

International Journal of Finance and Accounting (IJFA)

DETERMINANTS OF FINANCIAL PERFORMANCE OF COMMERCIAL BANKS LISTED AT NSE IN KENYA

Kenneth Njihia Ndungu and Dr. Joshua Bosire

DETERMINANTS OF FINANCIAL PERFORMANCE OF COMMERCIAL BANKS LISTED AT NSE IN KENYA

^{1*} Kenneth Njihia Ndungu

¹Post Graduate Student: Jomo Kenyatta University of Agriculture and Technology, Kenya

*Corresponding Author's E-mail: kenn.njihia@gmail.com

² Dr. Joshua Bosire

Lecturer: Jomo Kenyatta University of Agriculture and Technology, Kenya

Abstract

Purpose: The purpose of this study was to establish the determinants of financial performance of NSE listed commercial banks in Kenya.

Methodology: A descriptive study design attributed to a census approach aiming at the eleven listed commercial banks in Kenya was applied. The research relied on secondary data obtained from the audited financial statements of the said banks to create the correlation between the research variables. The information on the financial effecting of the listed banks was collected using a data collection matrix. The data was analyzed by the assistance of SPSS and the outcome presented in tables using statistical aspects, which include means and standard deviations.

Results: The study established that government securities ($r = 0.680$) had a positive and strong correlation with financial performance. Similarly, Real estate ($r = 0.738$), Loans ($r = 0.922$) and, stocks ($r=0.469$) had a positive and weak correlation with financial performance. The findings of study show loans ($p=0.000$) was most significant, followed by funds allocated to Government securities at $p=0.149$ then by funds allocated to stocks ($p=.850$) and least significant was real estate financing at $p=0.972$ at 95% confidence level. The findings show that there was a strong positive correlation ($r=0.926$) between Funds allocation and financial performance of commercial banks, according to the findings, 85.7% of financial performance of commercial banks could be attributed to the funds allocation to various assets. Adding another variable say, x_5 will lower the strength of the model from 85.7 % to 84.6 %.

Unique contribution to theory, practice and policy: The study recommends that listed commercial banks should diversify their real estate finance schemes to make it reachable to more customers since real estate had a significant effect of their financial performance. A study should be conducted on other variables such as inflation, exchange rates and interest rates fluctuations. A study should also be conducted to investigate the low yield of investment in loans in contrast to investment in government securities

Key words: *Government Securities, Real Estate, Loans, Stock, Financial Performance. NSE*

1.0 INTRODUCTION

A bank is monetary foundation that gives banking and other money related administrations to their clients. De Young and Rice (2004) characterize a bank as a legitimate association, which acknowledges stores that can be pulled back on request. It likewise loans cash to people and business houses that need it. Driga (2006) demonstrates that a bank can be related with a monetary administration aggregate ready to give essential money related administrations and appropriately work inside the financial, political, legitimate and global condition that decides its benefit and extensions opening, loans costs, trade rates, and specific assets a bank requires. Banks are imperative in the economy since they give the security to the investment funds of clients, control the supply of cash and credit and support open trust in the working of the money related framework, increment reserve fund quickly and proficiently. Banks additionally keep away from focal point of monetary powers in the hands of a couple of people and organizations. They set equivalent standards and conditions to a wide range of clients.

Heimler and Biggar (2011) show that control starts from microeconomic worries over the capacity of bank loans contributors to screen the dangers beginning on the loaning side and from small scale and macroeconomic worries over the security of the banking framework on account of a bank emergency. Money related establishments are consequently controlled on issues like market section, store protection, and holding necessities. Driga and Dura 2010 show that the components of financial condition is the totality of monetary variables, for example, business, salary, swelling, loan fees, profitability and riches that impact the purchasing conduct of buyers and organizations. Banks profit by loaning and charging premium. The cash bank loans come essentially from stores in checking and investments accounts, testaments of stores, currency advice accounts and other store accounts those buyers and organizations set up with the bank. As per Heffernan (2005), these stores frequently win enthusiasm for their proprietors, and records that offer checking, give proprietors a simple technique for making installments securely without utilizing money. Aside from loaning, De Young and Rice (2004) show that banks from exchange administrations like checking and money administrations, safe keeping administrations like safeguarded store records and wellbeing storeboxes; speculation administrations like trust accounts and long-run testaments of stores and protection administrations like annuity contracts.

For the most part, banks have two salary streams premium based pay and non-premium pay. Kiweu (2012) characterizes intrigue salary into: enthusiasm on advances, enthusiasm from government securities, enthusiasm from stores and position with different organization and other intrigue wage while charge based pay involves expenses and commissions on credits, exchange wage, remote trade exchanging pay and other wage (counting profit pay). Customary industry shrewdness predicts that consolidating distinctive kinds of exercises – non-enthusiasm acquiring and enthusiasm procuring assets – and rebalancing bank wage far from premium pay toward non-premium exercises may expand return and enhance dangers, in this manner boosting execution (Gamra & Philon, 1997)

Funds Allocation Strategies of banks

Every single commercial bank invests; this could be related with diverse exercises. However, the regular focus in these exercises is to utilize cash (assets) amid the day and age looking to improve the investors' riches (Levisauskait 2010). Banks take the cash got from consistent

managing an account exchanges and place them in investments. To deal with the assets legitimately they require an investment portfolio so which enables them to use the assets in a powerful way and furthermore create enough benefits. Bank investment portfolios have along these lines turn into an inexorably imperative piece of bank accounting report administration (Ayre and Luciano, 2015).

Bank fund allocation strategies for the most part utilize brilliant settled wage investment with an end goal to give a wellspring of liquidity and pay - and to adjust the term and liquidity profile of their credits and liabilities (Ayre & Purani 2013). Fund allocation strategy is the spreading of hazard and reward inside its portfolio. Wagner (2010) shows that since it is hard to know which specific subset of a benefit class or part is probably going to beat another, diversification looks to catch the earnings of the majority of the areas after some time however with less unpredictability at any one time. In managing an account, expansion is done practically by consolidating into what is known as an aggregate such exercises as business saving money, security exchanging, protection and other budgetary administrations or shaping combinations of numerous banks through a bank holding organization or savings money gatherings (Baele et al., 2006). The banking business in the whole world has encountered huge enhancements levels prodded by the segment progression and deregulation over the most the most recent two decades. This is particularly so due to aggressive weight that has come about because of Non-bank organizations passage into the division and the subsequent decrease in cost efficiencies and net revenues prior related with intermediation business (Mulwa, 2015).

