



EFFECT OF MICRO ECONOMIC FACTORS ON PERFORMANCE OF LISTED COMMERCIAL BANKS IN KENYA

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ABSTRACT

The performance of commercial banks plays an important role in the economic development of a country. The performance of commercial banks can be expressed or measured in various terms and these include competition, productivity, profitability, efficiency as well as concentration. The study seeks to establish the influence of bank specific variables on the performance of listed commercial banks in Kenya. The specific objectives included to determine the effect of capital adequacy on the performance of commercial banks in Kenya; to establish the effect of bank size on the performance of commercial banks in Kenya; to evaluate the effect of operating expenses on the performance of commercial banks in Kenya; and to assess the effect of total deposits on the performance of commercial banks in Kenya. The intermediation theory and liquidity theory were used in the study. The study adopted an explanatory research design. The target for the study was 43 commercial banks in Kenya. Out of these, the 11 listed commercial banks were sampled for performance over the past five years (2010-2015). Panel secondary data was utilized in the study. Data was analyzed using descriptive such as means, standard deviation and inferential statistics such correlation to show the strength of the effect between variables and regression analysis to depict the nature of the effect between variables. Results of the study revealed a positive and significant relationship between capital adequacy, bank size, total deposits and commercial banks performance while operational expenses had an inverse significant relationship with commercial bank performance. Commercial banks ought to continuously evaluate their capital adequacy, diversify their asset base and deposits accumulation strategies. Moreover, there is need for commercial banks to be innovative strategies which will minimize their operational costs.

Key Words: Capital Adequacy, Bank Size, Operating Expenses, Total Deposits, Performance of Commercial Banks

INTRODUCTION

Commercial banks as the major financial institution play a critical role of channeling funds through intermediation between the savers and borrowers. The growth of a country's economy is seen to depend majorly on the banking and as Ongore (2013) observed that poor banking performance leads to banking failure and crisis which have negative repercussions on the economic growth. During the global financial crisis of 2008, financial institutions particularly commercial banks were inevitably the major and direct victims of the crisis and it significantly impacted their financial patterns, market strategies, and operational policies. A number of the financial institutions, particularly in the USA, could not survive the brunt of global financial crisis and were collapsed while the remaining ones became much cautious and they took drastic measures in this regard (United Nation[UN], 2010).

Research has shown that commercial banks in Sub-Saharan Africa (SSA) are more profitable than the rest of the world with an average Return on Assets (ROA) of 2% (Flamini, Valentina, McDonald, & Liliana, 2009). Major reasons behind high return in the region include investment in risky ventures; and the existence of huge gap between the demand for bank service and the supply thereof. In SSA, the number of banks is few compared to the demand for the services, resulting in less competition and banks charge high interest rates. This is especially true in East Africa where the few governments owned banks take the lion's share of the market.

Locally, there are 42 commercial banks in Kenya out of which 28 are domestically owned and 14 are foreign banks (CBK, 2015) where in duration of one year, two banks have since been put under receivership by CBK. Commercial banks still dominate the financial sector in Kenya implying that the performance of banks significantly determines success or failure of the sector and subsequently the economic growth. As Oloo (2011) discovered

any bankruptcy that could happen in the financial sector has a negative effect that can lead to bank runs, crises and bring overall financial crisis and economic tribulations and vice versa.

Bank specific variables, among them capital adequacy is instrumental in shaping the performance of a specific bank. Kenyan banks with higher capital adequacy are likely to perform better than those with lower capital adequacy since the latter are not interpreted to be more secure than those with high capital adequacy (Gul, Faiza & Khalid 2011). Capital adequacy in Kenyan banks is mostly determined by shareholders' contributions as well as the profits realized by the banks during their transaction period. Investors in most cases opt to transact their business with banks that guarantee them security in terms of flexibility when they need cash. Government regulations, which entail control and monitoring also rely on many factors, among them capital adequacy to act or take specific measures against specific banks. Kenyan banks that fall short of the adequate or set standard in terms of capital adequacy will certainly perform poorly and may in unlikely event cease operating. The reverse is the case for those banks that meet the set standards in terms of capital adequacy.

Examining asset quality of the banks is another factor that in the long run affects the performance of the banks in Kenya (Khravish, 2011). The quality of assets here plays a bigger role since it is used as a bargaining power in transacting some of complex activities. Evaluation of assets is mostly done to determine the risk associated or equated to it. Kenyan banks with valuable assets are seen to earn more trust and hence perform better in their transactions as compared to those with low value assets. Moreover, the assets are seen as a guarantee that the bank can be in a position to settle the debts in case of misfortunes. Such banks attract huge number of customers with a good proportion of these customers seeking loans which

in long run generates profits due to interest rate charged.

The performance of these banks is further boosted since they rarely offer non-interest loans. On the other hand, banks with low value assets to try to attract customers by offering loans and other services with terms that can be seen to do more harm than good to the business. A good example is the fact that such banks can offer interest free loans which will not generate any profit for the business. With such measures, the performance of such banks will be dismal and may lead to their closure in the long run. Generally, asset quality can be said to be among the influential factors that play a bigger role in branding of banks in Kenya (Boudriga, Taktak & Defi 2009).

