

IMPACT OF INTEREST RATE CAPPING ON THE FINANCIAL PERFORMANCE OF MICROFINANCE INSTITUTIONS IN KENYA

¹MURIUKI WILSON NDUMA, ²DR. OLUOCH OLUOCH

Abstract: The goal of the present study was investigating the short-term implications of the capping of interest rate on the microfinance institutions' financial performance in Kenya. This study was guided by three main objectives, which are: to examine the impact of interest rate capping on deposits of financial performance of microfinance institutions, to investigate the impact of interest rate capping on financial performance, and lastly, to determine the effect of the interest rates spread on the overall financial performance. Literature review of these specific objectives and theories that are related have been explained in-depth in chapter two. A three quarters before and three quarters after interest rate capping from CBK Banking Survey 2016, and 2017, CBK Statistical Bulletin 2016 and 2017 secondary data were used. Descriptive analysis, correlation analysis and regression analysis were used to perform the data analysis. The mean of deposit performance one quarter before interest rate capping came to effect stood at 0.8833 while for loan performance stood at 0.0765567 and that for return on assets stood at 0.09083. On the other hand, the mean for interest rate cap on loan performance, interest rate cap on deposit performance and interest rate spread stood at 0.00. The mean of deposit performance after interest rate capping came to effect stood at 0.8733 while for loan performance stood at 0.08695 and that for return on assets stood at 0.09325. On the other hand, the mean for interest rate cap on deposit performance stood at 0.9217, interest rate cap on loan performance stood at 1.0229 and interest rate spread stood at 1.1510. The mean of deposit performance three quarters before interest rate capping came to effect stood at 0.00 while for loan performance stood at 0.07199 and that for return on assets stood at 0.09325. On the other hand, the mean for interest rate cap on loan performance, interest rate cap on deposit performance and interest rate spread stood at 0.00. The mean of deposit performance three quarters after interest rate capping came to effect stood at 0.8833 while for loan performance stood at 0.09762 and that for return on assets stood at 0.08183. On the other hand, the mean for interest rate cap on deposit performance stood at 0.9566, interest rate cap on loan performance stood at 1.0244 and interest rate spread stood at 1.1064. The means for interest rate cap on deposits, interest rate cap on loans, interest rate spread, deposits performance, loan performance and return on assets stood at 0.9481, 1.0241, 1.1171, 0.8850, 0.09895 and 0.08040 respectively one year after interest rate cap. An analysis of the effects of interest rate capping on the overall performance of microfinance institutions in Kenya shows that indeed interest rate capping law positively affected the deposit and loan performance and return on assets of microfinance institutions in Kenya though to a smaller extent.

Keywords: Deposit Rate Capping, Interest rate capping and Loan Rate Capping.

1. INTRODUCTION

The introduction of interest rate capping by the regulator to microfinance institutions have brought a lot of challenges to the banks (Olaka, 2017). This has led to banks downsizing, reduction in their lending due to profiling of their clients depending on their risk profile. There has also been a lot of politics which could have worsened the situation (Olaka, 2017). The policy perspective of interest rate capping came to effect in September 2016 was to act as a control mechanism on the percentage of interest that microfinance institutions charge their clients on borrowings in order to lower the cost of

credit and reduce the cost of doing business. The goal of the government was to put on check the rate at which borrowers get their financing with the aim to reduce cost of doing business, increase access to credit by individuals and corporate so as to facilitate growth and hence enhance economic growth (Olaka, 2017).

Various analyses have however shown that the objective of the government has not been met because of the various stringent requirements that microfinance institutions have put in place which has made access to credit more difficult. They have for instance increased processing costs for these loans hence defeating the intention of this law (Olaka, 2017). Capping of the interest rate has been defined to mean fluctuation of interest rate to fluctuate, but not to the extent that it surpasses or go below a stated interest cap (World Bank, 2014). The interest rate can thus fluctuate up and down, but can never go higher than the 14% capped rate. For the case of Kenya, Banking Amendment Act 2016, Section 33B (1) provides financial institutions have been provided with the authority of setting up maximum interest rates of no more than 4% the base rate which has been established by the CBK.