Diversification offers a few points of interest to banks. Galema et al., (2011) show that a more broadened mind portfolio enables banks to improve resource quality, execution and flexibility on the other; it limits portfolio hazards and lessens the requirement for outer financing alongside the high expenses related. The higher the quantity of non-corresponded resources classes in a portfolio, the lower the danger of bringing about huge money related misfortunes because of negative market occasions. As per Deyoung and Torna 2013, an enhanced portfolio that joins an assortment of advance items that have a place with various resource classes in an ideal way will enable a bank to survive significantly simpler to a monetary tempest that if it would give advances in a similar resource classification. Portfolio diversification can enable banks to control far from thickly populated industry segment and find underserved markets, for example, the optional market for fabricated home credits. Not exclusively will this open a bank to a bigger venture universe with a more extensive determination of advantages classes, yet it will likewise give more alluring and lucrative open doors for development. (Triad, 2016)

The Banking Sector in Kenya

The origins of commercial banking in Kenya identified with business associations in East Africa, which existed towards the finish of the nineteenth century (Sashoo, 2012). The adjustments in the Kenyan banking part since frontier times to a great extent to reflect the nation's political and monetary change from a province into an autonomous country (Heyer & King 2015) . Amid the 1960s, the banking division in Kenya encountered another flood of vitality change and in 1968; the cooperative bank of Kenya opened its doors. The banking area was changed in 1995 and trade controls lifted (Kaberia, 2012). Budgetary progression in Kenya opened the banking business to various commercial Banks prompting for breakdown of a few. Accordingly, commercial Banks have changed their conduct of salary sources by broadening as a conceivable

method of enhancing execution (Maina, 2013). The Kenyan banking industry is presently the largest in the square and fourth largest in Sub Saharan Africa after South Africa, Nigeria, and Mauritius (Mulwa, 2018).

The banking part in Kenya presently comprises of 44 commercial Banks, one home loan back organization, nine microfinance banks, seven agent's workplaces of outside banks ,94 remote trade departments, seven cash settlement suppliers and two credit reference authorities (KPMG ,2015). Out of the 44, 11 Commercial Banks are recorded at the Nairobi securities Exchanges (NSE). In 2016 the banking part showed proceeded with strength both in its residential and provincial activities, with the business aggregate resource base developing by 5.8 percent to an estimated Kshs 3.7 trillion Shillings from 3.5 trillion of every 2015 (Central bank of Kenya (CBK) 2016). The expansion in salary was largely credited to increment in enthusiasm on government securities which ascended by Kshs 19.9 billion occasioned by expanded interest in government securities. At that point, current examination tried to build up impacts of portfolio expansion on monetary associated effecting of the documented Kenyan Nairobi Stock Exchange commercial Banks.

1.1 Statement of the Problem

Efficient funds allocation decision results in good performance and performance has effect on value and survival of all firms including the monetary sector in our country. Worldwide the monetary sector have indulged market conditions which are turbulent, minimal trade barriers, cutthroat competition, advancements in technology, capping of interest and deregulation in markets leading to necessitation in banking product diversification. As such, many commercial banks have needed recourse to diversify their portfolios to remain alive and sustain or boost their profitability. However, bank performance remains a concern as not all banks have sustained or improved their performance dramatically recently (Otieno, & Moronge, 2014).

While a number of studies on the impact of fund allocation strategies on bank output have been performed in developed economies, limited empirical evidence exists for emerging economies like Kenya. There is evidence, however, that Kenya's banking sector has experienced negligible growth and weak financial output (Cytonn Investments, 2015). For example, Kenya's banking sector 's overall financial performance has been reported below industry estimates because in less than a year, some banks have registered poor performance, three banks have been put under receivership, and others have been acquired (CBK Reports, 2016). However, listed commercial banks have recorded a growth in the Earnings per Share (EPS) in 2016 fiscal year with a rate of 4.4% which is higher than that of 2015 rated 2.8% and a 5-year average of 13.9% still falling below the expected 14.6% growth rate (Nse Reports, 2017). Besides, the banks gross loans and advances as well as deposits grew at slower rates compared to the expected five-year average growth rate of 14.6% despite the attempts by the banking sector to resuscitate the banks' financial performance through funds allocation strategies.

Although commercial banks have embarked on fund allocation strategies, available data shows that income from commercial banks investments has been decreasing. Data from Central bank of Kenya (2017) indicates that return on Assets decreased to 2.6% in September 2017 from 2.8 in June 2016. In addition, return on Equity decreased from 20.6% in September 2017, and from 22.3 % in June 2016.

Inconsistencies also exist in available literature, as some studies find no effect of diversification and performance while other find significant effects. The studies conducted in the sector have been inconclusive with contradicting results being obtained. The banks were established to have well diversified portfolios as evidenced by the studies conducted by Kamp et al. (2004) and Turkmen and Yigit (2012). On the relationship that exists, Acharya et al. (2002) established that diversification in the industry and sector caused diminished returns with riskier loans. Similarly, Hayden et al. (2007) established that diversification led to reduced returns in the German banks. While Makokha, Namusonge, and Sakwa (2016) investigated the extent to which the Kenyan commercial banks are impacted by the portfolio diversification established that they helped to improve how the banks performed. This contradicts Kipleting (2016) who investigated the overall impact of diversification of investment on the monetary performance of the Kenyan commercial banks and realized that there is no substantial impact of on the attributed fiscal performance. Similarly, Kiweu (2012) research on the impact of income diversification initiatives by Kenyan commercial banks established only minimal positive relationship with their financial performance.

