement regulations, Liquidity requirement regulations, and Interest rate regulations with correlation coefficient r = 0.547 while coefficient of determination resulting from this analysis was ($r^2$) = 0.299, and this shows that 29.9% of proportion of financial performance can be accounted for by the all independent variables in this study while 70.1% of the amount of financial performance can be accounted for by other factors which have not been included in this model.

It can be noted from results given by ANOVA that F test gave a value of $F(1, 42) = 23.16$, $p < .01$, this attempts to support the goodness of fit of the model in accounting for variation in financial performance. This shows that macro prudential regulations are important predictor of financial performance of banks in Kenya.

**Table 4.6: Model Coefficients**

| | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | T | Sig. |
| (Constant) | .140 | .328 | .293 | .426 | .671 |
| **Capita Requirement** | .238 | .073 | .259 | 3.240 | .002 |
| a. Dependent Variable: Financial Performance | | | | | |

From table 4.6, capital requirement regulations has positive and predictive power (P<0.05). If When there is no macro prudential regulations, financial performance was found to be 0.140, p>0.05 . When capital requirement regulations increases by 1% financial performance changes by 0.367. Finally, as the variables capital requirement regulations and interest rate regulations are controlled, liquidity requirement regulations with a beta of 0.399 is statistically significant demonstrating that increase in liquidity requirement by 1% leads to increase in financial performance by 0.399.

The key assumptions of the regression model obtained are: The dependent variable is a continuous random variable while independent variable is a set of various values and is not random, The regression model is correctly specified that is variables are correctly specified, The regression model is correctly identified that is it is unique from other models, The random term e is independent of the explanatory variables that is error term e and explanatory term should not be functionally related.

# 5.    SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

## 5.1 Introduction:

This section summarizes the whole study, data presented and emphasizes on various objectives with help of research questions that guided it during analysis. Thereafter conclusion is drawn from the findings and recommendations made thereof.

## 5.2 Summary of the Findings:

The study examined the influence of macro prudential regulations on financial performance of banks in Kenya. Secondary data extracted from CBK annual reports and Kenyan banks individual statements was analyzed. 43 banks were used and this formed the population of the study and survey methodology applied. Research objectives generated from chapter one were discussed and summary made. The guidelines of this research were capital requirement regulations,

### 5.2.1 Capital Requirement Regulations:

This study sought to examine whether capital requirement regulations influences financial performance of banks in Kenya. It is evident from the findings that this variable has significant influence on financial performance of banks. This is shown when the outcome of analysis highlighted that minimum capital requirement is positively correlated with financial performance. Therefore it is prudent that banks should put in more effort in trying to increase their capital adequacy base and adhere to minimum capital requirement as directed by CBK prudential guidelines since because failure to meet the stipulated capital as required by the regulator can reduce their financial performance and even plunge banks into crisis. It is also clear that there exist absolutely no multicollinearity in the variable.

### 5.3 Conclusions:

The general objective of this study was to determine whether macro prudential regulations influence financial performance of banks in Kenya. It can be confidently be concluded   based on the end results of this study that banks experience financial crises and poor financial performance because of their own fault of violating capital requirement regulations, credit facilities regulations, liquidity regulations and interest rate regulation that have been set by CBK to promote financial stability and deal with financial crises that have dealt a blow and  plunged the whole banking sector into financial difficulties due to interconnectedness of the sector.

### 5.3.1 Capital Requirement Regulation:

Findings on capital requirement regulations prove that it has a positive significant influence on financial performance. Therefore, violation of minimum capital requirement and capital buffer regulations may cause banks to experience financial difficulties as demonstrated by poor financial performance. This result agrees with those made by Vianney (2013) who found out that minimum capital requirement has a positive relationship with financial performance of banks in Kenya. The research found that capital requirement regulations have a positive correlation with banks return on equity. It can be concluded that the higher the capital requirement, the higher the return on equity of banks in Kenya (Mutinda, 2016).

### 5.4 Recommendations:

Shareholders and other stakeholders of commercial banks should play a pivotal role in ensuring that banks management practice good corporate governance through establishment of corporate governance monitoring and control mechanism.

Commercial banks should abide by CBK laws and regulations to enjoy benefits of increased business.

Competent board of directors should be elected and even employees recruited based on their competence, skills and knowledge.