The interest rate capping significantly affects the microfinance institutions budgetary execution (Muriuki, Muthuva and Egondi, 2017). There have been thinks about world over to research the impact of the financing costs on bank execution. For example, in an assessment researching short-term impacts of the financing costs on microfinance institutions net premium edges, utilizing total English (2002) discovered that in numerous nations there is no proof that adjustments in the levels of short-term and long-term rates or the outcomes have a negative effect on the premiums.

Statement of the Problem

Before September 2016, the interest rates applied by the various microfinance institutions were not capped. The unregulated interest rates were relatively high and led to exploitation of the consumers and reduced access to credit. To address this concern, Jude Njomo introduced a private bill, Banking Amendment Bill 2016. The bill was debated and its provisions came into force on September 2016. It is noteworthy to point out that whereas the interest capping introduced by the Act was meant to protect the borrowers from exploitation by microfinance institutions, it remained unclear how the move would affect the performance of both listed and unlisted microfinance institutions in Kenya.

When the Banking Amendment Act 2016 "the Act" came into force in September 2016, the expectation was that households and businesses would flock microfinance institutions to access cheap credit. However, microfinance institutions have put in place tighter credit controls by profiling clients in terms of their riskiness, realigned their portfolio away from risky segments, and are carefully analyzing their deposits and lines of credit so as to properly match the asset profile in the new dispensation (Olaka, 2017). The Act does not address the structural and policy influences on the cost of credit, such regulation potentially has adverse implications (Olaka, 2017).

The president assented to the bill with the expectation that it would improve access to credit by businesses and individuals leading to much credit lent which was thought to help improve the performance of businesses as well as microfinance institutions and hence the economy (Olaka, 2017). However, there have been a lot of changes which seemed to have gone to the contrary and hence necessitating the researcher to carry out this study to specifically look at the extent it has affected the selected microfinance institutions. Baum, Mustafa, & Neslihan, (2009) in their investigation of effect on interest rate capping on financial performance, concluded that when there is interest rate volatility, there is negative impact on the financial performance which can be explained by the failure of regulators to take into consideration the short-term and long-term effects of the policy changes.

Several studies have been done on the impact of the interest rate capping on the microfinance institutions financial performance. Okwany (2017) examine the impact of capping of interest rate on operating performance indicators of microfinance institutions in Kenya; Nduati (2013) examine the impact of premium spread on Kenya business banks budgetary execution; Nyakio (2013) research on the effect of interest capping by the CBK on the share income of 11 listed commercial banks; Meja (2017) did a study on the effect of interest rate capping on financial performance of microfinance institutions; Kavwele, Ariemba and Evusa (2018), did a study on the effect of interest rate capping on the profits of microfinance institutions and the economy as a whole. However, the finding on some of these studies has mixed findings on the impact of the interest rate capping on the financial performance of microfinance institutions

For instance, Irungu (2017), on his study found out that interest rate cap affected negatively tourism and hospitality industries and further led to reduced profits while Ogare and NO (2013), on their study concluded that interest rate cap

has positive relationship with innovations that financial institutions put in place. Furthermore, the related studies on the interest rate capping were also designed to focus on each factor of microfinance institutions financial performance to the exclusion of the other factors while some only focused on microfinance institutions. It is against that background that this study intends to evaluate the effect of interest rate capping on the financial performance of microfinance institutions.

Objectives

- i. To examine the impact of Deposit Rate Capping on financial performance microfinance institutions in Kenya.
- ii. To establish the impact of Interest rate capping on financial performance microfinance institutions in Kenya.
- iii. To examine the impact of Loan Rate Capping on return on financial performance microfinance institutions in Kenya.

2. THEORETICAL REVIEW

The Classical Theory of Interest

Keynes (1936) proposed this theory and associates interest as a payment for capital savings which in other words; similar any items value, price allocated for saving is determined through the knowledge on demand and supply of the savings. Defining it with more realistic terms, interest is the gift given after successive usage of income which is similar to the marginal results produced by physical income. Physical income or capital is bought using monetary funds, which is the money in an economy. The interest rate is the annual returns instead of the income used to invest various assets using physical capital. Keynes acknowledged that apart from the classical theory, interest rates can easily be understood through the savings investment theory which holds that the interest rate can be known when the demand and supply of capital intersect (Caplan, 2000).

The demand for funds in a business comes for the business people who use it only for productive reasons. Therefore, the routine for demand investment shows the demand for funds which means that the supply of money comes from people's savings. Moreover, the savings plan shows the income supply. In addition to this, it is possible to say that the two main factors that determine the interest rate are investment and savings (Fredman, 1991).