There is also paucity in local studies on Fund allocation strategies among banks Majority of available studies were carried out in Europe and North America the findings of these studies cannot be wholly applied to Kenya due to disparity in advancement of the respective economies and banking systems. In addition, due to various regions are subject to varying regulation. It is also difficult to compare findings of available studies due to the use of varying indicators of performance some studies used profitability, others used ROA and ROE. As such, there is still a knowledge gap as to whether the diversification of banking products really improves the monetary performance of the commercial banks listed in Kenya or not, hence the need for this report. Therefore, this research pursued to explore on determinants of financial performance of NSE Kenyan listed commercial banks.

2.0 THEORITICAL REVIEW AND CONCEPTUAL FRAMEWORK

2.1 Theoretical Review

2.1.1 Markowitz's Modern Portfolio Theory (MPT)

The Modern Portfolio Theory (MPT) is also referred to as the “portfolio theory” or “portfolio management theory. Harry Markowitz advanced the model in 1952. Markowitz classifies portfolio as a gathering/set of securities. This hypothesis is a contributing model where the financial specialist endeavors to go out on a limb negligible level of moral hazard to catch most extreme level returns for a given arrangement of ventures (Bodie, Kane & Marcus 2004). The model was developed by Nobel Prize laureate (1990) US financial specialist Harry Markowitz. It discloses how to locate the ideal augmentation. In a situation whereby the off- chance that compels the financial specialist to be given two arrangements of equivalent esteem that offer the same expected return, MPT clarifies how the speculator will incline toward and choose less unsafe one (Saunders and Cornett, 2006). Resource allotment, enhancement, and rebalancing are all piece of a sound speculation system based upon the time tried financial ideas of Modern Portfolio Theory. MPT is a scientific plan of the idea of broadening in contributing, with the point of choosing an accumulation of venture resources that has overall lower hazard than any individual resource (Cohen & Natoli, 2003). This is conceivable can be seen naturally in light of

the fact that diverse kinds of advantages frequently change in inverse ways. It evaluates the benefits of expansion utilizing the thought of covariance and connection. The creators indicate how effective outskirts can be resolved from advancement of profits, volatilities and connections of an arrangement of speculation and portfolio requirements (Landi & Veturelli, 2012).

MPT expect that advantage returns are ordinarily conveyed arbitrary factors (Bodie et al., 2004). The model likewise accept that speculators endeavor to amplify monetary market returns, are balanced and maintain a strategic distance from chance when conceivable As per Menggen (2007), the hypothesis expects that expenses and business commissions are not considered and that financial specialists are not sufficiently expansive players in the market to impact cost. This theory is relevant to the current study, which tries to look into the impact of portfolio variation on monetary performance of NSE recorded commercial Banks in Kenya. Risk shy banks can invest in government securities in a bid to heighten the projected return founded on a particular market risk level by accentuating that threat is an intrinsic portion of higher incentive. MPT reflects that investment in government securities exhibits risk and return characteristics based on its composition and the way those components correlate with each other.

Despite the fact that modern portfolio theory is broadly acknowledged and connected by speculations establishments, it has been scrutinized too. Especially, the delegates of conduct financial matters, social back test the MPT presumptions on speculator sanity and return desires. Some have scrutinized MPT's meaning of hazard and inquiries are raised whether unpredictability, estimated as fluctuations or standard deviation is a decent measure of chance. It has been brought that the supposition of difference being consistent after some time is not in every case genuine. The choice market is a decent precedent, where alternative merchants do not cite a similar instability consistently (Morien 2011). Another purpose of feedback lies in the supposition that financial specialist are sane and chance unfavorable. Commentators bring up that financial specialists are sincerely determined (Maehl, 2008). This can prompt speculators settling on silly money related choices in view of bits of gossip and hunches (Morien, 2005). This Theory was relevant to the study as the study sought to explore the contribution of investment in government securities and real estate on fiscal execution of NSE recorded commercial Banks in Kenya.

2.1.2 Information Asymmetry theory

The information Asymmetry theory that was advanced in 1980s came out to be one of the most conceivable clarification about the ever-dynamic changes, which would not be interpreted and clarified by the standard general harmony, which the financial trajectory could not clarify. Three financial specialists were especially persuasive in creating and expounding on hypothesis of hilter kilter data: George Akrlof, Michael Spence and Joseph Stiglitz. Izquierdo (2007) clarify uneven information explicates a situation where only one meeting in an exchange has an advanced data compared to the other. This situation happens frequently in exchange where the agent understands more than the buyer, irrespective of the occurrence of turnaround does. This could be probably a painful situation because one gathering can lead to serious exploitation of the other individual particularly when information is scanty.

According to Brown, Hillegist & Lo (2004), the occurrence of the data symmetry is attributed to the ex post, particularly when only borrowers are available, but the lenders are not present. This

implies that genuine returns would be watched only after undertaking a fulfillment. Note that this issue would hasty for an ethical threat. When a borrower goes ahead to participate in the practices that reduce the chances of reimbursing a credit, then a moral threat emerges. For example, a case of worthy risk is either when an investor redirects reserves through legitimate or illicit processes for personal gain directly or through proxies by making misfortunes in contracts with associated firms.

The other big issue in the financial market is the awry data, particularly when accessing and loaning. In this business field, normally the borrower has in-depth information about the state of money compared to the moneylender. In such situations, the banks undergo serious financial speculations because of the borrower's likelihood of defaulting (Izquierdo and Izquierdo, 2007). To some extent, the banks would want to solve this problem by considering the past account of the consumer and any aspect of confirmation of pay. However, such consideration normally present a superficial and constrained data, which results to a bank charging extremely high rates on the loans to compensate for the anticipated default risk. However, on the off chance, there would be a clear-cut information and this disqualifies the bank's intentions of charging exorbitantly on the risk premium. This Theory was relevant to the study, as it tried to examine the effects of loans on Fiscal execution of commercial Banks listed in NSE.

