EVALUATION OF THE EFFECTS OF CAPITAL ADEQUACY ON FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN KENYA

Margaret Nyaboke Nyanyuki.
Department of Accounting and Finance, School of Business and Economics, Kisii University, Kenya.
Andrew Nyanga'u.
Department of Accounting and Finance, School of Business and Economics, Kisii University, Kenya.
Mactosh Onwonga.
Department of Accounting and Finance, School of Business and Economics, Kisii University, Kenya.

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ABSTRACT

Financial performance of commercial banks is affected by capital adequacy determinant. Capital adequacy is one of the lending determinant and it influence financial performance of listed commercial banks. This contributed immensely to profit and other revenue to the bank. Lending is through offering loans which can be either short term, medium or long term depending on the need. The major objective of this study was to assess effect of capital adequacy on financial performance of commercial banks in Kenya. The specific objective was; to examine the effect of capital adequacy on financial performance of commercial banks in Kenya. The study was anchored on capital buffer theory. The study adopted correlational designs. The target population comprised of 43 listed commercial banks, and purposive sampling technique was used to select 10 commercial banks. The study used financial statements from which secondary data was extracted from Nairobi security exchange from the year 2015 -2019. Inferential statistics was used. The study established that capital adequacy determinant was negatively associated with financial performance of commercial banks in Kenya r=-.386(**), P=.006<0.01 and it has significant effect. The study concluded that capital adequacy had a negative but significant effect on financial performance of commercial Banks in Kenya. Hence, a unit change in capital adequacy led to a significant change on financial performance of commercial Banks. A bank with a high capital adequacy ratio is considered to be above the minimum requirements needed to suggest solvency. Therefore, the higher a bank's CAR, the more likely it is to be able to withstand a financial downturn or other unforeseen losses. Thus high capital adequacy would to a decline in financial performance of commercial in Kenya. The study recommended that banks can increase their regulatory capital ratios by either increasing their levels of regulatory capital (the numerator of the capital ratio) or by decreasing their levels of risk-weighted assets (the denominator of the capital ratio) and capital reserves all the time for better financial performance. Further another study can be done in other financial institutions.

Keywords: Capital adequacy, Financial performance, Listed commercial banks.

INTRODUCTION

Capital adequacy has been well alarming in most commercial banks globally affecting financial performance. Capital adequacy is commonly evaluated by maintaining capital ratio corresponding losses or risk weighted credit exposure. The capital weighted asset ratio is used to appropriate capital structure mainly introduced to bank lenders and depositors. This is also used to analyze stability of the lenders and ability to pay across banks efficiently in the world economics. The federal banks in United States of America are preventing lending to

many lenders by exerting lending determinants to its financial performance indicators. The insolvency may not be reached or evaluated against capital adequacy and debt or leverages during financial crisis of an individual with International bank settlements policy. This enables banks in determining the best lending decision to loan terms and the requirements, to get restrictions under which the lenders require to come for loans through protections of depositors amount (Hadad, 2014).

Capital adequacy of banks in Russia is attributed to the fact that can withstand risks emanating from long term lending**.** Capital adequacy in Jordan is identified as the main determinants affecting profitability. Listed commercial banks were examined to the extent that bank performance is influenced by internal factors likes capital adequacy has a significant effects on financial performance of listed commercial banks at NSE (Jaber & Alkhawaideh, 2014).

Capital adequacy is sufficiently listed in Tunisian commercial banks make it more profitable with low capitalized banks. Capital is unique in Tunis banks (Gavila, 2019). Capital adequacy level is determined by banks which set a higher minimum regulatory capital ratio than that one stated in Base (1-111) which is 8% for total capital and 4.5% for tier-1 capital and 6% tier-2 capital. BOT issued banking and financial institutions ACT/BOT 2014 in August to enforce and regulate the regulation governing the capital adequacy of Tanzania banks. The objective of these efforts to prepare the bank regulation on capital adequacy as prescribed in banking Act and institutional (Act 2014) section (Hadad, 2014).