Statement of the Problem

Different stakeholders have different interests in the commercial banks. Shareholders are interested in the return on their equity, depositors are concerned with the safety of their deposits, borrowers are interested in the availability of funds whenever required, and the government uses commercial banks as a tool of implementing its monetary policies. These stakeholders have different interests but they all converge at one point, that is, for their interest to be satisfied commercial banks must perform (Macharia, 2015). In a span of less than 12 months 3 commercial banks have been put under receivership in Kenya; Dubai bank, Imperial bank and Chase bank (CBK, 2016). Other banks are recording decreasing profits if not losses. According to the CBK's Monthly Economic Review for December 2015, the gross non-performing loans increased by 30.2% between December 2014 and December 2015 (CBK, 2016).

On the same regard, several studies have investigated factor influencing bank performance though majority are carried out outside Kenya and focus mainly on macroeconomics factors (Gul,

Irshad & Zaman, 2011; Dietrichand & Wanzenrid, 2009; Syafri, 2012; Obamuyi, 2013; Frederic, 2014). In Kenya studies have also been conducted on the factors affecting performance of commercial banks. Ongore and Kusa (2013) studied the effects of bank specific factors influencing banking sector performance in Kenya. The results of the study showed that assets quality and management efficiency significantly influenced the performance of commercial banks in Kenya while liquidity did not influence the performance significantly. Their study however focused on the effect of assets quality, management efficiency and liquidity as bank specific factors only. Aduda, Kiragu and Ndwiga (2013) in their study on the effect between agency banking and bank performance found out that there was a positive effect between these two variables. However, they did not focus on any specific factors. Wafubwa (2013) carried out a study on the factors that influence the performance of commercial banks in Kenya. While this study focused on bank specific factors, it only focused on promotional strategies, leadership, clientele and source of funds where a positive association between performance and all the four variables. Still this study only focused on a single bank. Mixed results were observed when establishing association between the bank capital adequacy specific factors and firm performance some finding a positive relation (Ongore & Kusa, 2013; Shingjergji & Idrizi, 2014) and other negative relation (Frederic, 2014; Obamuyi, 2013; Gul *et al.* 2011).

In the light of the above mixed and inconclusive results there ought to be further study local to empirically establish which results are consistent. Furthermore, against this back ground it is clear that the performance of commercial banks is a major concern in Kenya. A greater concern is whether the managers of these banks are conversant with the banks specific factors affecting their performance. This study seeks to identify how

capital adequacy, bank size, operating expenses and total deposits bank-specific factors influence the performance of commercial banks in Kenya.

Objective of the study

The general objective of the study was to establish the effect of micro economic factors on performance of listed commercial banks in Kenya. The specific objectives were:-

- To determine the effect between capital adequacy listed commercial bank performance in Kenya.
- To establish the effect between bank size and listed commercial banks performance in Kenya.
- To find out the effect between operating expenses and listed commercial banks performance in Kenya.
- To assess the effect between total deposits and listed commercial banks performance in Kenya.

LITERATURE REVIEW

Theoretical Review

Liquidity Preference Theory

Liquidity preference theory was proposed by John Keynes a United Kingdom economist. According to Keynes, if all factors were to be held constant, individuals would prefer to hold cash balances (be liquid) as opposed to holding their money in any other form of asset. Keynes further observed that people will demand for a premium for them to accept to invest their cash in other forms of assets for instance real estates, debt instruments and stocks.

The theory of liquidity preference argues that the premium demanded by cash holders for them to part with liquidity increases with the increase of the period of getting the liquidity back. The theory of liquidity preference has continued to be a dominant concept in economics and finance particularly in its

application in the theory of demand for money (Munene, 2015). Based on the Keynes theory Central Banks set the rate of interest to control asset prices via the demand for money. While emphasising on why people prefer holding cash balances, Keynes highlighted three motives: for transaction motive, motivation to hold cash balances in order to meet the day to day transactions, for precautionary motive, the motivation to hold cash balances to take care of unforeseen events, and for speculative motive, the motivation to hold cash balances to take advantage of investment opportunities as they arise.

The Keynes theory is applicable in the assets and liabilities functions of commercial bank. The theory provides the basis of why banks pay a compensation for their liabilities and on the other hand banks demands compensation on their assets (Munene, 2015). This compensation is the interest factor which is based on the risk involved. Banks will therefore charge higher interest rate on clients whose possibility of default is higher. The element of interest factor is critical as far as performance of commercial banks is concerned since interest charged on loans constitutes a major source of income of commercial banks

Intermediation Theory

The theory regarding financial intermediation was developed starting with the 60's, the starting point being the work of Gurley and Shaw (1960). The financial intermediation theory is based on the theory of informational asymmetry and the agency theory. In principle, the existence of financial intermediaries is explained by the existence of the following categories of factors: high cost of transaction, lack of complete information in useful time; and the method of regulation.