2.2 Conceptual Framework

Figure 1 shows the conceptual framework. It illustrates the variables of the research and how they relate

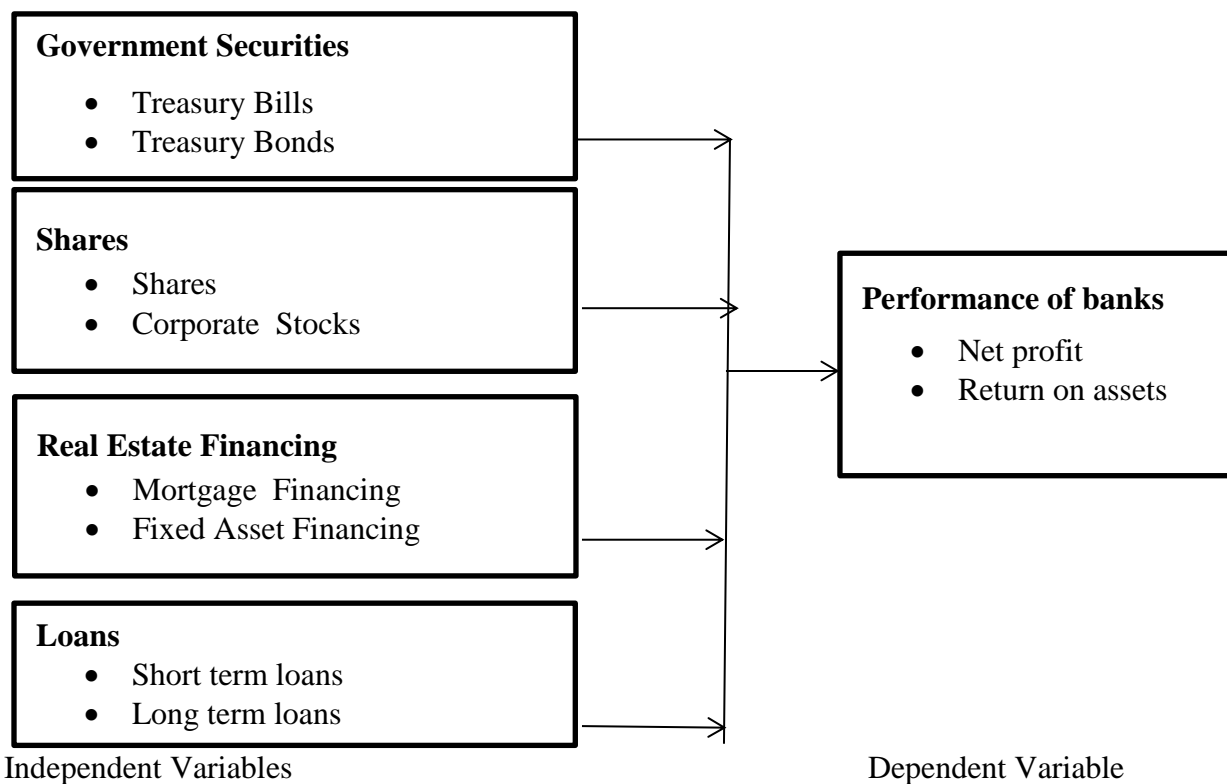


Figure 1: Conceptual Framework

3.0 METHODOLOGY

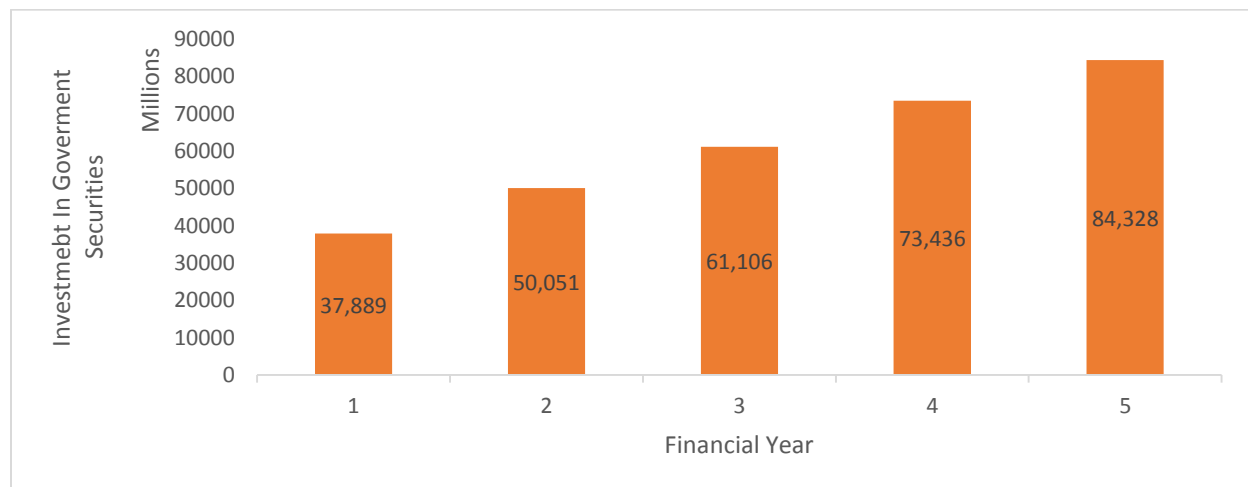
The study adopted a descriptive research design. The target population was commercial Banks, which are listed in the NSE. A census of all the 11 banks was conducted. The research relied on secondary data obtained from the audited financial statements of the said banks to create the correlation between the research variables. The information on the financial effecting of the listed banks was collected using a data collection matrix. data was collected and analyzed using descriptive and inferential statistics. Descriptive statistics involves frequencies, percentages, mean and standard deviation while inferential statistics comprised of regression analysis The statistical package for Statistical science (SPSS) was used to analyze data with the aid of a computer. Analysis of data was conducted at 95% confidence level. Presentation of the findings was done through tables and graphs.

4.0 RESULTS

4.1 Descriptive statistics

4.1.1 Funds allocated to Government Securities

Findings in Figure 2 show that participating banks had an upward trend in funds allocated to government securities from 37.889B in 2015 to 84.328, in 2019. The mean funds allocated to government securities was 61.362B.

