Effect of Interest Rate Capping on the Financial Performance of Commercial Banks in Kenya

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Abstract

This study investigated the effect of interest rate capping on the financial performance of Commercial Banks in Kenya. The variables used for interest rate capping were Interest Income, Non-Interest Income and Interest expense while the performance of commercial banks was measured by the total profit before tax and exceptional items. Data was collected for the variables for four quarters of a financial year before the introduction of capping and four quarters of a financial year immediately after the introduction of capping. Multiple linear regression analysis and paired sample T-test was used in the analysis because of the relationship between the variables. Interest rate capping was found to have a statistically significant negative effect on the performance of commercial banks and specifically from interest income whose negative impact could not be compensated by non-interest income increase or the interest expense decrease and thus the decline in profits.

Keywords: Interest rate capping, Financial Performance, Commercial Banks in Kenya.

1. INTRODUCTION

To relate bank profits to macroeconomic indicators such as interest rates is not a very old attempt whereby Demirgü, Kunt and Huizinga (1999) were among the first to make trials where they found that high interest rates are associated with higher profit margins and more especially in the developing countries. Interest rate which Crowley (2007) defines as money a borrower pays for use of money they borrow from a lender/financial institution or fee paid on borrowed assets can be subjected to regulation/capping or left to operate under the market forces of supply and demand. Fisher (1930) considered interest rate as the price of money and the link between income and capital. Interest rate is regulated in about seventy six countries of the world as per the findings by Maimbo and Gallegos (2014). According to Villegas (1982), Interest rate capping refers to a ceiling placed on interest rates which dictates the maximum rate that a bank can charge its customers on loans. It can be motivated by economic or political reasons. Interest rates are regulated in the republic of Kenya through capping where the role is executed by the Central Bank of Kenya (CBK) which sets the regulating tool, the Central Bank Rate (CBR). The rates are set and published by the Monetary Policy Committee (MPC) of the CBK in which they set this Central Bank Rate (CBR). The CBR is the lowest rate of interest which CBK charges on loans to other banks and which it is obliged by law according to section 36(4) of the CBK act to publish.

Interest rate capping in Kenya was officially introduced through the Banking (amendment) act 2016 which was an act parliament passed to bring in caps as a result of failures in previous attempts to bring the cost of credit down and the mounting pressure from the public to have low cost of credit and cut on the 'abnormal' profits that financial institutions were making (Hansard March 10th, 2016). The act was passed into law after being legislated in Kenya's parliament and assented by the president of the republic of Kenya on August 24th 2016 with a commencement date for the operationalization of the law on September 14th 2016.

Significant areas addressed by this act which affect the performance of commercial banks was on the maximum interest rate chargeable for a credit facility in Kenya at no more than four percent the base rate (CBR) as well as the minimum interest granted on a deposit held in interest earning account in Kenya to at least seventy percent, the base rate (CBR) as set and published by the CBK. This as a consequence affected interest income which is determined by the interest rate chargeable on loans. Interest income is the excess money received on money lent often expressed in terms of a percentage of the principal amount. It is a major source of income usually derived from three major sources i.e. interest from loans and advances made to customers, interest on government securities as well as interest on placements from other financial institutions. Interest income from loans and advances to customers was the greatest contributor to the banks income accounting to 58.95% of the total income to the financial institutions in the last five years from 2011-2015(CBK Bank

Supervision reports) before capping.

Non-interest income forms the other sources of income to the financial institutions and are not as a result of the core activity of lending out money. This element of earning by commercial banks was not affected by the capping law and it was the only area left out for commercial banks to navigate around to cushion anticipated declines in interest income and increased interest expense. Interest expense is the money paid out as interest on deposits held. The deposits can be from customers or placements from other banking institutions. The interest rate capping law affected the interest expense element of performance for commercial banks in Kenya as it affected the interest rate paid on deposits from customers. According to CBK bank supervision reports 2011-2015, interest expense alone accounted for an average of 37.58% of the total banks expenses and thus forming the largest expense item in the income statements of the financial institutions.

Kenya has forty two licensed commercial banks and one mortgage finance company bringing the total to forty-three (43) all controlled by the Central Bank of Kenya. The Kenyan banks are classified in to three peer groups as large, medium and small banks as per the Central Bank of Kenya. The classification uses a weighted composite index comprising of the customer deposits, net assets, capital and reserves, number of deposit accounts and the number of loan accounts. A bank with a weighted composite index of 5% and above is in the large category while an index from 1% to 5% is in medium category whereas the small category is formed by indexes of less than 1%.