Capital adequacy is working capital ratio calculated by dividing total current assets by total current liabilities. For that reason, it can also be called the current ratio. It is a measure of liquidity, meaning the business's ability to meet its payment obligations as they fall due. Capital adequacy approximation and its financial performance is measured by, Return on Assets (ROA), Return on Equity (ROE) and the Net Interest Margin (NIM) (Moussa, 2018). Capital adequacy in Kenya is set by the central bank which is a capital requirement to be met by all the commercial banks. Banks strive to ensure compliance since failure to comply leads with penalties; the C.B of Kenya issues the capital adequacy guidelines and conducts an onsite review to ensure compliance (Musioka, 2017).

Capital adequacy in Banks creates liquidity for the bank due to the fact that deposits are most fragile and prone to bank runs. Greater bank capital reduces the chances of financial distress. Adequacy of capital is judged on the basis of capital adequacy ratio (CAR). Capital adequacy ratio shows the internal strength of the bank of withstand losses during crisis capital adequacy study done in Kenya found that there is relationship between bank adequacy and bank performance. The finding showed that capital adequacy requirement is important in commercial banks; because it leads to financial stability in Kenyan economy improves credit risk management techniques (Kombo & Dang, 2016).

Capital adequacy affect financial performance through the compliance there is need to establish to what extent is the financial performance of listed commercial banks affected; hence bank performance is a reflection of the way a bank uses its resources to achieve its objectives. It improves adoption of a mix of parameters as non on its own can fully be used to determine financial performance of listed commercial banks (Memeln & Raupach, 2014).

Capital adequacy of commercial banks in Kenya affects performance (Kamande & Ariemba, 2016). The big capital base is good as it reduces financial distress and risks associated with Capital deficiencies in Kenya led to Dubai bank to be placed under receivership in the year 2015.The bank was subsequently liquidated. In the same year Imperial Bank was put under receivership due to suspected fraudulent activities at the bank. In April 2016 Chase bank went into a bank run. The Kenyan Central Bank had to make an arrangement for its revival. Receivership of three small banks impacted the liquidity distribution within the interbank market, which accentuated segmentation leading to marked reduction of interbank credit lines to small and medium tier banks (Kibet, 2014).

Capital adequacy has long been universally accepted measure of financial stability of banks and has been used to protect the depositors from losses of their savings and improves the efficiency of bank systems and stability in any economy (Said & Tumin, 2016). The minimum capital requirement for banks ensures liquidity and ability of commercial banks to pay its debts to its depositors aiming at managing crisis do not enter into a crisis. Sufficient capital levels reduce the chance of distress. Capital adequacy is the amount of capital which is considered sufficient enough for banks to survive some major risks likely to face them which include; credit, legal and operational risks and other exposures in order to be liquid enough to ensure smooth operation continuity and ability to honor their debt obligations. CAR deemed an accurate measure of the ratio as it indicates the capability of the bank to curb losses incurred in the face of a crisis (Dang,2016).Capital adequacy according the ratio is strongly linked to profitability of banks as it informs banks investments decisions by measuring the risk associated with certain ventures (Sangmi, 2014).

Statement of the problem

Capital adequacy had a great significant role on improving financial performance of listed commercial banks in Kenya. Financial performance results to optimization baton that promotes banks to serve the real world economy. Thus, banks are expected to compete well if lending determinants using capital adequacy minimizes losses in long run financial performance.

Financial performance of commercial banks has been decreasing over the years. This was evidenced that commercial banks had 13 percent ROA in the year 2017 which declined to 10 percent ROA in 2019 and ROA further declined to 9 percent in 2020 (CBK Supervisory Report, 2021). Such a declining trend in ROA is a major concern in Kenyan Commercial Banks.

Mahalingam (2014) carried out on lending determinants and financial performance of banks in Nigeria commercial banks from 2001 to 2012 The study evaluated the effect of asset quality of financial performance of commercial banks in Nigeria. The study was analyzed using data from 5 commercial banks listed. The study did not analyze the effect of capital adequacy on financial performance of commercial banks. Ruozi (2019) did a research that analyzed Liquidity determinants on the financial performance of commercial banks in Australia, Europe and North America. The study examined the capital adequacy risk whether trading assets and cash requirements on financial performance. Descriptive research design on 12 commercial banks listed. Descriptive statistics was used to analyze data. This study applied correlation analysis and regression analysis to establish the relationship between capital adequacy determinant on financial performance of listed commercial banks.