Based on the classical theory of interest, highly liquid banks are supposed to give loans charging low interests with an aim of increasing borrowers while putting low interests on bank saving thereby reducing the rate of saving. Rochon & Vernengo, (2001) opined that financial performances of high liquid banks should be much improved in comparison to low liquid banks. The classical theory assumes full employment and as Keynes noted, equality between investment and savings is because of changes in capital level but not because of interest rates changes. Irrespective of this, the classical theory of interest has been criticized to be often limited by the assumption of full employment which is unreasonable and unrealistic for any capital economy. Moreover, this theory ignores the impact of the income level changes and also wrongly assumes independence of savings (Andersen & Piterbarg, 2010).

Loanable Funds Theory

A Swedish economist known as Knut Wicksell proposed this theory which suggests that the rate of interest is determined after knowing the demand and supply of loanable capital. What this means is that the assumption is that the rate of interest can only be known via the credit demand and the supply of loanable income. The theory therefore, aims to improve the concept of the classical theory. Additionally, the theory states that money plays a disturbing role when saving and investing hence causing an imbalance of capital. Moreover, this means that the theory has an economical approach to the interest theory an aspect that is different from the classical theory (Wensheng, Wung & Shu, 2002).

When the equilibrium level that has supply and demand of loanable funds equal, it favors the investors and individuals who save income. Fluctuations on interest rates come from the differences in loan demand, credit capital for loans or the supply of loans. According to Ngugi (2013), interest is defined as the price that levels the demand for lending funds and their supply.

Keynes acknowledged that the loanable funds theory is unrealistic in particular due to the failure of providing full employment meaning that the theory suffers from some defects of the classical theory. The theory is also based on the assumption that national income is always intact. However, the national income changes due to investment meaning that it cannot be constant (Baum et al 2009)

Loanable funds can be defined as "the sums of money supplied and demanded at any time in the money market." Nonetheless, the demand of loanable income is known through two factors which include the demand involved in investment and the demand for accumulated capital. However, this theory has certain implications to the bank borrowers and savers since at equilibrium they have to be compensated. The rate of interest should be equal to all parties Emmanuelle (2003). The major limitation of this theory according to critics is that it fails to resemble a real-world finance system and hence built more on an unrealistic and imagination platform.

The Expectations Theory of Interest

The expectations theory of interest proposed by Lutz (1940) explains the relationship between the maturity and yield for capital and money market investments. What this means in other words is that it provides an explanation of the connection between long-term and short-term interest rates. This theory states, "the expected return from holding a long term money or capital market investment (from now investments) until maturity is equal to the expected return from rolling over a series of short term investment with a total maturity equivalent to that of the long term investment." This implies outcomes from long-term investment become the average of the expected short rates (Kim & Orphanides, 2007). The underlying assumption of this particular theory is the rational expectations hypothesis. This infers: there is a stable monetary condition; investors comprehend this condition and can make expectations about future loan fees; most certainly not deliberately wrong and are shaped utilizing all open data accessible around then. This implies members do not efficiently over or under-evaluate the current present and future rates of interest (Cook & Hahn, 1990).

This theory has a direct implication in the present study in relation to the interest rates. Through this theory, investors make useful decisions by forecasting the interest rates future. Despite this, people should know that the theory is not always reliable. The major limitation of the theory is that at times it can overestimate future short-term rates which would mislead investors via inaccurate predictions (Bekaert et al, 2001).

Conceptual framework

The following is a schematic diagram showing the relationship between variables.