Financial performance is a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues according to Greenwood and Jovanovic (1990). Financial performance is used as a general measure of a firms overall financial health over a given period of time and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation. Financial performance can be measured at profit before tax and exceptional items point for comparability purposes so as avoid distractions arising from taxation rates and exceptional items that may be different from one company to another and from one period to another. According to CBK Prudential guidelines (2017), Commercial banks in Kenya have a specific requirement to present statement of financial position as well as the statement of comprehensive income which should reflect income and expenses grouped by nature and quantifying the principal types of income and expenses. The financial performance of commercial banks as at the end of 2015 was KES.134.017 Billion in terms of profit before tax and exceptional items. A total of KES.2.165 trillion shillings was advanced in terms of loans while deposits stood at KES.2.485 trillion which was slightly over a third of the country's GDP (2015 CBK annual supervision report).

This performance had created concern with the perception that the banks were making profits at the expense of the credit consumers. According to Thursday March 10th 2016 Hansard, a debate in Kenya's national parliament argued that out of the ten most profitable companies in Kenya, seven of them were commercial banks of which they were perceived to have formed a cartel market structure type under the watch of the umbrella body the Kenya bankers association (KBA) which was quoted as minding the interests of banks without the interest of the economy of the country and of the welfare of its customers. KBA is the umbrella association advocacy body for all the banks regulated by CBK usually involved in fronting and pushing for issues affecting the member banks and promoting the industry. These observations and debates led to the Banking (Amendment) act, 2016 heralding an interest rate capping regime in Kenya.

2. STATEMENT OF THE PROBLEM

Altering the two important parameters of intermediation of lending and deposit rates must definitely have had an impact on the overall financial performance with non-interest income being the only element left to navigate around to sustain profitability in the wake of anticipated reduced income from loans and deposits though there was another thought that their earnings might increase as a result of increased loan advancements due to affordable credit in the market. According to Aligonby (2016), the following trading day after the assent of the bill, the NSE 20 Share Index where eleven financial institutions are listed lost 152.92 points (4.4%) to hit 3,309.76 as the market recorded one of the biggest plunges as a result of banking stocks decline which went down by 11%. This was due to anticipation of depressed financial performance as interest rate spreads had narrowed. This study therefore tried to establish at the earliest opportunity possible the effect of the interest rate capping law had on the financial performance of commercial banks in Kenya.

3. OBJECTIVES OF THE STUDY

The overall objective of the study was to determine the effect of the interest rate capping law on the financial performance of commercial banks in Kenya with specific objectives to first establish the effect of interest income on the performance of commercial banks in Kenya, to also determine the relationship between non-interest income and the financial performance and finally to find out the influence of interest expense on the performance of banks in Kenya.

4. LITERATURE REVIEW

The study was anchored on financial intermediation theory and the modern portfolio theories. The approach of financial intermediaries based on the method of regulation of the monetary creation, of saving and financing of economy was developed by Guttentag, and Lindsay (1968) and by Merton (1995). It involves the matching of lenders with savings to borrowers who need money by an agent or third party, such as a bank.

The money that commercial banks lend out attracts some income as interest income from which they derive profit and fund their operations. Interest income depends the interest rate charged on the money lend out. Through the interest rate capping law in Kenya, loan interest rates were controlled in that it should not be more than 4% above the CBR set and published by the Central bank of Kenya. The law also affected interest expense as the interest rate paid by banks on deposits are to a prescribed minimum of 70% of the CBR set and published by CBK. This consequently affects the performance of commercial banks as they cannot set interest rates that will give them the desired margins. The current interest rate spread is currently at 7%.

The foundation for Modern Portfolio Theory ("MPT") was established in 1952 by Harry Markowitz. Essentially, MPT is an investment framework for the selection and construction of investment portfolios based on the maximization of expected returns of the portfolio and the simultaneous minimization of investment risk (Fabozzi, Gupta, & Markowitz, 2002). Banks in Kenya have diversified and mutated to become financial hubs offering a wide range of other financial services to their customers different from their core intermediation role in the wake of capping and technological advancements. Services like money transfer services, stock and insurance brokerage services, digital and mobile payment services among others are now offered where they charge fees and commissions consequently creating additional alternative revenue streams as non-interest income to shore up their performance as it is an element devoid of regulation and the only left for banks to navigate around.