Commercial banks engage in a critical role in the economy of financial intermediation. Commercial banks act as intermediaries between those who

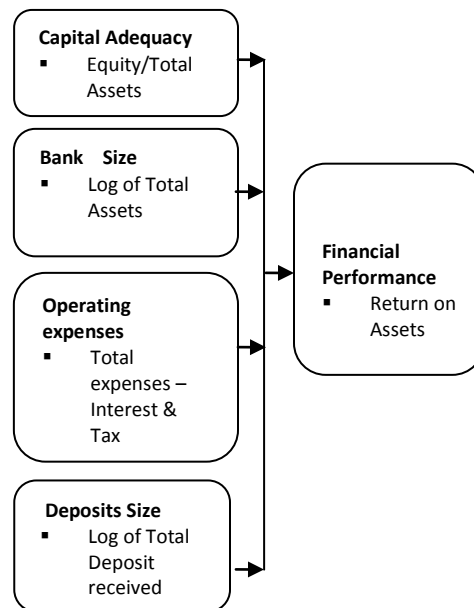
have surplus finances (depositors) and those with deficits (borrowers). Commercial banks and insurance companies have historically played a central role in intermediation virtually in all the economies. However, this is not the case in the emerging markets which are at very early stage. Nevertheless, even in emerging economies intermediation tends to influence the development of financial markets (McKinnon, 1973)

Banks that have existed from ancient times, they take deposits from the households with surplus and give loans to household with deficits. Commercial banks and insurance companies have played this role of transformation of savings of households into investments in various sectors of the economy (Aduda *et al*, 2013). The roles played by financial intermediaries in the economy are found in various models covered by the theory of intermediation. The theory of intermediation is based on the model of resource allocation which is built on perfect and complete markets by suggesting that friction of transaction costs together with information asymmetry are crucial for one to understand intermediation. The role of transaction cost has been emphasized by Shaw (1960) and other authors.

Information asymmetry has been stressed by several authors as an alternative rationalization for the importance of intermediaries. An intermediary can signal status by deciding to invest in assets which it has knowledge about (Leland and Pyle, 1977). By acting as “delegated monitors”, intermediaries can overcome the problems associated with asymmetric information (Diamond, 1984). Bhattacharya and Thakor (1993) conducted an excellent study on the current status of the literature dealing with banking. This study was built on already existing reviews on banking. The theory of intermediation highlights the significance of the commercial banks in any economy. It is clear based on this theory that intermediation by extension

commercial banks are key ingredients for investment to flourish in any economy.

Conceptual Framework



Independent Variables Dependent Variable

Figure 1: Conceptual Framework

Empirical Review

Capital Adequacy and Firm Performance

A study in Tunisia by Aymen (2013) investigated the effect of capital on the financial performance of banks in duration of 10 years ending 2009. Capital availability was assessed by ratio of equity/total assets while financial performance was checked in terms of ROA, ROE and net interest margin (NIM). According to Aymen (2013) banks having adequately financial in terms of capital would sustain growth since more benefits are likely to generate since they can be able to address systematic shocks. Alike many studies, results revealed a positive though insignificant effect between capital adequacy and all the financial performance and with only capital adequacy and ROA having significant association. Again like the

previous study it only concentrated on one bank specific factors unlike current study which will broader examining four variables.

Pessarossi and Weill (2013); in search of answer on whether capital requirement affect efficiency in China banks over a period starting 2004 through 2009. Results suggested that an increase in capital requirement was found to be followed by increase in cost efficiency which majorly depended on ownership. In a similar study, Fiordelisi, Marques-Ibanez and Molyneux (2011) study the relation between bank efficiency, risk and capital ratios. Their paper is basically focused on the broader aspect of efficiency in terms of cost efficiency, revenue efficiency and profit efficiency. This research also took on reverse causality efficiency influencing capital then capital impacting efficiency. Results showed that the less efficient banks tend to act on riskier and that better capitalized banks perform better in terms of efficiency.

Bank Size and Firm Performance

Athanasoglou *et al.*, (2005) studied the effect of bank-specific, industry-specific and macroeconomic determinants of bank profitability, using an empirical framework that incorporates the traditional Structure-Conduct-Performance (SCP) hypothesis. The results indicated that all bank-specific determinants, with the exception of size, affect bank profitability significantly affected bank positively.

Scott and Arias (2011) also investigated the primary determinants of profitability of the top five bank holding companies in the United States. The findings of Scott and Arias (2011), which were also highlighted by Rahman and Farah (2012), show that profitability determinants for the banking industry include capital to asset ratio, annual percentage changes in the external per capita income and internal factor of size (as measured by an organization's total assets).

Macit (2011) investigated the bank specific and macroeconomic determinants of profitability in participation banks for Turkish banking sector using ROA and ROE. He found that for the bank specific determinants of profitability, the ratio of non-performing loans to total loans has a significant negative effect on profitability. The result is consistent with the study by Davydenko (2010) in the Ukraine. Macit (2011) also found that the log of real assets has a significant positive effect on profitability.