Objectives of the study

The objective of this study was to assess the effect of capital adequacy determinant on financial performance of listed commercial banks in Kenya.

Research Hypotheses

$H0_1$ Capital adequacy has no statistical significant effect on financial performance of commercial banks in Kenya

THEORETICAL REVIEW

The capital Buffer theory

This capital buffer theory was developed by Memeh in 2014 which stated that financial institutions can embrace heavily on capital adequacy as a lending determinant. The minimum capital requirement is the major of commercial banks interest earned and interest paid. Commercial bank aims to manage capital heavily than asset, in capital buffer theory, banks aim at holding more capital than recommended. Regulations targeting the creation of capital are designed to reduce the procyclical nature of lending by promoting the creation of counter cyclical buffers, banks expand their lending activities during period of economic growth and contract lending when the economy slows When banks without adequate capital run into trouble they either raise more capital or cut back on lending Cutting on lending business may find financing more expensive to obtain or not available capital (Musioka, 2017).

Assumption is that; large banks with market power may become more risk averse when they see their charter value being threatened by completion. Credit rationing by large banks can determine risk levels in their pool of borrowers implying different buffer profiles. The theory states that rates charged by banks with market power can cause adverse selection effects across borrowers increasing risk and prompting banks to increase buffer. Theory states that when banks fail to accumulate capital buffers during economic turns booms leads to insufficient capital during down turns (Maredza, 2017).

Criticism is that; banks without enough capital to avoid running into trouble they cut lending to maintain the capital, banks sometimes raise its capital by charging for its services apart from loans and deposits which is an illegality (Ruozi, 2019). Banks may maintain their capital buffer by charging high interest rate to avoid penalty from central bank (Memeln, 2014).

The theory was useful in evaluating the risk practices of Kenyan banks as well as managing their capital. Relevancy is that; it was helpful for regulatory authorities like central bank of Kenya. It would act as appositive signal to various stallholders and marketing leading to credibility and smooth working of the bank and system of banking. It is significant tool in avoiding losses and thus default risk in banks. Capital buffer when extra it enables bank to be more solvent. The theory enables banks to comply with central bank regulation to avoid penalty.

Empirical literature review

Capital Adequacy and financial performance

Abdkarim (2016) explored the impact of capital adequacy ratio on financial performance of commercial banks at Nairobi security exchange. The study sought to determine the impact of capital adequacy through asset base of commercial banks in Kenya. The study was carried out in 9 commercial banks quoted at the Nairobi security exchange as per the capital the capital market authority report of the year 2019. The study used correlation and regression analysis to analyze data and found out that the capital adequacy contributes positively to the profitability of the commercial banks since all the variables showed positive relationship and thus concluded that it was paramount for banks to have a sound capital base in order to remain competitive and maintain the confidence. The study recommended that there should be a wide capital base in the banks to strengthen confidence of depositors.

Alemayeh (2014) scrutinized the effects of capital adequacy on the financial performance of commercial bank in Kenya. The study analyzed capital adequacy using financial rations and its effects on financial performance of commercial banks in Kenya. The respondents comprised of 43 commercial banks listed in Kenya in the year 2016 report. The study indicated that capital adequacy ratio was more applicable to financial performance of commercial banks. The study concluded that capital adequacy and bank size had an inverse and significant relationship with commercial banks, while for asset quality and liquidity, there was no significant relationship. The study recommended that he managers of the commercial banks in Kenya had an obligation to hold enough capital as it was an enhancer of financial performance. That the managers to ensure growth of their institutions by investing in more assets because large banks enjoyed the economies of scales and that the management should effectively manage credit risk to enhance asset quality manage cost efficiency and ensure that there is adequate levels of liquidity to meet current need when they become due.
Abdkarim and Anbar (2016) studied the effect of capital adequacy on financial performance of savings and credit co-operative societies in Kenya. The study aimed at establishing the

effects of core capital to total asset requirement, institutional capital to total asset requirement, minimum core capital requirement, capital to total deposit and core capital ratio financial performance of the deposit taking SACCOs. The study used a sample size was 83 registered deposit SACCOs licensed by SASRA as 31st December 2016 to 2015and had been operating for the last five years. Regression model was used to analyze data and the study found out that there was positive and significant relationship between capital adequacy and financial performance which implied that improvement in capital adequacy would increase financial performance of the savings and credit society. The study concluded that the capital adequacy influenced the performance of the SACCOs in Kenya and recommended that improvement of the capital requirement regulations by the regulatory body was necessary and that improvement of liquidity, profitability, operating efficiency and total assets turnover was necessary for the SACCOs to remain in business.