Studies around the world have been done to determine the importance of the elements of earnings in commercial banks. By use regression model to investigate the relationship between interest rates and ROE with financial performance as the independent variable and interest rate as the dependent variable Kipngetich (2011), established that there is a positive relationship between the two variables though the effect of interest rates on profitability is not significant in the all the banks while Mang'eli (2012) using descriptive research design in his study of relationship between interest rate spread and financial performance of commercial banks pointed out that interest rate spread affected the performance of commercial banks.

Khan and Sattar (2014) on a study to analyse the impact of changes in interest rate on the profitability of four major commercial banks in Pakistan using Pearson correlation method found out that interest rate considerably affects the banks' interest income. It thus meant that banks' income by interest is extremely related to interest rates that show the bank's profitability is dependent on the monetary policy tool known as interest rate. He recommended on the state bank of Pakistan to take a significant role to regulate interest rate spread in the country.

A study by Mndeme (2015) by use of panel regression model on the Impact of non-interest income on banking performance in Tanzania found a share of net interest income to have positive impact on performance, however focus on interest income activities in this modern age might not be viable because of the existing challenges i.e. improved technology, competition, interest forbidden society, regulation e.t.c making difficult to rule out non-interest income activities. As recommended therefore diversification might be the best alternative because findings confirmed hypothesis that diversification is good for the banking sector performance in Tanzania.

According to Shuremo (2016) study on determinants of banks' profitability evidence from banking industry in Ethiopia using regression found out that as interest rate spread increases/ decreases, the profitability of the banks increases/decreases as well. He in part recommended at policies aimed at controlling interest rate which can be rather termed as capping as interest rate is a factor in determining health of a country's economy as well as banks profitability.

An investigation by Tarawneh et.al (2017) on non-interest income and financial performance at Jordanian banks using regression concluded that non-interest income increases the profitability of a bank. This was so because, the non-interest income which is the different charges and fees paid as a result of the different services provided by the banks and especially in the most developed countries have gradually expanded their sources of income by expanding into a wider menu of services and activities that help generate noninterest income.

Tuyishime et.al (2015) using both Pearson and Spearman correlation did a study on the effects of deposit mobilization on financial performance of commercial banks in Rwanda whose findings indicate that a positive change in deposits interest rate affect the level of deposits received and later on the profitability of the bank. This study recommends banks to design innovative ways to increase the level of low cost deposits which are competitive in order to balance with the interest paid on them.

A study by Okun (2012) on the effect of level of deposits on the financial performance of commercial banks in Kenya using cross sectional regression model concluded that customer deposits have a positive and significant effect on the Return on Assets and therefore that banks that put in place effective strategies to attract deposits will continue to report better performance and thus customer deposits seem to maximize shareholders wealth. He recommended that banks should invest in attracting deposits as a predominant portion of commercial bank's

assets are usually financed through customer deposit and again monitor the interest on these deposits carefully as the main expense by any commercial bank is the interest expense and therefore for a commercial bank to be profitable, it must be able to raise deposits at reasonable rates in order to on lend to the customers whilst maintaining a good spread.

5. METHODOLOGY

The study assessed data for thirty two institutions out of the forty three in Kenya within eight quarters period, four at pre capping and four post capping era. This represented about 74.4 of the population though in terms of the market share, the data used translated to over 95% of the banking sector as the banks left out are the small ones by classification that were either in receivership, were not operation for whole period under study, their data could not be found or are under statutory management. The data was collected on interest income, non-interest income, interest expense and profit before tax and exceptional items. Use of secondary data mainly from both audited and unaudited financial statements of the commercial banks in the sampling frame was made by downloading the same from the individual company official websites, The Nairobi securities exchange where eleven of them are listed as well as the regulator, the CBK.