Flamini, McDonald and Schumacher (2009) investigated the determinants of bank profitability in 41 Sub-Saharan African (SSA) countries, using a sample of 389 banks. The study proved that apart from credit risk, higher returns on assets are associated with larger bank size, activity diversification, and private ownership. The results also indicate that bank returns are affected by macroeconomic variables, suggesting that macroeconomic policies that promote low inflation and stable output growth do boost credit expansion. Consequently influencing bank performance positively.

Naceur and Goaied (2008) observed a positive effect between capital and net interest margin or profitability in Tunisia, but determined that the bank size impacts negatively on profitability, which implies that Tunisia banks are operating above their optimal level.

Operating Expenses and Firm Performance

Sharma and Gounder (2012) investigated the profitability determinants of deposit-taking institutions in Fiji, over the 2000–2010 periods. The study used panel data techniques of fixed effects estimation and generalized method of moments (GMM) that is, authors discovered that Market power (measured by the Lerner Index) is a key determinant of profitability. Thus, institutions were allowed to pass on to their clients the interest costs

of raising deposit liabilities and the overall cost of operations

Olweny and Shipho (2011) evaluated the effects of banking sectoral-factors on the profitability of commercial banks in Kenya, using panel data from 2002 to 2008 of 38 commercial banks. The authors concluded that the bank-specific factors are more significant factors influencing the profitability of commercial banks in Kenya than market factors. The study revealed that profitable commercial banks are those that strive to improve their capital bases, reduce operational costs, improve assets quality by reducing the rate of non-performing loans, employ revenue diversification strategies as opposed to focused strategies and keep the right amount of liquid assets.

Total Deposits and Firm Performance

Total deposits calculated as the total deposits which is the proxy measure for network embeddedness, where it is expected that a positive effect exists between total deposits and bank performance. Chu and Lim (1998) suggest that banks with large branch networks are able to attract cheaper deposits. Randhawa and Lim (2005) posit that the large banks may attract more deposits and loan transactions and in the process command larger interest rate spreads. On the other hand, the smaller banking groups with smaller deposits base might have to resort to purchasing funds in the inter-bank market, which is costlier (Sufian & Habibullah, 2012).

Khrawish (2011) accessed the Jordanian commercial bank profitability from 2000 through 2010, and categorized the factors affecting profitability into internal and external factors. The author found that there is significant and positive effect between return on asset (ROA) and the bank size, total liabilities/ total assets, total equity/ total assets, net interest margin and exchange rate of the commercial banks and that there is significant and negative effect between ROA of the commercial

banks and annual growth rate for gross domestic product and inflation rate.

Financial Performance of Commercial Bank

There are various measures that be used determine the financial performance of a commercial bank. The main measures include return on assets (ROA) and return on equity (ROE) (Munene, 2015). In this study ROA will be used to measure the financial performance of commercial banks in Kenya. Return on Assets (ROA) is a major ratio that indicates profitability of a bank. It is a ratio of income to its total assets (Khrawish, 2011). ROA shows the percentage of how profitable company assets are generating revenue (Susan et al., 2008). In other words; it shows how efficiently the resources of a company are used to generate income. Wen (2010), states that a higher ROA shows that a company is more efficient in using its resources.

METHODOLOGY

In this study correlation design was applied, correlation design was used purposely show the causal effect between the dependent and the independent variables (Oso & Onen, 2009). The unit of analysis in this study comprised of both domestic and foreign owned commercial banks operating in Kenya. The sampling frame consisted of all 12 listed commercial banks in Kenya. These are Barclays bank Ltd, CFC Stanbic Holdings Ltd, Diamond Trust Bank Kenya Ltd, Housing Finance Co Ltd, I & M holdings Ltd, Kenya Commercial Bank Ltd, National Bank of Kenya Ltd, NIC bank Ltd, Standard chartered Bank Ltd, Equity bank Ltd and the Co-operative bank of Kenya Ltd. The study adopted a non-probabilistic method of selecting sample that was purposive sampling method due to the cost and time limitation in collecting data. This study utilized the most recent balanced panel data of the 11 listed commercial banks in Kenya which covered a period of six years from 2010 through 2015. Data was

sourced from different reports mainly from individuals bank audited annual report the Central Bank of Kenya Annual Supervision Reports, Kenya Economic Surveys and World Development Indicators.

RESULTS AND DISCUSSIONS

The target populations for the study 11 listed commercial banks were considered and panel data for five years was collected and analysed.

Descriptive Analysis

Descriptive analysis in Table1 shows that the average return on assets was 4.45% with a minimum of -1.34% and maximum of 7.70%. Moreover, all the variables were normally distributed since none of the P value for Jarque

Bera test was less than 0.05. The average capital adequacy across all listed commercial banks was 0.22 units, bank size average at 11.79, operating expenses were 22% of the total commercial banks costs and total deposits were 12.09 units. A cross scrutiny revealed that commercial banks had huge variations on return on assets as accounted for 9.18 units for standard deviation, this could be attributed to wide variation on earnings and asset base. These results were in agreement with Onounga (2014) who found that profitability (ROA) on top six commercial banks in 2008 to 2014 averaged at 5%, while operating costs was 15% in the current study it has increased to 22% which clearly stipulates a gap on operational costs management strategies so as increase profitability levels.