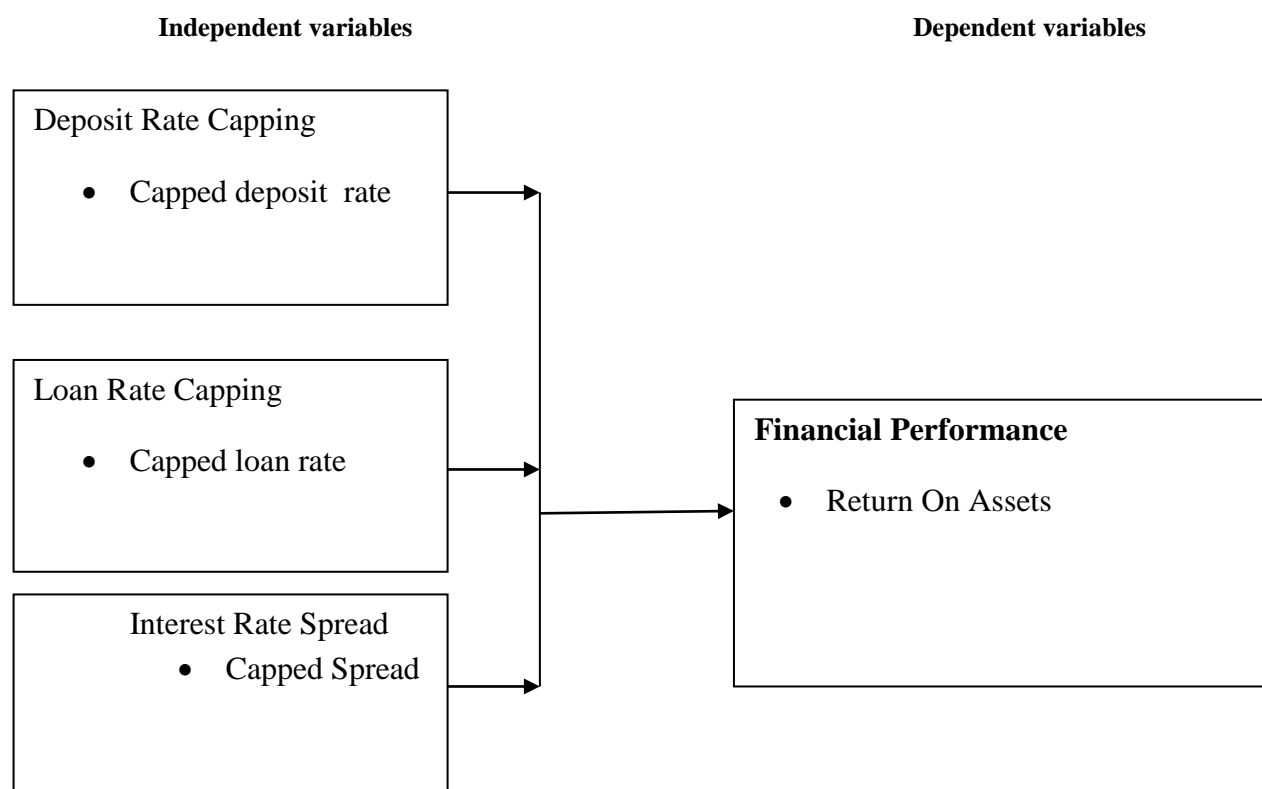


Figure 1

3. RESEARCH METHODOLOGY

A case study research design will be used in this study. The choice of this design is appropriate since it allows an in-depth understanding of the behavior pattern of the concerned unit. It also forms a framework that guides the collection and analysis of data. The population for this study was 14 major microfinance institutions based in Nairobi County. The research employed use of data collection sheet and hardware and software tools. The hardware that was used include a computer which was used to run the software components necessary to give the research results. Software that was used includes statistical software such as SPSS and Microsoft Excel. The researcher used secondary data which extracted from the CBK website specifically the Statistical Bulletin 2017. The data included data on total deposits, total assets, non-performing loans, total loans and net income.

4. CORRELATIONS ANALYSIS

Correlations Analysis -Pre-Capping

A correlation analysis was done to establish the relationship between the variables and the study found out that there was a positive relationship between Deposit Rate capping and financial performance at pre capping era at $r=0.266$, was a positive relationship between Interest rate spread and financial performance at pre capping era at $r=0.240$ and finally a positive relationship between Loan rate capping and financial performance at pre capping era at $r=0.023$. The rest of the results have been summarized in the table below.

Table 4.1: Correlation Analysis: before interest rate cap

		Deposit Rate Capping	Interest Rate Capping	Loan Rate Capping	ROA
DepositRate capping	Pearson Correlation	1	-.354*	.573**	-.176
	Sig. (2-tailed)		.021	.000	.266
	N	42	42	42	42
Interest rate capping	Pearson Correlation	-.354*	1	-.466**	.185
	Sig. (2-tailed)	.021		.002	.240
	N	42	42	42	42
Loan rate capping	Pearson Correlation	.573**	-.466**	1	-.350*
	Sig. (2-tailed)	.000	.002		.023
	N	42	42	42	42
ROA	Pearson Correlation	-.176	.185	-.350*	1
	Sig. (2-tailed)	.266	.240	.023	
	N	42	42	42	42

*, Correlation is significant at the 0.05 level (2-tailed).