The study employed use of multiple linear regression model of analysis and so it used analytical software statistical package for social sciences (SPSS) Version 23 to analyse the collected data. According to Gupta, (2009) asserts that regression analysis provides estimates of value of the independent variable from the values of the dependent variable. This choice was due to its ability to allow concurrent analysis of relationships between more than one variable. The regression model used entailed three independent variables as interest income, non-interest income and interest expense whereas the dependent variable was the profit before tax and exceptional items and therefore the regression equation adopted was as follows:- $Y=A+\beta_1X_1+ \beta_2X_2+ \beta_3X_3+ \varepsilon$

Where

Y	=Performance (Profit before tax and exceptional items-PBTEI measured in KES)
A	= Regression constant
$\beta_1 ...... \beta_3$	=Are the coefficients for the variable on X on $X_1....X_3$
X_1	=Interest income (II) on loans and advances measured in KES
X_2	= Non-interest income (NII) measured in KES
X_3	= Interest expense (IE) on deposits measured in KES
ε	=Error term

6. FINDINGS AND DISCUSSION

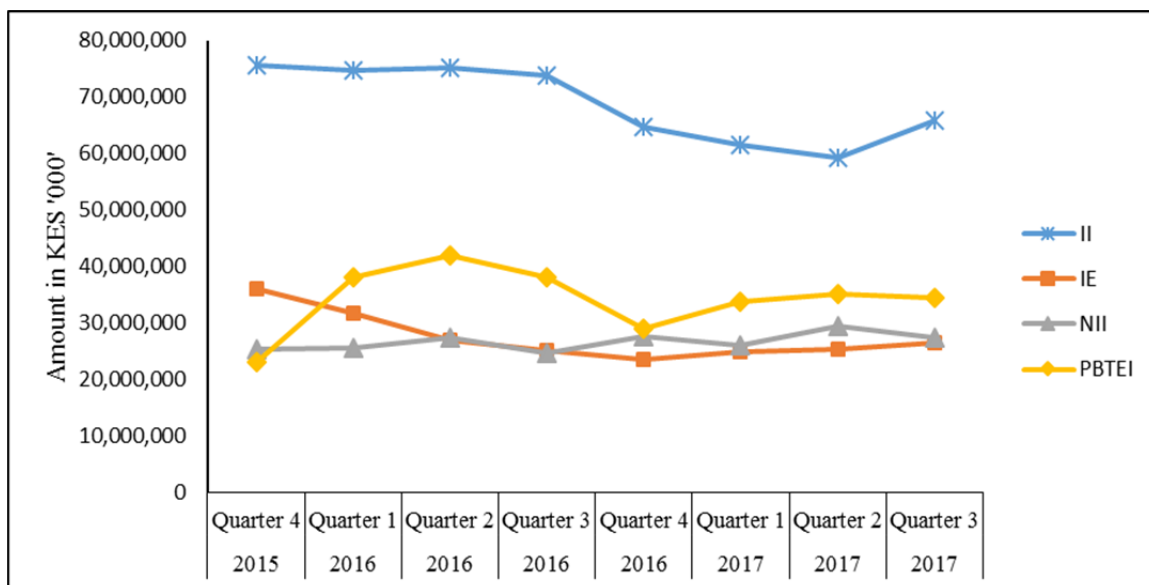A Graphical representation of results is as presented below.

Figure 1. Graphical Movement of the variables against time.

The graph reveals that there was dip in in the interest income and profit before tax and exception items right after the implementation of the capping (After quarter 3) implying that interest income reduced after capping and consequently it affected PBTEI as it also reduced. Interest expense hit its bottom point after the capping i.e. by end of Quarter 4 and it defined the bottom rate for deposit payments over the period under study. Overall

less interest expense was paid to deposits in post capping era compared to pre capping. Non-interest income slightly shot up after the capping and has been trying to get a direction since then giving an M like graph. Also clearly noted is the narrowing of the spread between interest income and interest expense which are critical elements of performance from the main intermediation role. The whole of the pre capping era under study was a time when there was a lot of competition for deposits but loan rates couldn't be raised to such a magnitude due to political pressure. The rates at this time were above the capping law rate and this explains the slopping nature of the interest expense curve from the start in the graphical presentation.

Correlation

The association both in direction and strength of the relationship between the variables was investigated using Pearson correlation coefficient.