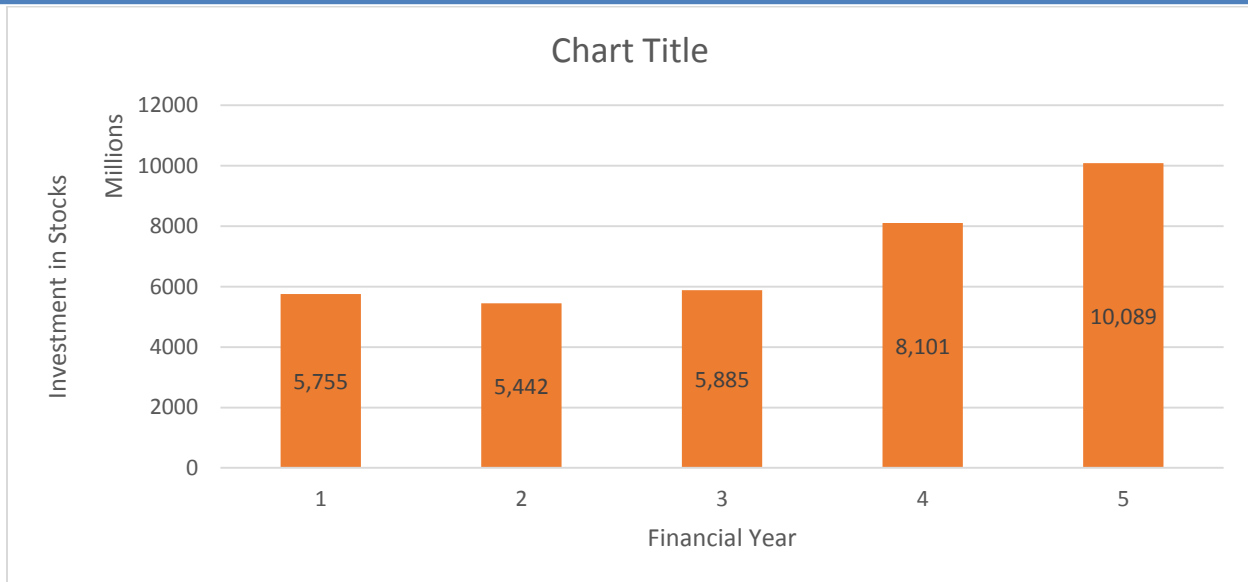


Key 1=2015, 2=2016, 3=2017, 4=2018 & 5=2019.

Figure 2: Funds allocated to Government Securities

4.1.2 Funds allocated to Stocks

Funds allocated to stocks also showed a steady rise over the study period. Banks allocated 10.089B in 2019 compared to 5.775B in 2015. A sharp rise was seen between 2017 and 2019 as shown in Figure 3. The mean funds allocated to stocks was 7.054M.

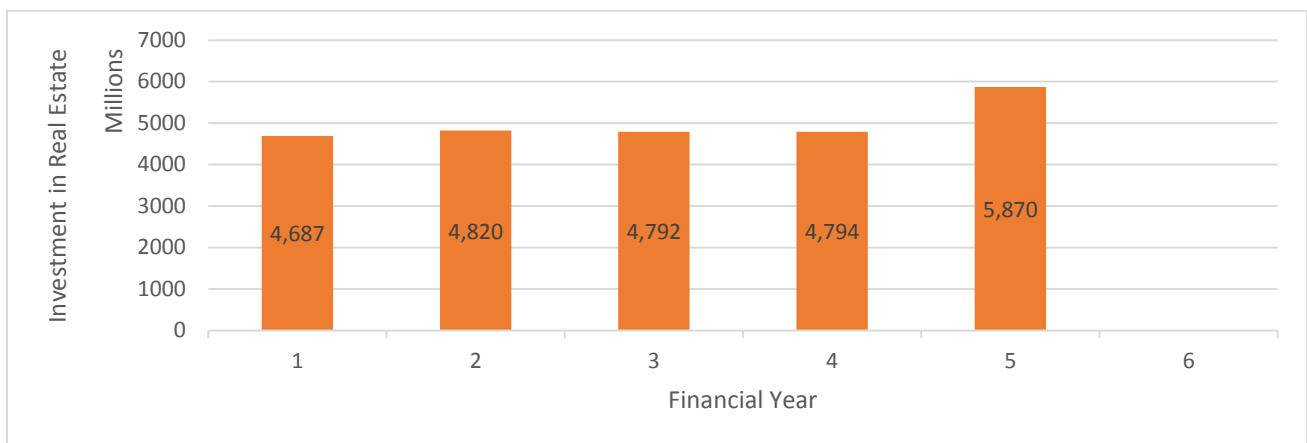


Key 1=2015, 2=2016, 3=2017, 4=2018 & 5=2019.

Figure 3: Funds allocated to Stocks

4.1.3 Funds allocated to Real Estate financing

An uneven trend was seen in fund allocated to real estate financing. Banks allocated 4.687B in 2015 which rose sharply to 4.820 in 2016 , then dropped to 4.792 in 2017 and rose up to 5.870 in 2019, The mean allocation to real estate financing was 4.992B.

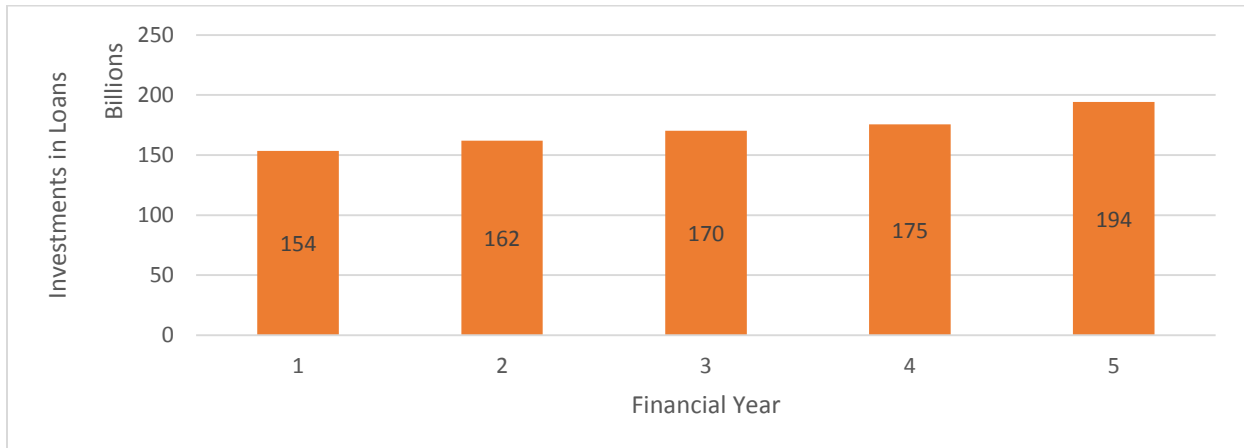


Key 1=2015, 2=2016, 3=2017, 4=2018 & 5=2019.