Almazari (2014), observed the effect of capital adequacy on financial performance of savings and credit co-operative societies in Kenya. The specific objectives sought to investigate capital adequacy of SACCOs on financial performance. The study collected data using questionnaires from 35 deposit taking SACCOs. The study sample size was 35 deposit taking SACCOs in Kenya. Data was collected and analyzed using correlation analysis where the study found that level of capital adequacy was beneficial in meeting regulatory requirement, that the capital adequacy was influential in enabling the institution to manage credit risk and for growth base. It was also found that reduced payout on members lending capacity posed a challenge. The study concluded that SACCOs had profited much from adhering to the capital adequacy and that they had overcame the challenges of separating capital from members and institutional capital and calculation of ratios. The SACCOs had engaged in strategies to increase capital. The study recommended that review of lending rates through cost pricing methods and training of executives by the regulator was necessary.

Clair (2014) analyzed the effect of capital adequacy on financial performance of commercial banks in Kenya. Specific objectives sought to analyze capital adequacy based on financial regulations and profitability, challenges faced by commercial banks in the implementation of capital adequacy requirement, measures taken by commercial banks to ensure compliance. The study took a sample size 159 management staff employed at the head offices of the 43 commercial banks operating in Kenya. The data collected was analyzed by using descriptive and inferential statistics analysis which included frequency distribution and standard deviation and correlation analysis. It was found out that that capital adequacy requirement is important in commercial banks because it leads financial stability in the Kenyan economy, improves credit risk management techniques as poor capital and leads to reduced vulnerability to liquidity shocks due to the sound capitalization policies being implemented under the Basel III framework. It was also found out that capital adequacy affected financial performance of the commercial banks in Kenya. Smaller banks without the minimum capital requirements in their balance sheet would be required to merge with other smaller banks or seek additional capital injection from investors. Middle tier banks have gone to the stock markets to seek additional capital through rights and bond issue. Large multinational banks

have sought capital injections from their parent company. The study concluded that capital adequacy has significantly changed the capital adequacy of commercial banks in Kenya. The commercial banks in Kenya have to deploy various strategies to comply with the looming capital adequacy requirements. The study recommended that banks should continue the pursuit of various strategies to ensure that they are in compliance with Basel III requirements and the Central Bank of Kenya's Prudential Guidelines. This would be achieved through the expertise and involvement of the asset and liability management committee. It further recommended that compliance with the capital requirements would lead to a safety net for all commercial banks as the additional capital act as a cushion that absorbs losses in case of distress in the commercial banking sector.

Kamande (2016) examined the relationship between capital adequacy and financial performance of commercial bank. The empirical study showed that capital adequacy is influenced by account receivables and sales of loans. Correlation analysis showed that there is significant relationship between capital structure and financial performance. Thus, mean calculated shows lowest and highest level while standard deviation indicated the difference in distance between means. Bank managers can influence debt and equity financing from capital budgeting decisions. The study recommends that banks to embrace on profitability, size of the operations, total assets and sales turnovers to loan provisions.

Brealy (2019) examined factors affecting capital adequacy on financial performance of firms in Kenya. Using correlation analysis of secondary data collected from 17 banks. The study found that capital adequacy positively affects financial performance. The availability of capital adequacy and financial performance through long-term, small firms has larger capital expense. A large firm with huge capital adequacy grows from its long term financial performance target. The influence of capital adequacy levels on credit risk management is enabled by deposit mobilizations. Capital base can be weighted for total assets and has negative significant affect credit risks, capital base stability for cash flows and financial performance.

Conceptual Framework

The conceptual framework shows the relationship between independent variable (capital adequacy determinants) and dependent variable (financial performance).