Research on whether other element of prudential regulations exists and strike a balance between financial stability, financial performance and returns to shareholders.

### 5.5 Areas for Further Research:

Since this study made its findings and recommendations based purely on four variables that included; capital requirement regulations,  It's therefore recommended that further study should be done on other macro prudential regulation   among Financial Institutions in Kenya. The research further recommends that a study should be done on cause effect relationship of macro prudential regulation and financial performance among banks. Additionally, another study that will take into account many years like let's say 10 years is recommended since this study limited itself to only five years from 2012 to 2016. Finally since this study used secondary data from CBK annual reports, another study that utilizes primary data should be carried out.

### REFERENCES

[1] Abdallah., H. (2016). *The indicators for the macro‑prudential analysis of theBanking sector* (Occasional Paper no.99). Europe: New age International publishers.

[2] Acharya C. (2011). Credit Management and Bad Debt in Nigeria Commercial Banks: Implication for development. *Journal of Humanities and Social Science*, 12(3), 47-56.

[3] Anyanzwa, E.(2015). *Monitoring Bank Performance in the Presence of Risk Mirceaepure:* (Working Papers 23), Barcelona: Fountain publishers

[4] Anyanzwa, E.(2016). *Monitoring Bank Performance in the Presence of Risk Mirceaepure:* (Working Papers 21), Barcelona: Fountain publishers

[5] Basel Committee, Basel III (2010). International framework for liquidity risk measurement, standards and monitoring.

[6] Bernard, N. M., (2011). Fundamental analysis of stock returns of non financial firms listed at the Nairobi securities exchange, Masters Thesis, University of Nairobi, Kenya.

[7] Beverly, H., (2015). Public Discloser and Risk-Adjusted Performance at Bank Holding firms. Federal Reserve Bank of New York staff report

[8] Blackrock,P. F., (2017). *The New Political Economy of the Macro prudential Ideational Shift*

[9] Bagley, W. (2014). *Do strict capital requirements raise the cost of capital Banking regulation and the low risk anomaly.*(Working Paper No. 19018.) Cambridge: Federation of European.

[10] Baborska, S. (2013) .Information Sharing and Lending Market Competition with Switching Costs and Poaching," University of Freiburg: Retrieved from:http://www.shh.fi/~stenback/infoshar-r94.pdf

[11] Bank of International Settlements (2012). Progress report on Basel III Implementation. Basel Committee on Banking Supervision: Retrieved from *http://breakingintowallstreet.com.*

[12] Bank of Slovenia. (2015). Group of Governors and Heads of Supervision Announces Higher Global Minimum Capital Standards: Retrived from *http://breakingintowallstreet.com*

[13] Berger, A. N., & Black L. K. (2011). Bank Size, Lending Technologies, and Small Business Finance. *Journal of Banking &Finance, 11*(35), 724-35.

[14] Brito, J. B., & Dudley. S. (2012). Financial Institutions and the Economy. *Journal of Accounting and Finance*, 12(1), 221-254.

[15] Buch, C. M., & Prieto, E. (2014). Do Better Capitalized Banks Lend Less? Long-RunPanel Evidence from Germany. *International Finance*, *17*(1), 1-23.

[16] Vinski, G.,Golosov, D. & Farhi, C. (2008). *The Macroeconomic Impact of Higher Capital Ratios on African Economies*. (Working Paper No. 139). Nigeria: Fountain Publishers.

[17] Carvalho, W. (2017). *Did Doubling Reserve Requirements Cause the Recession: A Microeconomic Approach*? (Working Paper 16688.) Europe: Federation of European.

[18] Central Bank of Kenya. (2015). Annual Bank supervision Reports: Retrieved from *https://www.centralbank. go.ke/index.php/banksupervision*

[19] Central Bank of Kenya. (2016). Annual Bank supervision Reports: Retrieved from *https://www.centralbank.go. ke/index.php/banksupervision*

[20] Central Bank of Kenya. (2016). Quarterly Reports: Retrieved from *https://www.centralbank.go.ke/index. php/banksupervision*

[21] Central Bank of Kenya. (2016). Monthly Economic Review Reports: Retrived from *https://www.centralbank.go. ke/index.php/banksupervision*

[22] Central Bank of Kenya. (2017). Press Release Reports: Retrived from *https://www.centralbank.go.ke/index. php/banksupervision*

[23] Central Bank of Kenya. (2017). Legislation and Guidance: Retrived from *https://www.centralbank.go.ke/index. php/banksupervision*

[24] Chepkemoi, K. N. (2016*). Corporate Governance and Banking in Kenya. (*Master's Dissertation, University of Nairobi). Kenya.