Table 1: Descriptive Analysis

	ROA	Capital Adequacy	Bank Size	Operating Expenses	Total Deposits
Mean	4.45	0.22	11.79	0.22	12.09
Median	4.53	0.16	11.99	0.22	11.77
Maximum	7.70	3.36	13.06	0.32	15.99
Minimum	-1.34	0.04	9.66	0.10	7.35
Std. Dev.	1.70	0.44	0.73	0.05	2.17
Skewness	-0.59	2.55	-0.94	0.08	-0.20
Kurtosis	2.93	1.40	1.64	2.17	2.66
Jarque-Bera	1.66	3.42	2.92	1.81	0.70
Probability	0.086	0.085	0.21	0.41	0.70
Sum	267.28	13.35	707.35	13.39	725.19
Sum Sq. Dev.	169.73	11.25	31.79	0.17	277.95
Observations	60	60	60	60	60

Correlation Analysis

The study carried out correlation analysis to examine the strength of the relationship between variables. Results of the study revealed a positive and significant relationship between capital adequacy and ROA. This shows that an increase in capital adequacy increases commercial banks performance. The results were in agreement with

Olalekan and Adeyinka (2013) who found a positive and significant relationship between capital adequacy and commercial banks profitability. Secondly there was a positive and significant relationship between bank size and ROA. This shows that an increase in bank size increased profitability. The results were in agreement economies and diseconomies of scale theory. According to

Obamuyi (2013) when commercial banks are endowed with economies of scale there will be a positive and significant relationship between size and operational efficiency, though these benefits may be short-lived more so after the attainment of optimal performance levels.

Thirdly, there was a negative and significant relationship between operating expenses and ROA. This implied that an increase in operating expenses decreases commercial banks profitability. These results were in agreement with Pasiouras and Kosmidou (2007) who argued that proficient cost supervision is a corner stone on commercial bank profitability. Moreover, bank expenses are

perceived as an essential determinant of commercial bank performance and when commercial bank manages cost proficiently there are better chances of bank performance.

Finally there was a positive and significant relationship between total deposits and ROA. This implies that an increase on total deposits increased commercial banks profitability due to creation of credit. A glance look on the relationship between independent variables revealed that none of the variables had a correlation coefficient greater than 0.7 thus it can be concluded none of the variables was highly correlated and hence non multicollinearity.

Table 2: Correlation Analysis

	ROA	Capital Adequacy	Bank Size	Operating Expenses	Total Deposits
ROA	1				
Capital Adequacy	0.08	1			
	0.053	-----			
Bank Size	0.44	-0.46	1		
	0.00	0.00	-----		
Operating Expenses	-0.18	-0.18	-0.12	1	
	0.17	0.18	0.37	-----	
Total Deposits	0.30	0.12	0.54	-0.28	1
	0.02	0.36	0.00	0.03	-----

It was paramount to examine the most appropriate model between FEM and REM using Hausman test. Results in Table 3 revealed that the most

appropriate model to fit when ROA was a dependent variable was fixed effect since the p value < 0.05.

Table 3: Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.	
Hausman Test	10.28	4	0.04	
Variable	Fixed	Random	Variable (Diff.)	Prob.
Capital Adequacy	0.241	0.634	-0.393	0.014
Bank Size	0.171	0.599	-0.428	0.012
Operating Expenses	-0.685	-0.958	0.273	0.179
Total Deposits	0.032	-0.105	0.137	0.068

Regression Analysis

Regression analysis in Table revealed that capital size, bank size, operating expenses and total

deposits all had joint significant influence on listed commercial banks performance since (F= 12.184, P value = 0.000). Moreover, an R squared of 0.775

revealed that 77.5% of the variation in commercial banks ROA can be explained by capital adequacy, bank size, operating expenses and total deposits while the remaining percentage can be explained by other factors excluded in the model.

Regression analysis revealed that there was a positive and significant relationship between capital adequacy and ROA among listed commercial banks in Kenya ($\beta = 0.241$, $t = 3.358$, p value < 0.05). This implies that a unit change in capital adequacy increases ROA by 0.241 units. These results are similar to Sufian and Chang (2008), Tobias and Scott and Arias (2011), Hong and John (2010), Mousa and Aymen (2013) and Yilmaz (2013), all who found positive and significant relationship between capital adequacy and ROA. Commercial banks which has higher capital adequacy levels there will reduce reliance on external finances and will ultimately perform positively. Through, capital growth commercial banks will accumulate ability to withstand external shocks and ultimately attain superior financial strength. Moreover, all commercial banks should steer to increase capital levels through increased deposits and they will minimize chances of bankruptcy and capital cost reduction as there steer to attain desired capital levels.