**, Correlation is significant at the 0.01 level (2-tailed).

Correlations Analysis -Post-Capping

A correlation analysis was done to establish the relationship between the variables at Post-Capping and the study found out that there was a positive relationship between Deposit Rate capping and financial performance at post capping era at $r=0.074$, was a positive relationship between Interest rate spread and financial performance at post capping era at $r=0.670$ and finally a positive relationship between Loan rate capping and financial performance at post capping era at $r=0.294$. A research conducted by Hurn and Farl (2007), established that interest capping affect bank profitability either directly or indirectly. This study found out that microfinance institutions profitability had not increased since the law came into effect since microfinance institutions were not likely to advance unsecured loans to individuals and organization hence leading to reduction in profits. This finding contradict the argument by Gao (2012) that interest rate charges greatly affects the lending systems in microfinance institutions leading to low interest income. The rest of the results have been summarized in the table below.

Table 4.2: Correlation Analysis: post interest rate cap

		Deposit	Interest	Loan	ROA
Deposit	Pearson Correlation	1	-.370*	.632**	-.278
	Sig. (2-tailed)		.016	.000	.074
	N	42	42	42	42
Interest	Pearson Correlation	-.370*	1	-.517**	-.068
	Sig. (2-tailed)	.016		.000	.670
	N	42	42	42	42
Loan	Pearson Correlation	.632**	-.517**	1	-.166
	Sig. (2-tailed)	.000	.000		.294
	N	42	42	42	42
ROA	Pearson Correlation	-.278	-.068	-.166	1
	Sig. (2-tailed)	.074	.670	.294	
	N	42	42	42	42

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Regression Results**Model Coefficients**

The variables coefficients demonstrates a deteriorating contribution of interest capping in post capping era as compared to pre capping.

Table 4.3: Significance of Independent Variable in relation to pre-capping

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.087	.241		4.506	.000
	Deposit rate capping	.848	.141	.555	3.182	.003
	Loan rate capping	.762	.234	.071	.265	.004
	Interest Spread	.728	.218	.295	1.321	.002

Table 4.4: Significance of Independent Variable in relation to Post-capping

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.169	.522		2.240	.000
	Deposit rate capping	.285	.163	.282	1.754	.002
	Loan rate capping	-.559	.157	-.576	-3.558	.001
	Interest spread	-.224	.220	-.167	-1.018	.000

The results in Tables above indicate that deposit rate capping has a significant and a positive effect on Return on asset of microfinance institutions during pre-capping period and there is significant positive effect of deposit rate capping on Return on asset during Post-capping period. The interest rate cap law set a minimum rate of 70% of the Central Bank Rate as the minimum rate payable on deposits placed with microfinance institutions which led to improved liquidity in the microfinance institutions as more depositors were attracted to the interest rates which were on average higher than before (CBK,2017)

Further, the results indicate that interest rate spread has a significant and a positive effect on Return on asset of microfinance institutions during pre-capping period and also a positive effect during post capping period.As a result of

interest rate spread, microfinance institutions have declined offering unsecured loans to individuals and corporate. The decrease in supply of credit has affected the supply of money because it is one of the tools that the Central Bank uses in regulation of the total money supply in an economy. Therefore, overall spending and consumption on the economy has been affected. The investors have limited amount to invest meaning very few job opportunities will be offered, the purchasing power of the consumers declined and finally most firms have not been able to sell their products as usual. According to Actech (2012) it was found out that loan loss provisions in microfinance institutions continued to increase as borrowers were unable to pay loans due to increased microfinance institutions charges. This has also been the case in Kenya since there is increasing non-performing loans leading to increased loan loss provisions which has been brought about by interest rate cap law.

Finally, the results indicate Loan Rate Capping has a significant and a positive effect on return on assets of microfinance institutions during pre-capping period and also a positive effect during post capping period. The regression output shows that a unit increase in the interest rate cap will result into increase in the return on assets generated by the microfinance institutions.