[25] Chijoriga, M. M. (2011). Application of multiple discriminant analysis as acredit scoring and risk assessment model. *International Journal of Emerging Markets*, 6 (2), 132-147.

[26] Chodechai, S.( 2004). *Determinants of Bank Lending in Thailand: An Empirical Examination for the years 1992 – 1996.* (Unpublished Thesis). Thailand

[27] Collins, N.J., & Wanjau, K. (2011). The Effects of Interest Rate Spread on the Level of Non-Performing Assets: A Case of Commercial Banks in Kenya. *International Journal of Business and Public Management* , 1(1), 584- 592

[28] Cooper, D. R., & Schindler, P.S. (2006). *Business research methods* (9th ed.) New York, NY: McGraw- Hill/Irwin.

[29] Constantino, F., (2012). Regulation of supervision on financial markets, *Internationaljournal of the public sector management, 25*(6/7), 437 – 443.

[30] Central Bank of Kenya (2010). *Bank Supervision Annual Report 2010*, 38-45.

[31] Central Bank of Kenya (2011). *Bank Supervision Annual Report 2011*, 53-62.

[32] Central Bank of Kenya (2012). *Bank Supervision Annual Report 2012*, 65-74.

[33] Central Bank of Kenya (2013). *Bank Supervision Annual Report 2013*, 68-78.

[34] Central Bank of Kenya (2014). *Bank Supervision Annual Report 2014*, 57-67.

[35] Central Bank of Kenya (2015). *Bank Supervision Annual Report 2015*, 50-60

[36] Central Bank of Kenya (2015). *Monthly Economic Review*. November 2015 Report, 23-26.

[37] Central Bank of Kenya (2013). *Prudential Guidelines for Institutions Licensed         Under the Banking Act.* 70-92

[38] Clement, A. (2010). *Global Corporate & Investment Banking: An Agenda for Change*. Mckinsey & Company Article 1, 1-9.

[39] Gakeri, F. (2011). Regulation, Competition and Bank Risk Taking in Transition Countries. *Journal of Financial Stability*, 11(7), 38-48.

[40] Diamond, A. (2006). *Bank Asset Quality in Emerging Markets:*

[41] *Determinants and Spillovers.* (IMF Working Paper 12).Europe: New age International publishers.

[42] De la Torre, A., Martínez Pería, & Schmukler, S. L. (2010). Bank Involvement with  SMEs: Beyond Relationship Lending. *Journal of Banking & Finance,* 10(34), 280–93.

[43] Dimitrios,P.,Louzis,A.,Vouldis  &Vasilios, L. M.(2010).*Macroeconomic and bank specific determinates of nonperforming loans in Greece's, comparative study of mortgage business and consumer loan portfolios Bank of Greece*. (Working paper No 118). Greece: Digital Index publishers.

[44] Drake, P.P. (n.d.). *Fusion Investment Management.* Online Article, 1-7. Co-Pierre, G. (2015). *Basel III and Systemic Risk Regulation*-*What Way Forward?*Working Paper No 17

[45] Financial Stability Report. (2016). *Audited Financial Statements and Other Disclosures as at 31/12/2016*. Report, 1

[46] Janda, E., (2017). Process Optimization, A statistical Approach, *Journal of quality Technology 40*,2.

[47] Juma, R., (2017). *Research methods for business*: *A skill building Approach* (5th Ed) Chichester: John Willy and Sons Ltd.

[48] Erdem, A., Ozen, U. & Unalmis, E. (2017). *Are Macroprudential Policies EffectiveTools to Reduce Credit Growth in Emerging Markets?* Working Paper No: 17/12, 1 (52), 344-362.

[49] Ezema, N. B. (2015).  *Factors influencing loan delinquency in small and medium enterprise' in Ghana commercial bank ltd.* (Master's Dissertation, Kwame Nkrumah University of Science and Technology).Kumasi

[50] Fact Pack, B. (2016). Explanatory Power of Bank Specific Variables as Determinants r A``of Non- Performing Loans: Evidence from Pakistan Banking Sector World. *Applied Sciences Journal,* 22 (9), 1220-1231.