Regression analysis revealed that there was a positive and significant relationship between bank size and commercial bank performance (ROA), ($\beta = 0.171$, $t = 3.314$, p value < 0.05). This implies that a unit change in bank size increases commercial bank ROA by 0.171 units. The results were in disagreement with past studies which has registered negative association is explained by the size itself; large banks may have management

issues. Also, large banks may have obtained that level by an aggressive growth strategy which is obtained at the expense of margins and profitability. The results were in agreement with empirical studies which reported positive association between size and bank performance has also been confirmed by the study done by (Flamini *et al.*, 2009; Bikker & Hu, 2002). Large banks operate at lower costs because of economies of scale and can raise capital at lower costs. All these lead to high profits. A few researchers have found that size of the bank has no significant role in determining its performance (Micco, Panizza & Yanez, 2007; Athanasoglou, Brissimis & Delis, 2008). Thirdly, regression analysis revealed a negative and significant relationship between operating expenses and commercial banks performance, ($\beta = -0.685$, $t = -2.284$, p value < 0.05). This implies that a unit change in operating expenses decreases commercial bank performance by 0.685 units.

The fourth objective of the study stated that total deposits had no significant influence on commercial bank performance, ($\beta = 0.032$, $t = 2.307$ and P value < 0.05). This implies that a unit change in total deposit increases commercial bank performance by 0.032 units. These findings are in concurrence with past literature which has stated that there is a positive and significant relationship between customer deposits and bank profitability since customer deposits are perceived as sources of cheap and stable finance resources as compared to alternative sources of finance (Claeys & Vennet, 2008).

Table 4: Fixed Effects Regression on Relationship Between ROA and Micro Economic Characteristics

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.073	5.730	1.235	0.223
Capital Adequacy	0.241	0.072	3.358	0.000

Bank Size	0.171	0.052	3.314	0.000
Operating Expenses	-0.685	0.300	-2.284	0.000
Total Deposits	0.032	0.014	2.307	0.000
R-squared	0.775	Mean dependent variance		4.455
Adjusted R-squared	0.711	S.D. dependent variance		1.696
S.E. of regression	0.911	Akaike info criterion		2.853
Sum squared residual	38.197	Schwarz criterion		3.342
Log likelihood	-71.589	Hannan-Quinn criterion.		3.044
F-statistic	12.184	Durbin-Watson stat		1.247
Prob (F-statistic)	0.00			

CONCLUSION AND RECOMMENDATIONS

Based on the study findings it was concluded that 63% of the variation in ROE among listed commercial bank in NSE was influenced jointly by capital adequacy, bank size, operating expenses and total deposits jointly while the remaining percentage can be influenced by other factors excluded from the model. Moreover, 77.5% of the variations in ROA could be jointly influenced by capital adequacy, bank size, operating expenses and total deposits while the remaining percentage can be accounted for by other micro economic characteristics which are excluded in the model. As demonstrated by empirical factors commercial banks performance can be accounted by other factors which were excluded in the current study.

Since capital adequacy have a positive influence on investment decision among listed commercial banks in Kenya. There was need to maintain the minimum capital requirements as such to mitigate the bank against financial shocks which was attributed to financial costs and constraints associated with seeking alternative sources of finance.

Moreover, bank size registered positive and significant relationship with commercial bank performance. There was need for commercial banks to increase the asset size; this can be attained by purchase of more assets. There was need for continuous revaluation of commercial banks

deposits. Moreover, commercial banks should increase their asset base in relation to their line of business; through this asset accumulation the bank would be better placed to meet the client needs through branches expansion strategies.

Thirdly, there was need to evaluate the cost management strategies adopted by commercial banks. Comparing with past studies there is an upward trajectory of operational costs amongst listed commercial banks. Although, most of the commercial banks are switching to technologically driven service delivery which may have huge initial outlay and the future benefits out-ways the huge initial outlay.

Finally, there was need to devise measures to enhance commercial banks deposits. These can be attained by increasing the number of customers and innovating on depositing strategies which will encourage current and potential customers to increase deposit amount and the frequency of deposits.

Recommendation

Based on the study findings the study recommended that listed commercial banks should continuously monitor its level of adherence on capital adequacy ratios. Through this there will be guarantee of the commercial bank being a going

concern and will ultimately boost investor confidence.

Secondly the asset base of commercial banks should be diversified in both tangible and non tangible and asset related products ought to be developed and this will enhance performance of commercial banks and will diversify sources of income rather than continuously rely on traditional interest only sources of income.

Thirdly, commercial banks should enhance their research and development department to continuously develop products which are geared towards minimizing operational costs. Through these strategies benefits operational costs will minimize and consequently increase commercial banks profitability.

Finally, commercial banks should continuously develop heterogeneous types of accounts which are geared towards encouraging deposit, through these deposit commercial banks will be in a position to

issue more loans and ultimately improve on profitability.

Suggestion of Further Studies

The current examined the causal effect of the micro economic characteristics on commercial bank performance in Kenya. There is need for a similar study to be carried out to examine micro economic effect on performance of all commercial banks and more those commercial banks in tier since they have continuously registered declining performance. Secondly, the current study faced a limitation of sample size, future studies on listed commercial banks ought to increase the sample size and this will be appropriate the long term relationship between micro economic characteristics and commercial banks performance.