5. CONCLUSION

The study concluded that that interest rate capping has a significant and positive effect on return on assets of microfinance institutions during both the periods before and the period after the interest rate capping. The interest rate cap law set a minimum rate of 70% of the Central Bank Rate as the minimum rate payable on deposits placed with microfinance institutions which led to improved liquidity in the microfinance institutions as more depositors were attracted to the interest rates which were on average higher than before the interest rate capping hence the positive relationship between interest rate cap on deposits and return on assets. The findings from the study also shows that interest rate capping on loans has a significant and positive relationship with return on assets of microfinance institutions during the period before interest rate cap as well as the period after the rate cap. Even though the microfinance institutions declined to offer unsecured loans to individuals and hence leading to the decrease in supply of credit they were still able to register positive results though there was instability in the supply of money because it is one of the tools that the Central Bank uses in regulation of the total money supply in an economy. Finally, the study concluded that interest rate spread has a significant and a positive effect on return on assets of microfinance institutions during the period before and after interest rate cap. The analysis above shows that there was a positive and statistically significant correlation between microfinance institutions return on assets and interest rates cap at 1% level of significance.

6. RECOMMENDATIONS

The study recommends that policy makers should reevaluate the effect of the interest rate capping law and consider the long term effect that it could have on credit risk.

The study also recommends that government should develop long-term solutions to address the money supply side constraint. The government and banking institutions should mobilize more long-term capital from the market through pooling funds and long-term savings and deepening capital markets by incorporating the informal into the financial system sector and introducing tax incentives to encourage saving culture in Kenya.

The study further recommends that the microfinance institutions should explore more adoptive ways of reducing their operational cost like adoption of modern technology in advertisement and offering other essential services

The study finally recommends that a proper balance between capping on loans and deposits needs to be maintained so that microfinance institutions realize a good return on their assets.

REFERENCES

- [1] Andersen, L. B., & Piterbarg, V. V. (2010). *The Interest Rate Modeling: Products and Risk Management*. London: Atlantic Financial Press.
- [2] Armentrout, D., Learning, B. D., & Armentrout, P. (2013). *The Bank*. Chicago: Britannica Digital Learning.
- [3] Baum, F., Mustafa, C. & Neslihan, V. (2009). The Second Moments Matter: The Impact of Macroeconomic Uncertainty on the Allocation of Loanable Funds. *Economics Letters*.