Figure 4 Funds allocated to Real Estate financing

4.1.4 Funds allocated to Loans

Funds allocated to loans was highest in 2019 at 194B and lowest in 2015 at 154B. The average allocation in loans over the study period was 171.1B .

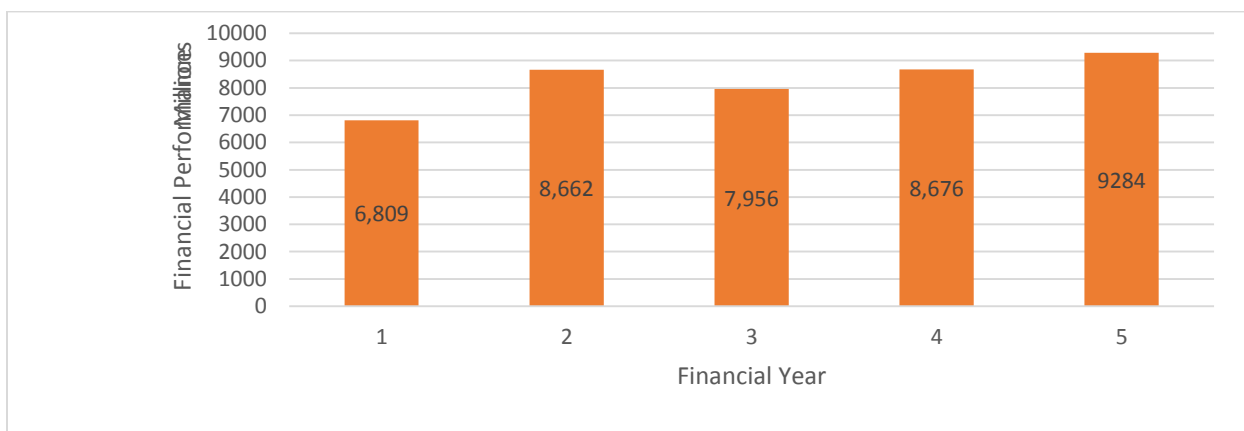


Key 1=2015, 2=2016, 3=2017 , 4=2018 & 5=2019.

Figure 5 Funds allocated to Loans

4.1.5 Financial Performance

Financial performance showed a steady trend as shown in Figure 6. There was growth between 2015 and 2016 from 6.809b to 8.662b then a drop in 2017 to 7.956b then growth was experienced up to 2019 9.284B. The highest performance was seen in 2019 at 9.284B while 2015 recorded the lowest performance at 6.809B. The mean profit was 8.277b



Key 1=2015, 2=2016, 3=2017, 4=2018 & 5=2019.

Figure 6 Financial performance

4.2 Diagnostic Tests

Diagnostic tests were performed to check the fitness of data in meeting the assumptions of regression.

4.2.1 Test for Normality

Findings in Table 1 show the skewness of data. Findings show that funds allocated to stock had the largest skewness value 2.584 while funds allocated to Government Securities had the lowest value at 0.539 This shows that the data was normally distributed. Curran, West and Finch (1997), West, Finch and Curran (1995) and Eiselen, Uys, and Potgieter (2007) state that a distribution can be considered normal if the absolute value of its skewness lies between -3 +3.

Table 1 Skewness of Data

Variable	N	Statistic	Std -Error
Government Securities	55	0.539	0.012
Stock	55	2.584	0.052
Real Estate	55	0.847	0.209
Loans	55	1.458	0.007

4.2.2 Test for Autocorrelation

The study recorded a Durbin Watson statistic of 1.088 This shows there is Partial autocorrelation as the value is not between 1.5 and 2.5 as recommended by Osborne and Waters (2002).

Table 2 Durbin Watson Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.926 ^a	.857	.846	2.58182	.857	75.078	4	50	.000	1.088

4.2.3 Multicollinearity

Table 3 shows the VIF values. The highest VIF value was 4.672 for fund allocation in loans and lowest was 1.353 allocation in stocks. This shows the absence of multicollinearity in the data as the values are all below 10 as recommended by Montgomery et al. (2001).

Table 3 Variance Inflation Factor

Variable	VIF
Government Securities	1.870
Stocks	1.353
Real Estate	2.949
Loans	4.672

4.3 Correlation Analysis

Table 4 shows the correlation matrix. The correlation matrix shows that there was a strong positive correlation ($r=0.680$) between funds allocation in government securities and financial performance. There was a weak positive correlation ($r=0.469$) between funds allocation to stocks and financial performance, there was a strong positive correlation ($r=0.738$) between funds allocation to real estate financing and financial performance, there was also a strong positive correlation ($r=0.922$) between loans and financial performance, these findings therefore show that funds allocated to government securities, stocks, Real Estate and loans enhanced financial performance of NSE listed commercial banks in Kenya. However, funds allocated to stocks had minimal effect on financial performance of NSE listed commercial banks albeit to a small extent. Findings in Table 4.4 also show that no two independent variables exhibited extreme correlation values as all the values are between ± 0.5 . According to Field (2006), linear regression analysis requires that there is little or no autocorrelation in the data. The data is therefore fit for regression analysis.