Table 1: Correlation coefficients of independent variables and PBTEI-Pre capping

		PBTEI	Interest Income	Non-interest Income	Interest Expense
Pearson Correlation	PBTEI	1.000			
	Interest Income	.923	1.000		
	Non-interest Income	.888	.915	1.000	
	Interest Expense	.729	.839	.753	1.000

Table 2: Correlation coefficients of independent variables and PBTEI-Post capping

		PBTEI	Interest Income	Non-interest Income	Interest Expense
Pearson Correlation	PBTEI	1.000			
	Interest Income	.925	1.000		
	Non-interest Income	.924	.881	1.000	
	Interest Expense	.823	.861	.755	1.000

As shown from the analysis above. there is a strong positive correlation between the dependent variable PBTEI and the three independent variables Interest income, non-interest income and interest expense at both pre and post interest rate capping era at r=0.923, r=0.888 and r=0.729 before interest rate capping and r=0.925, r=0.924 and r=0.823 after interest rate capping. A strong correlation between interest income and non-interest income is also evidenced at pre-capping era as they have a correlation value r=0.915 bringing the element of multicollinearity. This is expected as such for this variables and the same can be explained by the fact that some of key sources of non-interest income like fees and commissions on loans and advances depends on loans and advances that also the main source of interest income and thus they highly associate. On comparative basis, post capping correlation of interest income with profit before tax and exceptional items is stronger than correlation before capping at 0.923 and 0.925 at pre and post capping eras respectively. Interest expense is also a critical variable with respect to capping of interest rates with a moderate and a strong positive correlation with the PBTEI of 0.729 and 0.823 in pre and post capping era respectively. This implies that interest expense correlated well with profits after the interest rate capping but pre capping shows that there was an increase or decrease in profits without a nearly proportionate increase or decrease in interest expense. An inquisition by the researcher on the disparity is that the market was cooling off from an high interest rate regime which had climaxed in the last quarter of 2015 with deposit rates averaging at 7.54%, 7.56% and 7.92% in the months of October, November and December 2015 but maintained an average of 7.1% in 2016 as per bank supervision reports by CBK 2015 and 2016.

Model Fitness

This is used in determining the fitness of the model in the prediction. The higher the adjusted R^2, the better the model.

Table 3: Model Summary-Pre-Capping

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.932[a]	.869	.866	684791.8023

Table 4: Model Summary-Post Capping

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.955[a]	.912	.910	499361.6367

The implication of adjusted R square is that 86.6% and 91.0% of the dependent variable PBTEI can be attributed to the dependent variables; interest income, Non-interest income and interest expense .

Model Output
The table below on the model output confirmed the significance of all the independent variables in the model as their p<0.05 at 95% confidence interval in both eras.

Table 5: Regression coefficients of independent variables and PBTEI-pre-capping

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-83220.116	83508.239		-.997	.321
Interest income	.521	.063	.806	8.242	.000
Non-interest Income	.436	.138	.255	3.161	.002
Interest Expense	-.263	.113	-.139	-2.315	.022

Table 6: Regression coefficients of independent variables and PBTEI-post-capping

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-156012.025	61413.459		-2.540	.012
Interest income	.257	.047	.396	5.444	.000
Non-interest Income	.674	.077	.491	8.724	.000
Interest Expense	.225	.106	.111	2.113	.037

Dependent Variable: PBTEI
From the above results the following regression equation was obtained from the unstandardized beta coefficients as shown below:
PBTEI= -83220.116 + 0.521II + 0.436NII + -0.263IE+ ε …………………before capping
PBTEI= -156012.025+0.257II + 0.674NII + 0.225IE+ ε …………………..after capping.
The variables coefficients demonstrates a deteriorating contribution of interest income in post capping era as compared to pre capping. The coefficient of interest income reduced from 0.521 pre capping to 0.257 post capping though this did not affect the significance of its contribution to PBTEI as it did not change from p value of .000. The model coefficients for non-interest income are 0.436 and 0.674 at pre and post capping respectively implying the greater weight in the contribution to the PBTEI at post capping era. Its significance as a sole variable is also evident in the regression coefficient model as its p value improved from 0.002 at pre capping to 0.00 at post capping period. Interest expense deteriorated from -0.263 to 0.225. This confirms the decline in interest expense which was settling from a high interest rate regime in the market.

Paired Sample T-Tests
The tables shown below shows the outcome of the paired sample t- tests on each of the variables used in the study in the pre and post capping eras.