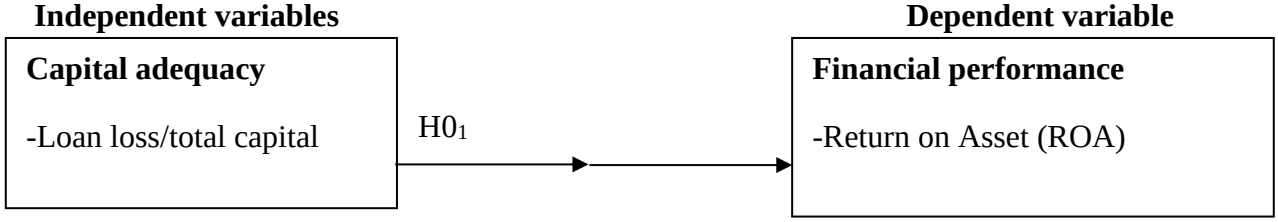

Figure 2.1 Conceptual Framework

The change in capital adequacy can be measured by capital ratio and financial performance by return on asset.

RESEARCH METHODOLOGY

The study used correlation research design. This allowed the researcher to determine the relationship between objectives to its respective sample size. It also enabled the researcher to generalize the characteristics of research findings on the whole population of study. In this study, the target population comprised of 43 commercial banks. The study used purposive sampling technique to select 10 listed commercial banks through purposive sampling method as presented in table 3.1.

Table 3.1 Sample size

S/N	Name the commercial bank
1	ABSA
2	CFC Stanbik bank ltd
3	Diamond trust bank
4	Equity bank limited
5	Housing finance bank
6	I& M bank ltd.
7	Kenya commercial bank
8	NBK Bank
9	Standard chartered bank
10	Cooperative Bank of Kenya

Source: Nairobi Security exchange (2021)

The study adopted secondary data. This secondary data was extracted from financial statements published at Nairobi security exchange from the year 2015 -2019. Inferential statistics was used by correlation, simple and multiple panel data analysis to determine the relationship between capital adequacy determinant and financial performance of commercial banks. The paned data model determined by Panel data included 'K' Regressors as follows;

$Y_{it} = \beta_0+\beta_1 X_{1it} +\varepsilon_{it}$……...Equation (1)

Y_{it} =Financial performance of commercial banks $_i$ for $_t$ year,

β_0= constant coefficient of intercept

β_1=change in Financial performance of each unit increase in X_{1it}, capital adequacy

X_{1it} is the score in capital adequacy which predict financial performance of $_i$ for year $_t$ …,

ε_{it} = error that which reflect other factors outside the model and affect financial performance of $_i$ for $_t$ years,

RESULTS AND DISCUSSION

Capital adequacy

Correlational analysis

The study conducted a correlational analysis to determine the relationship between dependent variables (capital adequacy), and dependent variable (financial performance measured by ROA). The findings were presented below.

Table. 4.1 correlational analysis

		Capital adequacy	Financial performance
Capital adequacy	Pearson Correlation	1	-.386(**)
	Sig. (2-tailed)		.006
	N	50	50

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

Source: Field data 2022

The study established that Capital adequacy had strong negative and highly significant correlation with financial performance of commercial banks in Kenya r=-.386(**), P=.006<0.01. Hence, changes in capital adequacy led to a significant decline in financial performance of commercial banks in Kenya. These findings disagreed with (Abdkarim, 2016) who found out that the capital adequacy contributes positively to the profitability of the commercial banks since all the variables showed positive relationship and thus concluded that it was paramount for banks to have a sound capital base in order to remain competitive and maintain the confidence.

Regression analysis

The study conducted a simple regression analysis between capital adequacy and financial performance of commercial banks in Kenya.

Table 4.2 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.586(a)	.540	.523	.05378

a. Predictors: (Constant), Capital adequacy

Source: field data 2022

According to the findings in the table above, the study noted R was =.586. This meant that Capital adequacy had a direct correlation with financial performance of commercial banks in Kenya. Similarly, the study found out that the model had an R square of. 540. Hence, changes Capital adequacy led to 54% change in financial performance of commercial banks in Kenya. According to (Clair, 2014) who found out that that capital adequacy requirement is important in commercial banks because it leads financial stability in the Kenyan economy, improves credit risk management techniques as poor capital and leads to reduced vulnerability to liquidity shocks due to the sound capitalization policies being implemented under the Basel

III framework. It was also found out that capital adequacy affected financial performance of the commercial banks in Kenya.