[51] Festi *et al* (2011). The macroeconomic sources of systemic risk in the banking sectors of five new EU member states. *Journal of Banking and Finance*, 5(35): 310-322.

[52] Wehliye, S. M. (2013). Effect of credit risk management techniques on the performance of unsecured bank loan employed by commercial banks in Kenya. *International Journal of Business and Social Research,* 2(4), 567-612.

[53] Financial Sector Supervision Technical Note (2011). Business Cycle Effects on Commercial Bank LoanPortfolio Performance in Developing Economies. *International Finance Corporation,* World Bank Group.

[54] Wachira B, T. (2015). Forecasting non-performing loans in Barbados. *Journal of Business, Finance and Economics in Emerging Economies*, 3(5), 80-107.

[55] Mae, J.O. (2017). *European Banking, Efficiency Technology and Growth* (Working paper 315). NewYork: Wileyfinance

[56] Gopinath, R. (2011). *Macroprudential Approach to Regulation—Scope and Issues*. Paper Presented at the Project Workshop in Accra, Ghana. Retrieved from *http://www.rmit.edu.au/2013/conf/.txt*

[57] Gahuthu, G. D (2016) *Impact of prudential regulation on financial performance of deposit taking savings and credit co-operative societies in Kenya*. Jomo Kenyatta University of Agriculture and Technology. Research Paper.

[58] Gweyi M.O.,& Karanja, J. (2014). Effect of Financial Leverage on FinancialPerformance of Deposit taking Savings and Credit Co-operative in Kenya.

[59] *International Journal of Academic Research in Accounting, Finance andManagement Sciences, 4*(2),176-184.

[60] Gudmundsson, R., Kisinguh, K. N. & Odongo, M. T. (2013). *The Role of Capital Requirements on Bank Competition & Stability: The Case of the Kenyan Banking Industry.*

[61] Hansen, S., Kashyap A. K. & Stein J. C. (2014). *A Macroprudential Approach to Financial Regulation*. Paper prepared for the Journal of Economic Perspectives, 1-6.

[62] Hanson, S.G., Kashyap, A. K. & Stein, J. C. (2011). *A Macroprudential Approach to Financial Regulation.* Journal of Economic Perspectives, 25, 3–28.

[63] Kashyap, A., (2016). Liquidity risk in stock returns: An event-study perspective*Journal of Banking and Finance*, 45, 72–83

[64] Kashyap, A. K. & Stein, J. C. (2004). *A Microprudential Approach & Macro prudential approach to Financial Regulation.* Journal of Economic Perspectives, 21, 3–32.

[65] Haldane, Y. (2011). *Determinants of Financial Development*. University of Cambridge Research Paper,1-7.

[66] Hartmann, N . (2010). *Determinants of Bank Profitability: An Empirical Study on Ethiopian Private Commercial Banks*. (Published thesis (MSC), Addis Ababa University.

[67] Irwin, Douglas, A. (2012). Gold Sterilization and the Recession of 1937-38. *Financial History Review*, 19(3), 249-267.

[68] Jones, J.N. (2011). *Effective Collection Policy*. Nairobi: KASNEB Publishers

[69] Kangethe, R. M. (2017). The effects of ownership structure on bank profitability in Kenya. *European Journal of Management Sciences and Economics, 1*(2), 116-127.

[70] Kivwanyiri, E. Mutua, M. & Malenya, A. (2016). Influence of Bank Regulation on Non-Performing Loans in Kenya. *International Journal of Management and Commerce Innovation, 4 (2), 322-329*

[71] Juma, U. (2016). *The significance of factors contributing to nonperforming loans in Commercial banksin Kenya.*(Degree of Master of Business Administration (MBA, Finance), Kenyatta University). Kenya.

[72] Kern, B. (2013). Capital requirements and bank behaviour: empirical evidence for Switzerland. *„Journal of Banking & Finance*, 25 (5), 789-805

[73] Ngugi, M. (2015). Basel III and the Global Reform of Financial Regulation: How Should Africa Respond? Bank Regulator'sPerspective:Retrivedfrom*www.newrules.org/storage/documents/g20-fsb-imf/kasakende.docx*.

[74] Korir, G. (2016). The Banking System in Africa: Main Facts and Challenges. *Journal of Business, Finance & Economics in Emerging Economies*, 5,(2),435-456.