Table 7: Paired sample T-test for Interest Income pre and post capping

	Paired Differences			t	df	+Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean			
II Pre-Capping – II Post-Capping	374745.9063	716643.9467	63342.97430	5.916	127	.000

Table 8: Paired sample T-test for Non-interest Income pre and post capping

	Paired Differences			t	df	+Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean			
NII Pre-Capping –NII Post-Capping	-61696.65625	330275.1785	29192.47730	-2.113	127	.037

Table 9: Paired sample T-test for Interest expense pre and post capping

	Paired Differences			t	df	+Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean			
IE Pre-Capping – IE Post-Capping	153216.7813	429910.1433	37999.04720	4.032	127	.000

Table 10: Paired sample T-test for PBTEI pre and post capping

	Paired Differences			t	df	+Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean			
PBTEI Pre-Capping– PBTEI Post-Capping	133356.8438	651301.9470	57567.50292	2.317	127	.022

The results as per the tables above reveal that each of the variables had a statistically significant difference between the two periods. The noted difference of interest income is the largest as it has the lowest value of p=.000 with post capping posting reduced interest income. The overall findings are in tandem Shuremo (2016), Mang'eli (2012) and Kipngetich (2011) on interest rates and their spread on the profitability of commercial banks in Kenya. It also agrees with Mbua (2017) which confirmed that capping had negative effect on profits and hence their shares became less attractive. For Non-interest income at pre and post capping era, p value is equal to .037 and this implies that there was a statistically significant difference in this variable between the two eras with non-interest income post the capping era being the larger figure and thus growth. Overall on non-interest income, the findings were therefore found to agree with studies Tarawneh et.al (2017), Singh et.al (2016) on the significance of non-interest income to profitability of banks. It also agrees with Stiroh, (2002) on the growing importance of non-interest income but disagrees with Young and Rice, (2003) that intermediation based products remain central business activities of banks.

A statistically significant difference in the interest expense of the two periods under study with interest expense being higher pre capping than post capping due to the market situation of high interest rate regime preceding the capping. The importance of deposits and hence the significance of interest expense as underscored by Tuyishime et.al, (2015), Nduati (2013) and Okun (2012) is hereby confirmed.

7. CONCLUSION AND RECOMMENDATIONS

An analysis of the effects of interest rate capping on the performance of commercial banks in Kenya shows that indeed interest rate capping law negatively affected the financial performance of commercial banks in Kenya as there was a decrease in PBTEI which was statistically significant. The negative impact of the law on the financial performance was on account of narrow interest rate spread which is largely attributable to lending rates which had an average of 16.58% the whole of year 2016 as per CBK bank supervision report 2016 of which the last three and a half months had an average of 14% after capping law was signed. Deposit rates slightly increased from a low of 6.42% as per CBK bank supervision report 2016 which had been hit in the month of August 2016. This is still the same month the law was assented but the overall impact of interest expense increase did not reflect in the results as the whole period under study preceding the capping had relatively high and often fluctuating deposit rates. The effect of interest expense would have reflected negatively had deposit rates been at the lowest it was during the month of capping for a relatively longer period before the capping. Non-interest income showed an increase after interest rate capping though the increase was not significant enough to compensate the decline in interest income.

Interest rate capping is relatively new in Kenya and in most African countries. By the strength of its weight as a law, it was very effective in determining the rate at which borrowers can access funds from the local commercial banks. Further, it can also be argued as the ever effective way employed in taking the power of pricing loans from the individual commercial banks' management. Being cognisant of the rationale behind the law, a negative effect from the same might have been undesired. The researcher therefore recommends that policy makers in government should assess the impact the law might have to the economy as less taxes will be paid by the commercial banks as profits decline or job losses could probably occur as banks cut on operating expenses.

The researcher further recommends that the commercial banks' management should be innovative to do product and service diversification to other non-intermediation roles relevant to the financial industry to achieve year by year growth in profits and achieve targets without proportionate increase in capital. This will also guarantee capital flow to the industry and especially for the listed banks as the share prices to a large extend mirror the performance of the company.

In light of the declining income from interest income from loans and advances, a research is recommended to establish whether reduction in rates is solely attributable to the decline or there could be other factors such as any tendency by the commercial banks to shift capital investment from loans and advances to customers to other investment avenues such as government securities. This would confirm the worst fear of crowding out effect that the law was anticipated might have to the economy. Further studies on the effect of the interest rate capping on the general economy can be done to establish whether there could be any noted effect in the economy such growth in the uptake of loans to fund businesses that is attributable to cheap credit or growth in bank deposits as a result of favourable deposit rates resulting from the capping law is also recommended.

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