Table 4 Correlation Matrix

		Financial Performance	Government Securities	Stocks	Real Estate	Loans
Pearson Correlation	Financial Performance	1.000	.680	.469	.738	.922
	Government Securities	.680	1.000	.332	.485	.675
	Stocks	.469	.332	1.000	.342	.500
	Real Estate	.738	.485	.342	1.000	.806
	Loans	.922	.675	.500	.806	1.000
Sig. (1-tailed)	Financial Performance		.000	.000	.000	.000
	Government Securities	.000		.007	.000	.000
	Stocks	.000	.007		.005	.000
	Real Estate	.000	.000	.005		.000
	Loans	.000	.000	.000	.000	

4.4 Heteroscedasticity

The study recorded a Breusch – Pagan & Koenker Sig value > 0.05 (BP SIG = 0.555 $> .05$ & Koenker Sig = .393 $> .05$) This shows there is no heteroscedasticity as the sig value is greater than 0.05 the data is homoscedasticity as recommended by Osborne and Waters (2002).

Table 5 Heteroscedasticity Summary Below

----- ANOVA TABLE -----					
	SS	df	MS	F	Sig
Model	6.029	4.000	1.507	.889	.003
Residual	10.169	6.000	1.695	-999.000	-999.000

----- Breusch-Pagan and Koenker test statistics and sig-values -----		
	LM	Sig
BP	3.015	.555
Koenker	4.094	.393

Null hypothesis: heteroscedasticity not present (homoscedasticity)

4.5 Regression analysis

Financial performance of commercial banks was regressed with funds allocated. The findings show that there was a strong positive correlation ($r=0.926$) between funds allocated and financial performance, according to the findings, 85.7% of financial performance of commercial banks could be attributed to the Funds allocation. Adding another variable say, x_5 will lower the strength of the model from 85.7 % to 84.6 %

Table 6 Model Summary

R	R Square	Adjusted R Square	Std Error
.926	.857	.846	2.58182

Analysis of variances shows that funds allocated were significant ($f(4,50) = 75.095$, $p = .0000$) signifying a significant relationship between funds allocation and financial performance of commercial banks

Table 7 Analysis of Variance

		ANOVA ^a				
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2001.830	4	500.458	75.078	.000 ^b
	Residual	333.291	50	6.666		
	Total	2335.121	54			

The finding therefore shows that funds allocation is important for bank performance. This is consistent with Markowitz's Modern Portfolio Theory. This finding is consistent with Galema et al. (2011) who indicated that a more diversified portfolio allows banks to enhance asset quality, performance and resilience; on the other, it minimizes portfolio. The finding is also consistent with DeYoung and Torna (2013) finding that fund allocation strategy that combines a variety of loan products that belong to different asset classes in an optimal way will help a bank survive much easier to an economic storm than if it would provide loans in the same asset category.

The beta values in the regression output can be used to solve the model of the study as shown below.

Table 8 Coefficients Table

Variable	Beta	Std. Error	t	Sig
Constant	0.036	.754	-2.581	0.013
Government Securities	0.107	0.012	1.467	0.149
Stock	0.012	0.052	0.190	0.850
Real Estate	0.003	0.209	0.035	0.972
Loans	0.842	0.07	7.289	0.000

$$Y = 0.036 + 0.107 X_1 + 0.012 X_2 + 0.003 X_3 + 0.842 X_4$$

Where X_1 = government securities, X_2 = stocks, X_3 = real estate and X_4 = loans and advances

The new model shows that without fund allocation strategy, financial performance would be 0.036B. The findings also show that a unit change in funds allocation to loans would result in a 0.842 change in financial performance of commercial banks. The findings show that all variables increase financial performance of commercial banks.

4.5.1 Effect of funds allocation to Government Securities on Financial Performance of Commercial Banks

The study looked into the effect of funds allocation to government securities on financial performance of NSE listed commercial banks in Kenya. The study found that funds allocated to government securities was insignificant ($p=0.149$) at 95% confidence level. There was a strong positive correlation (0.680) between government securities and financial performance. A unit change in funds allocated to government securities was found to yield 0.107 change in financial performance of banks. The finding therefore shows that funds allocated to government securities enhanced financial performance of banks positively. This is in agreement with Muriithi (2013) that banks prefer government securities (Government bonds and Treasury bills) since they have low involved risk. It is in agreement with Sankale (2013) who found a strong, significant, positive relationship between Treasury bills rate and commercial paper yield. It is also in agreement with Rop et al. (2016) finding that there was a significant difference in government securities in different banks. This finding is however in disagreement with Munene (2015) finding that long years to maturity of Treasury bonds affect investments in the same issue.

4.5.2 Effect of funds allocated to Stocks on Financial Performance of Commercial Banks

The study sought to establish the effect of funds allocated to stocks on financial performance of NSE listed commercial banks in Kenya. Funds allocation to stocks was not significant ($p=0.850$) at 95% confidence level. There was a positive correlation (0.469) between funds allocated to stocks securities and financial performance. A unit change in funds allocated to stocks was found to yield 0.012 change in financial performance of banks. This finding therefore shows that funds allocated to stocks enhanced financial performance of commercial banks albeit to a small extent positively. The finding is similar that of Falato and Scharfstein (2015) who argued that stock market pressure to generate earnings encourages banks to increase risk. This finding is different to that of Rop et al. (2016) where there was a significant relationship buying shares and financial performance of commercial banks in Kenya. The finding is also different from that of Tan and Floras (2012) who showed that high level of stock market volatility can translate into higher return on equity (ROE) and excess return on equity (EROE).

4.5.3 Real Estate financing and Financial Performance of Banks

The study evaluated the effect of real estate financing on financial performance of NSE listed commercial banks in Kenya. Funds allocation to real estate was insignificant ($p=0.972$) at 95% confidence level. There was a positive correlation (0.738) between funds allocated to real estate and financial performance. A unit change in real estate financing was found to yield a 0.03 change in financial performance of banks. This finding shows that real estate financing enhanced financial performance of commercial banks albeit to a small extent positively. This finding is in tandem with Rop et al. (2016) conclusion that there was a significant relationship between real estate financing and financial performance. It is also in tandem with Ojiambo (2014) finding real estate finance influence the financial performance of listed commercial banks in Kenya. The finding however differs from that of Zhang et al. (2013) who revealed a close connection between the growth of real estate financing and the NPLs among regional commercial banks, and its sensitivity to real estate market cycles.