[75] Kiatha, J.O (2016). *The impact of micro – finance services on poverty alleviation: anempirical assessment of selected households and micro – finance institutions in Kenya*. Unpublished PhD Thesis, Daresalam: University of Daresalam.

[76] King, A.M. (2015). *Credit Risk Management and Profitability of Commercial Banks in Kenya,(School of Business, University of Nairobi).* Nairobi.

[77] Kothari, C.R. (2004). *Research Methodology, Methods and Techniques*. New Delhi: New Age International publishers

[78] KPGM (2012).Africa Banking Survey: Retrived from www.kpgm.com.

[79] Ensight, (2014). Analysis of the Relation between Macro prudential and Micro prudential Policya. *International Journal of academic research in accounting, finance and management science 4*(2), 295- 306.

[80] Hellers, J. (2016). Effect of operating costs on the financial performance of SACCOs in the banking sector in Kenya. *Prime Journal of Business administration and management, 4(*2), 1359– 1363.

[81] Kolum, M. (2016). Micro and Macro prudential approach to Financial Soundness Assessment in Kenya. *Advances in the Economic Analysis of Participatory and Labor-Managed Firms*, *13*, 3-21.

[82] Ovans, S. (2015). Financial Sect: Challenges and opportunities. Nairobi: color scapes media ltd.

[83] KPMG (2017). *From Burden to Competitive Advantage. Regulatory Change and Transformation in Financial Services.* KPMG Transformation Survey, 3-5.

[84] Masinde, G. (2014). *Optimal bank capital*. (Discussion Paper No 453). England: Bank of England.

[85] Monetary Policy Statement (2012). Annual Report: Retrived from *http: //WWW.rbz.co.ZW/assets/ mid-term-mos-july-2012.pfd.*

[86] Monetary Board (2016). Annual Report: Retrived from *http: //WWW.rbz.co.ZW/assets/ mid-term-mos-july-2016.pfd.*

[87] Montana, D. (2012), *Strategies for Debt Recovery: Improve Bank Debt Collection Success* Retrieved from: *http:// www.articlesbase.com/banking-articles/improve-bank-debtcollectionsuccess-using-these-strategies-3663261.html*

[88] Mugenda, O., & Mugenda, A. (2003). *Research methods*: Quantitative andqualitative approaches Nairobi: Acts Press.

[89] Macharia, H.K. (2013). *The effect of licensing requirements on the performance of cooperative societies in kenya*. A survey of Deposit taking SACCOS in Nakuru County. Unpublished MBA thesis, Nairobi: Kenyatta University.

[90] Mutinda, J. (2016). To Reduce Inflation: New Application of Old Theories *Interdisciplinary Journal of Contemporary Research in Business*, 4(12).

[91] Musyoka, K. (2016). The Examination of the Effect of Ownership Structure on Firm Performance in Listed Firms of Tehran Stock Exchange Based on the Type of the Industry. *International Journal of Business and Management,* 6 (3), 654-676.

[92] Mwega, F. M. (2014) *Financial Regulation in Kenya: Balancing Inclusive Growth with Financial Stability.* Working paper 407, 27-36.

[93] Mwogeli, A. J. (2012) *The effect of regulations on financial performance of commercial banks in Kenyan*. MBA Research Project, University of Nairobi, School of Business. Nairobi Kenya

[94] Njini, Z.J. (2017). *Asset classification and Provisioning* Directive No. SBB/43/2007.National Bank of Ethiopia, Addis Ababa Ethiopia.

[95] Odongo, K. K., Ngoka, N. & Wandera, M. (2017).Effects of Credit Information Sharing on Nonperforming Loans. *European Scientific Journal*, 9 (13), 1857 – 7881.

[96] Spencer, M. (2017). *The effect of the lending policies on the levels of non-performing loans of commercial banks in Kenya.*( Master Dissertation University of Nairobi). Kenya.

[97] PWC. (2014). *The G20 and Global Capital Markets*: Critical Issues

[98] IMF. (2011). *Non-performing Loans in the GCC. Banking System and their Macroeconomic Effects.* (IMF Working Paper 10/224). Gulf: Alpha test publishers.

[99] IMF, (2013). Current Issue in Financial Economics: An overview. *Atlantic Economic Journal,* 39(1), 59-70.