Table 4.3 ANOVA (b)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.024	1	.024	8.000	.001(a)
	Residual	.139	48	.003		
	Total	.163	49			

Source: filed data 2022

a. Predictors: (Constant), Capital adequacy

b. Dependent Variable: Financial performance

The study found out that F test was 8.000, P=. 001<0.05. This revealed the overall regression model was fit for the study. Further the findings showed that showed that Capital adequacy significantly affected financial performance of commercial banks in Kenya.

Table 4.4 Coefficients (a)

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	.214	.041		5.155	.000
	Capital adequacy	-.781	.270	-.386	-2.895	.006

Source: Field data 2022

a. Dependent Variable: Financial performance

According to the table above, the study found out that that Capital adequacy had a negative but significant effect on financial performance of commercial Banks in Kenya. B= -.781, t=.-2.895 P=.006< 0.05. Holding other factors constant at zero, Capital adequacy led to 21.4 % change in financial performance of commercial banks in Kenya. Further, the study established that change in Capital adequacy led to 78.1% decline in financial performance of commercial Banks in Kenya. Thus, changes in Capital adequacy led to significant changes in financial performance.

$Y_{it} = \beta_0+\beta_1 X_{1it} +\varepsilon_{it}$……...Equation (1)

Y=.214+ -.781X + Ɛ

Hypotheses Testing

Hypotheses testing of the study was carried based on the findings in table above. On the hand **H0₁:** Capital adequacy has no statistical significant effect on financial performance of commercial banks in Kenya.

Table 4.5 Coefficients (a)

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	2.222	.487		4.566	.000
	Capital adequacy	-2.150	.224	-1.061	-9.601	.000

Source: Filed data 2022

a. Dependent Variable: financial performance

The study discovered that capital adequacy had a negative but significant effect on financial performance of commercial banks in Kenya B= -2.150, t= -9.601, P= .000<0.05. Hence, a unit change in capital adequacy led to a significant decrease in financial performance of commercial banks. Accordingly, the null was rejected.

CONCLUSION AND RECOMMENDATION

The study concluded that capital adequacy was negatively associated with financial performance of commercial banks in Kenya. Hence, high changes in capital adequacy can results to losses and a significant decline in financial performance of commercial banks in Kenya.

The recommended that commercial banks especially National Bank of Kenya minimize losses by embracing on proper mechanisms that can enable them improve financial performance. Further, the study recommended that commercial banks' ought to keep capital reserves at the recommend levels all the time.

REFERENCES

Agwara S., Abdullah M. N., Parvez K., and Ayreen S., (2014) Bank Specific, Industry Specific and Macroeconomic Determinants of Commercial Bank Profitability: *A Case of Bangladesh. The Accounting Review*, 69, 455–478

Abera, A. (2012). Factors Affecting Profitability: An Empirical Study on Ethiopian Banking Industry. *Unpublished Master's Thesis. Addis Ababa University.*

Abreu M. and Mendes V., (2012). Commercial bank interest margins and profitability: evidence from E.U. Countries, *University of Porto Working paper Series 122*

.

Ali, M., (2011). A financial performance comparison of public vs private banks: The case of commercial banking sector of Pakistan. *International Journal of Business and Social Science, 2*(11) 110-118

Almazari, A. (2014). Impact of internal factors on bank profitability: Comparative study between Saudi Arabia and Jordan. *Journal of Applied Finance and banking, 4(1), 125-135*.

Abdkarim A. M., and Anbar Q., (2016). Interest Rates Liberalization or Economy Control: The Case of the Chinese Banking System. *Journal of Transnational Management, 20*(2), 87-*106.*

Al-Tamimi, H., Miniaoui, H., and Elkelish, W., (2014). Financial Risk and Islamic Banks' Performance in the Gulf Cooperation Council (GCC).*Journal of Applied Finance and banking*, 6*(12), 119*.