REFERENCES

Acaravci, S. K., & Çalim, A. E. (2013). Turkish banking sector's profitability factors. *International Journal of Economics and Financial Issues*, 3(1), 27.

Aduda, J., Kiragu, D. & Ndwiga, J., (2013). The effect between agency banking and financial performance of commercial banks in Kenya.

Al-Tamimi, H. & Hussein, A. (2010). Factors influencing performance of the UAE Islamic and conventional national banks. *Global Journal of Business Research*, 4(2), 1-9.

Athanasoglou, P. P., Brissimis, S. N. & Delis, M. D. (2005). Bank-Specific, Industry-Specific and Macroeconomic Determinants of Bank Profitability. *Bank of Greece Working Paper* 25. Available at: <http://www.bankofgreece.gr/BogEkdoseis/Paper200525.pdf> [Accessed on 5/5/2017]

Aymen, B. M. M., (2013). Impact of capital on Financial performance of banks: the case of Tunisia. *Bank and Banks Systems*, 8(4), 47-54.

- Azam, M. & Siddiqui, S., (2012). Domestic and Foreign Banks' Profitability: Differences and Their Determinants. *International Journal of Economics and Financial Issues* 2(1), 33-40.
- Boudriga, W., Taktak, P. & Defi, K., (2009). Banking supervision and nonperforming loans: a cross-country analysis. *Journal of Financial Economic Policy*, 1(4), 202-214.
- Central Bank of Kenya (2016) Bank Supervision Annual Report, Kenya.
- Central Bank of Kenya (2015) Bank Supervision Annual Report, Kenya.
- Claeys, S. & R. Vander Vennet, (2008). Determinants of bank interest margins in central and Eastern Europe: A comparison with the West. *Economic Systems*, 32(2): 197-216.
- Diamond, D. W., Raghuram, A. (2000) A Theory of Bank Capital. *The Journal of Finance* 52(6), 12-23.
- Dixon, H. D., (2008). New Keynesian macroeconomics. *The New Palgrave Dictionary of Economics*, 2nd Ed. *Economics and Financial Issues*, 3(1).
- Espinoza, R. & Prasad, K., (2010). Nonperforming Loans in the GCC Banking System and their Macroeconomic Effects. An empirical investigation. *IMF working paper wp/10/224*.
- Fiordelisi, F., Marques-Ibanez, D. & Molyneux, P., (2011). Efficiency and Risk in European Banking. *Journal of Banking and Finance* 35, 1315
- Flamini, C., Valentina C., McDonald, G. & Liliana, S. (2009). The Determinants of Commercial Bank Profitability in Sub-Saharan Africa. *IMF Working Paper*.
- Frederic, N. K. (2014). Factors affecting performance of commercial banks in Uganda: A case for domestic commercial banks. *Proceedings of 25-th International Business Research Conference 13-14 January, 2014, South Africa*, 1-19.
- Goldman Sachs (2013). How much upside to purchase mortgage originations? *The Mortgage Analyst*.
- Gujarati, D. N., & Porter, D. C. (2009). *Basic Econometrics* (4th ed.). New York, New York, US: McGraw-Hill Irwin.
- Gul, S., Faiza, I., Khalid, Z. (2011) Factors Affecting Bank Profitability in Pakistan. *The Romanian. Economic Journal*, 2(3), 6-9. *International Research Journal of Finance and Economics. Zarqa University*, 5(5), 19-45
- Hausman, J. A., (1978). Specification Tests in Econometrics. *Econometric*, 46, 1251-1271.

- Hussain, H and Bhatti, G.A. (2010). Evidence on Structure Conduct Performance Hypothesis in Pakistani Commercial Banks. *International Journal of Business and Management*.5(9): 174-187.
- Ikpefan, O. A., (2013). Capital adequacy, management and performance in the Nigerian commercial bank (1986 - 2006). *African Journal of Business Management*, 7(30), 2938-2950.
- Kakilli, G. & Ertuğrul, T., (2013). Turkish Banking Sector's Profitability Factors, *International Journal of economics*
- Kothari, C. R. (2011). *Research Methodology. Methods and Techniques*. New Age International Publishers. New Delhi. India.
- Lipunga, A. M., (2014). Determinants of Profitability of Listed Commercial Banks in Developing Countries: Evidence from Malawi, *Research Journal of Finance and Accounting*, 5(6): 41-49
- Moussa, B., & Aymen, M., (2013). Impact of capital on financial performance of banks: the case of Tunisia. *Journal of Banks and Bank Systems*, 8(4), 47-54.
- Mugenda, O. & Mugenda, A., (2008). *Research Methods: Quantitative and Qualitative Approaches*. Nairobi: Acts press
- Naceur, S., & Omran, M., (2010). The effects of bank regulations, competition and financial reforms on banks' performance. *Emerging markets review*. doi: 10.1016/j.ememar:2010.08.002
- Obamuyi, T. M. (2013). Determinants of banks' profitability in a developing economy: Evidence from Nigeria. *Organizations and Markets in Emerging Economies*, 42(8), 97-111.
- Oladele, P.O., Sulaimon, A.A. & Akeke, N.I. (2012). Determinants of Bank Performance in Nigeria. *Internal Journal of Business and Management Tomorrow*, 2(2), 1-4.
- Olalekan, A., & Adeyinka, S., (2013). Capital Adequacy and Banks' Profitability: An Empirical Evidence from Nigeria, *American International Journal of Contemporary Research*, 3 (10), 87-93.
- Oloo, O. (2011) Banking Survey Report, the best banks this decade 2001-2010, Think Business Limited, Kenya, www.bankingsurvey.co.ke
- Ongore, V. O. & Kusa, G. B. (2013). Determinants of financial performance of commercial banks in Kenya. *International Journal of Economics and Financial Issues*, 3 (1), 237-252.
- Ongore, V. O., (2011). The effect between ownership structure and firm performance: An empirical analysis of listed companies in Kenya. *African Journal of Business Management*, 5(6), 2120-2128.