[100] KPMG, (2017). Current Issue in Financial Economics: An overview. *Atlantic Economic Journal,* 39(1), 59-70.

[101] Understanding Financial Ratios (2015), Priority sector advances: Trends, issues and strategies. *Journal of Accounting and Taxation,* 1 (5), 079-089.

[102] Sunderam. (2017). Micro and Micro determinants of Nonperforming in Tunisia. *International Journal of Economics and Financial Issues*, 3(4), 852-860.

[103] Stein, D. (2011). An approach to Macro prudential Regulations *Journal of business and management review*, 1 (2), 234-265.

[104] Trenca, M. (2013). Impact of Capital Regulations on Banks. Retrieved from http://www.socialresearch methods. net/kb/sampnon.php.

[105] Vianney, K. J. M. (2013). *The Relationship between Regulation and Financial Performance of Rwanda Commercial Banks.* Unpublished MBA Research Project, University of Nairobi, School of Business.

[106] Zheng, N.B. (2014). Factors Affecting Loan Delinquency in Microfinance Institutions in Kenya. *International Journal of Business and Social Research, J(4),134-14*

[107] Zoli, V. D. (2014). Leaning Against the Wind: MacroprudentialPolicy in Asia . *IMF Working paper. Asia and Pacific*. WP/14/22 Elsevier, Inc. ISBN 978-0-12-374448-7

[108] Korinek B., (2013). Capital Controls and Currency Wars: A Practical Guide

[109] Parab, S., (2013) Capital Structure and Performance: Evidence From Listed Non-Financial Firms on Nairobi Securities Exchange (NSE) Kenya: *International Journal for Management Science and Technology,* 1(2) 1

[110] Gordon, C. E., & Eugene, F. B., (2011). Financial Management: *Theory and Practice* Thirteenth edition South-Western, Cengage Learning 5191 Natorp Boulevard Mason, OH 45040 USA

[111] Ferdi, H. K., & Akenga G. M., (2016). Effect of Leverage on Performance of Non-financial Firms Listed at the Nairobi Securities Exchange: *Journal of Finance and Accounting,* 3(5): 132-139

[112] Maniagi, M., Mukanzi, S., & Mukanzi, M. (2016) "Influence of Financial Risk on Stock Return of Non-Financial Firms Listed on Nairobi Securities Exchange", *International Journal of Business and Management Invention* 5 (10), 2319-8028.

[113] Lugaliki, D. N., (2009). *Macro prudential Regulations: Kenyan Perspective*, Masters Thesis, University of Nairobi, Kenya.

[114] Adigun G., (2013). Relationship between Capital Structure and Performance of Non-Financial Firms Listed In the Nairobi Securities Exchange, Kenya. *An Online International Research Journal,* (ISSN: 2311-3162) 1(2)

[115] Kandie, R., (2015). The Influence of Ownership Structure on the Firms Dividend Policy Based Lintner Model: *International Review of Business Research Papers,* 8(6), 71-88

[116] Ozge, M., (2015). Fundamental Analysis of Stock Returns of Non-financial Firms Listed at the Nairobi Securities Exchange: *Universal Journal of Accounting and Finance,* 3(3): 113-116

[117] Frost, L., & Van Strain (2016). The Price and Risk Effects of Option Introductions on the Nordic Market: *Economic Papers* 434, B-1049 Brussels, Belgium

[118] Strain, K. K. H., (2016). The Use and Effectiveness of Macroprudential Policies: New Evidence. *Managerial Finance*, 36(8) 655 – 679

[119] Basel Committee on Banking Supervision., (2010). *Credit Risk Management: Basic Concepts*. Financial risk components, rating analysis, models, economic and regulatory capital. New York: Oxford University Press Inc.,

[120] Covas, S., (2017). Flagship Report on Macro-prudential Policy in the Banking Sector. *International Journal of Managerial Finance*, 7(2) 134 – 152

[121] Woods, M., Hallissey, K., & Grace, A. (2015). *The Basel Iii Financial Architecture And Emerging Regulatory Developments In Macro PrudentialTools:* The Society of Management Accountants of Canada, the American Institute of Certified Public Accountants and the Chartered Institute of Management Accountants.

[122] Reserve Bank, Z., (2017). An Overview of Macroprudential Policy Tools: *I Business*, 5, 110-112