Alemayehu S., and Ndungu, Ani, P. (2014). Determinants of Commercial Banks' profitability Panel Evidence from Nigeria. *Unpublished Master of Business Administration Thesis, University of Abuja.*

Anjichi, D. A., (2014). Effects of asset and liability management on the financial performance of commercial banks in Kenya. *Doctoral dissertation, University of Nairobi Press*.

Athanasoglou, P., Brissimis, S., and Delis, M. (2011). Bank-specific, industry-specific and Macroeconomic determinants of bank profitability. *Journal of International Financial Markets, Institutions and Money, 18(2), 121--136Journal of Financial Economics, Elsevier, vol. 128(3), pages 422-442.*

Alhisa C, Coskun D., and Yener E., (2014) the impact of size of bank on profitability of commercial banks. *MPRA paper 82104, University Library of Munich, Germany.*

Alexio R., Sufoklis E., Chronopoulos D. K., Liu, H., McMillan, F. J., and Wilson, J. O. (2019). The dynamics of US bank profitability. *The European Journal of Finance*, *21*(5), 426-443.

Beck, T., Fuchs, M., Singer, D., and Witte, M. (2014). Making cross-border banking work for Africa. *Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), Bonn and Eschborn*.

Bodie, M. T. (2013). Participating as a Theory of Employment. *Notre Dame L. Rev.*, *89*, 661. Brissimis, S. N., Garganas, E. N., and Hall, S. G. (2014). Consumer credit in an era of financial

Liberalization: an overreaction to repressed demand? *Journal of Applied Economics*, *46*(2), 139-152.

Bukhari, U. (2014). Factors impacting profitability of commercial banks in Pakistan for the period of (2009-2012). *International Journal of Scientific and Research Publications*, *4*(3), 1-7.

Clair, R. S., (2014). Macroeconomic determinants of banking financial performance and resilience in Singapore. *Monetary Authority of Singapore (MAS) Staff paper No. 38, 1-34.*

Cooper, D.R., and Schindler, P.S., (2013). Business Research Methods. *(8th Ed.) Boston: Dang*.

Cheruiyot D., (2016) the effect of asset quality on financial performance of the commercial banks in Kenya. *Journal of Economics and Business, Elsevier, 87(7), 1-17.*

Chirchir D., (2014) a study of how interest rates affect financial performance of listed firms with a focus on Nairobi security exchange, *Springer 44(2), 449-473*

Collins S., and Wanjau F., (2016) the effects of interest rates on financial performance of a share in commercial banks listed in Kenya. *Journal of Business ethics, Springer, 134(4), 509-528.*

Dang S., Mulualem, G. (2016).Analyzing Financial Performance of Commercial Banks in Ethiopia: CAMEL Approach. *Doctoral dissertation, AAU.*

Daniel S, and Dawood, U. (2014). Factors impacting profitability of commercial banks in Pakistan for the period of (2009-2012). *International Journal of Scientific and Research Publications, 4*(3), 1-7.

Dietrich, A., and Wanzenried, G., (2019). Determinants of bank profitability before and during the Crisis: Evidence from Switzerland. *Journal of International Financial Markets, Institutions and Money,* 21, 307- 327.

Emin S., and Alagidede A., (2012) the relationship between liquidity management and financial performance. *Journal of Multinational Financial management, Elsevier, 31(78), 1-22.*

Fungacova E., and Eljelly, A. M. (2014). Internal and external determinants of profitability of Islamic banks in Sudan: evidence from panel data. *Afro-Asian Journal of Finance and Accounting, 3*(3), 222-240.

Faircent E., Ghazouani R., B. and Moussa M. S., (2013). Explanatory Factors of Bank Performance in Tunisia: A Panel Model Approach. *Global Journal of Management, 13(5):1-12*.

Ferrouhi Q., Patel, P. C., and Chrisman, J. J. (2014). Risk abatement as a strategy for R&D investments in family firms. *Strategic Management Journal, 35*(4), *617-627.*

Gupta F., (2008) the impact of interest rates on financial performance of firms listed at Jarta security markets. *Eurasia Business and Economics Society, 6(3), 361-381*

Harvey A., (2016) the effect of capital adequacy on financial performance of listed firms. *Journal of Comparative economics and finance, 40(2), 291-313.*