- [4] Bekaert, G., Harvey, C. R., & Lundblad, C. (2001). Emerging equity markets and economic development. *Journal of development Economics*, 66(2), 465-504.
- [5] Borio C., Gambacorta L., & B. Hofmann. (2015). The Influence of Monetary Policy on Bank Profitability. *BIS Working Papers No 514*.
- [6] Chantapong, S. (2005). Comparative Study of Domestic and Foreign Bank Performance in Thailand: The Regression Analysis. *The Office of Macroeconomic Policy and Analysis, Monetary Policy Group (MPG), The Central Bank of Thailand, Bangkokprom, 2005*.
- [7] Cook, T. Q., & Hahn, T. K. (1990). Interest rate expectations and the slope of the money market yield curve. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2122680
- [8] Cooper, D. R., & Schindler, P. S. (2008) *Business Research Method* (2nd ed.). NY: McGraw Hill Higher Education.
- [9] Creswell, J. W. (2003): *Explanatory Research Design*. Retrieved from: http://learning.ecupl.edu.cn/pluginfile.php/47938/mod_resource/content/0/Research%20Design%20Qualitative,%20Quantitative,%20and%20Mixed%20Methods%20Approaches%20%5B2rd%20ed.%5D.pdf
- [10] Ellison, A., Collard, S., & Forster, R. (2006). *Illegal Lending in the UK*. DTI.
- [11] Emmanuelle, J. (2003). *Monetary and fiscal policy*. Kenya: University of Nairobi.
- [12] English, W. B. 2002. The Interest Rate Risk and Bank Net Interest Margins. *BIS Quarterly Review*, 10(1): 67-82.
- [13] Gul, S., Irshad, F. and Zaman, K. (2011). Factors Affecting Bank Profitability in Pakistan. *Romanian Economic Journal*, 2(3): 6-9.
- [14] FDCI. (2017): Sensitivity to The market Risk. Division of Supervision & Consumer Protection
- [15] Genay & Podjasek. (2014). What is The Impact of a Low-the Interest Rate Environment on Bank Profitability in the US. Paper No 324
- [16] Hara, M., (1983). A Dynamic Theory of The Banking Firm. *The Journal of Finance* 38, 127-
- [17] Helms, B., & Reille, X. (2004). Interest rate ceilings and microfinance: *The story so far*. CGAP Occasional paper, 9.
- [18] Irungu, A. M. (2017). Strategies adopted by commercial banks in Kenya to cope with the challenges of interest rate capping: a comparative study of small and big banks. (*Dissertation, School Of Business, University Of Nairobi*).
- [19] Kavwele, D. T., Ariemba, J. M., & Evusa, Z. (2018). Effect of Interest Rate Capping on the Financial Performance of Commercial Banks in Kenya.
- [20] Khrawish, H.A. (2011), Determinants of Commercial Banks Performance: *Evidence from Jordan*. *International Research Journal of Finance and Economics*, 5(5), 19- 45.
- [21] Kim, D. H., & Orphanides, A. (2007). The bond market term premium: what is it, and how can we measure it? Retrieved from: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1599651
- [22] Lutz, F. A. (1940). The structure of interest rates. *The Quarterly Journal of Economics*, 55(1), 36-63.
- [23] Maimbo, S. M., & Gallegos, C. A. H. (2014). *Interest rate caps around the world: still popular, but a blunt instrument*. The World Bank.
- [24] Maimbo S & Gallegos, C. (2014). "The Interest Rate Caps Around The World" Policy Research Working Paper 7070.
- [25] Mbua, S. N. (2017). *Effect of interest rates capping by the Central Bank of Kenya on the banks listed on the Nairobi Securities Exchange* (Doctoral dissertation, United States International University-Africa).
- [26] Meja, E. W. (2017). *The effect of interest rates capping on the levels of personal loans granted by commercial banks in Kenya* (Doctoral dissertation, SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI).
- [27] Miller, H. (2013). "Interest Rate Caps and Their Impact on Financial Inclusion." Economic and Private Sector, Professional Evidence and Applied Knowledge Services. February 2013.

- [27] Muriuki, F., Mathuva, E., & Egondi, P. (2017). Influence of Interest Rate Capping on Financial Performance of Commercial Banks in Mombasa County, Kenya. *Imperial Journal of Interdisciplinary Research*, 3(9).
- [28] Nairobi Securities Exchange, 2016
- [29] Nduati (2013). Effect of The interest rate Spread on the Financial Performance of Commercial Banks in Kenya. Khan, W. A., & Sattar, A. (2014).
- [30] Ngugi, R. (2013). The interest rate spread in Kenya. Nairobi, Kenya: Kenya Institute for Public policy research and analysis
- [31] Nyakio S. (2017). Effect Of The Interest Rates Capping By The Central Bank Of Kenya On The Banks Listed On The Nairobi Securities Exchange.
- [32] Ogare, H. O., & NO, R. (2013). The effect of electronic banking on the financial performance of commercial banks in Kenya. *Unpublished MBA project. Nairobi: University of Nairobi*.
- [33] Okwanya. (2017). *Effect of The interest rate Capping on Operating Performance Indicators of Commercial Banks In Kenya: A Case Study Of Kcb Bank (Kenya) Limited*
- [34] Olaka, H. (2017). The Capping The interest rates Debate: *The market Failure or Necessary Intervention? Presentation at the 25th ICPAK Economic Symposium, 16th February 2017*
- [35] Ongore. (2013). Determinants of Financial Performance of Commercial Banks in Kenya. *International Journal of Economics and Financial Issues* Vol. 3, No. 1, 2013, pp.237-252 ISSN: 2146-4138
- [36] Porteous, D., Collins, D., & Abrams, J. (2010). Interest Rate Policy. *Policy Framing Note*, 4.
- [37] Reynolds, K. M. (2008). *Anticipated vs Realized Benefits: Can Event Studies Be Used to Predict the Impact of New Regulations*. *Eastern Economic Journal*, 34(3), 310-324.
- [38] Rochon, L., & Vernengo, M. (2001). Credit, The Interest Rates, and The Open Economy: Essays on Horizontalism. Cheltenham, UK: Edward Elgar. The Banking sector. China: Research Department.