Ongore, V. O., (2013). Determinants of Financial Performance of Commercial Banks in Kenya. *International Journal of Economics and Financial Issues*, 3(1) 237- 252

Onounga, R. M. (2014). The Analysis of Profitability of Kenya`sTop Six Commercial Banks: Internal Factor Analysis, *American International Journal of Social Science*, 3 (5), 94-103.

Pasiouras, F., & Kosmidou, K. (2007). Factors influencing the profitability of domestic and foreign commercial banks in the European Union. *Research in International Business and Finance*, 21(2), 222-237.

Pessarossi, P. & Weill, L., (2013). Do capital requirements affect bank efficiency? *BOFIT Discussion Papers* 28/2013. Retrieved from <http://www.suomenpankki.fi/pdf/172742.pdf>

Ross, S. A., (1973). The economic theory of agency: The principal's problem. *American Economic Review*, 62(2), 134-139.

Ross, S. A., (1997). The determinants of financial structure: The incentive-signaling approach. *The Bell Journal of Applied Corporate Finance*, 8, 23 – 40.

Said, R. M., & Mohd, H.T., (2011). Performance and Financial Ratios of Commercial Banks in Malaysia and China.

Sangmi, M. & Tabassum, N., (2010). Analyzing Financial Performance of Commercial Banks in India: Application of CAMEL Model. *Pakistan Journal Commercial Social Sciences*, 2(3).

Saona, P. H., (2011). Determinants of the profitability of the U. S. Banking Industry. *International Journal of Business and Science*, 2 (22), 255-269.

Shingjergji, A. & Idrizi, A. (2014). The performance of the Albanian banking system. *Anglisticum Journal*, 3 (7), 64-69.

Sufian F. and Chong R. R. (2008). Determinants of bank profitability in developing economy: Empirical evidence from the Philippines. *Asian Academy of Management Journal of accounting and finance*, 4(1): 91–112.

Sufian, F & Habibullah. M. S., (2012). Globalizations and bank performance in China. *Research in International Business and Finance*, 26(2), 221-239.

Sufian, F. & Habibullah, M.S., (2009). Determinants of bank profitability in a developing economy: Empirical evidence from Bangladesh. *Journal of business economics and Management*, 10(3), 207-217.

Sun, Y., (2015). Recent Developments in European Bank Competition. *IMF Working Paper 11/146*.

- Swarnapali, R. M. N., (2014). Firm Specific Determinants and Financial Performance of Licensed Commercial Banks in Sri Lanka, *Proceedings of the 3rd International Conference on Management and Economics, 26-27 February 2014*, Retrieved on 24 July 2014 from http://www.mgt.ruh.ac.lk/pubs/pdf/ICME2014_OP_p247.pdf
- Syafri, M., (2012). Factors affecting bank profitability in Indonesia. *The 2012 International Conference on Business and Management, 6-7 September 2012, Thailand*, 236-242.
- Tarus, D. K. & Omandi, E. M., (2013). Business Case for Corporate Transparency: Evidence from Kenya. *European Journal of Business and Management*, 5(3), 113-126.
- Tufan, E., Bahattin H., Mirela C., & Laura, G.V., (2008) Multi-criteria evaluation of domestic and foreign banks in Turkey by using financial ratios, *Banks and Bank Systems Journal*, 3(2), 20-28.
- Wafubwa, M. A., (2013). Factors influencing performance of commercial bank in Kenya. A case of Kenya Commercial Bank, Bungoma County, (Master thesis, University of Nairobi, Kenya). Available on <http://erepository.uonbi.ac.ke/xmlui/handle/11295/55762>
- Wen, W., (2010). Ownership Structure and Banking Performance: New Evidence in China. *Universitat Autònoma de Barcelona Departament D'economia de L'empresa*, 2010.
- Yeh, Q. J., (1996). The application of data envelopment analysis in conjunction with financial ratios for bank performance evaluation. *Journal of the Operational Research Society*, 980-988.
- Yilmaz, A.A. (2013). "Profitability of banking system. Evidence from emerging markets, *WEI international academics, Conference proceedings*, January 14-16, Antalya, Turkey