4.5.4 Loans and Financial Performance of Commercial Banks

The study also sought to determine the effect of loans on financial performance of NSE listed commercial banks in Kenya. Loans were significant ($p=0.000$) at 95% confidence level. There was a strong positive correlation (0.922) between funds allocated to loans and financial performance. A unit change in loans was found to yield a 0.842 change in financial performance of banks, this finding suggests that funds allocation to loans enhanced performance of banks to a large extent positively. This is in agreement with findings of Thiong'o et al. (2016) that growth in loan portfolio had a positive effect on financial performance of commercial banks in Kenya, but the effect was not significant. It is also in agreement with Ugoani (2016) and Ozuminba (2016) that nonperforming loans portfolio has negative effect on bank profitability. It however disagrees with Lata (2014) that nonperforming loans portfolio does not explain bank profitability.

5.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

The findings showed that there was a strong positive correlation ($r=0.926$) between funds allocation and financial performance of commercial banks. According to the findings, 85.7% of financial performance of commercial banks could be attributed to the funds allocation. Analysis of variances showed that funds allocation were significant ($f(4,50) = 75.095$, $p=0.000$) signifying a significant relationship between funds allocation and financial performance of commercial banks. Loans provision ($p=0.000$) was significant, but allocation to Government securities at ($p=0.149$) was not significant, allocation to stocks ($p=0.850$) and was insignificant and real estate financing at $p=0.972$ was insignificant at 95% confidence level. Beta values showed that allocation of funds to loans (Beta=0.842) was the most significant followed by allocation to government securities (Beta=0.107), allocation to stocks (Beta =0.012), allocation to real estate (beta =0.003) and have a constant (Beta=.036)

5.2 Conclusion

The study concludes that funds allocation to government securities is vital for Financial performance. The study found that funds allocated to government securities was insignificant ($p=0.149$) at 95% confidence level. The study concludes that funds allocated: to stocks is important for Financial performance. The study found that funds allocated to stock enhanced financial performance of commercial banks albeit to a small extent. The study concludes that funds allocated to real estate financing enhances financial performance to a small extent. The study also concludes that loans provision enhances financial performance to a large extent. Loans were the most affecting on performance of banks of the four variables selected for this study. Loans were significant ($p=0.000$) at 95% confidence level.

5.3 Recommendations

The study recommends that banks should vigorously pursue Funds allocation strategy. This is because funds allocation was found to explain a large part of bank performance ($r=0.927$). the management of the banks should institute appropriate internal policies to ensure that there is constant review of existing products, development of new products and overall alignment of all product decisions with the expected earnings and wealth maximization objectives of the organizations. The study recommends that banks should increase funds allocation to government securities, stocks and real estate despite their low significance so that they get better results from these investments. The study recommends that the regulatory authorities should come up with policies on funds allocation strategies, client segments and product managers who will be entrusted with the management of specific product lines. By so doing, the banks will ensure maximization of benefits from products and enhance their overall earnings.

REFERENCES

- Abbassi, P., Iyer, R., Peydro, J.-L., & Tous, F. R. (2016). Securities trading by banks and credit supply: Micro-evidence from the crisis. *Journal of Financial Economics*, 121(3), 569-594.
- Affinito, M., Albareto, G., & Santioni, R. (2016). Questioni di Economia e Finanza

- providing mortgages for people to buy homes?* - Quora. Retrieved March 26, 2018, from <https://www.quora.com/Why-dont-the-banks-buy-houses-and-rent-them-out-instead-of-providing-mortgages-for-people-to-buy-homes>
- Cohen M. H & Natoli V. D. (2003). Risk and Utility in Portfolio Optimization: Statistical mechanics and its Applications. *Physica* 324(1-2), 81-88.
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (aid ed.). Mahwah, NJ: Lawrence Erlbaum Associates.
- Deacle, S., & Elyasiani, E. (2014). Real Estate Investment by Bank Holding Companies and Their Risk and Return: Nonparametric and GARCH Procedures Real Estate Investment by Bank Holding Companies and their Risk and Return: Non Parametric and GARCH Procedures. Retrieved from http://digitalcommons.ursinus.edu/bus_econ_fac
- Deb, J., & Sen, G. (2016). Geographic Diversification in Indian Banking: Assessing the Impact on Risk and Returns. Retrieved from
- DeYoung, R., & Torna, G. (2013). Nontraditional banking activities and bank failures during the financial crisis. *Journal of Financial Intermediation*, 22(3), 397-421.
- Enock George, G., Miroga, J. B., Wilson Ngaruiya, N., Mindila, R., Nyakwara, S., Jared Mobisa, M., ... Moronge, M. O. (2013). An Analysis of Loan Portfolio Management on Organization Profitability: Case of Commercial Banks in Kenya. *Research Journal of Finance and Accounting*, 4(8), 2222-2847.
- Erel, I., Nadauld, T., & Stulz, R. (2011). Why Did U.S. Banks Invest in Highly-Rated Securitization Tranches? Cambridge, MA.
- Falato, A., & Scharfstein, D. (2015). The Stock Market and Bank Risk-Taking. Retrieved from whartonliquidity
- Fikru, M. (2009). Loan Portfolio and Performance of Bank Holding Companies in the US: 2006- 2008, 2006-2008.
- Galema, R., Lensink, R., & Spierdijk, L. (2011). International diversification and Microfinance. *Journal of International Money and Finance*, 30(3), 507-515.
- Gamra, S. Ben, & Plihon, D. (1997). Revenue diversification in emerging market banks : implicatiotts for financial performance, 1-42.
- Giannotti, C., Gibilaro, L., & Mattarocci, G. (2011). Liquidity risk exposure for specialised and unspecialised real estate banks. *Journal of Property Investment & Finance*, 29(2), 98-114.
- Hand, D. J. (1996). Statistics and the theory of measurement. *Journal of the Royal Statistical Society. Series A (Statistics in Society)*, 159(3), 445-492.

- Hanson, S., Shleifer, A., Stein, J. C., & Vishny, R. (2014). Banks as Patient Fixed Income Investors. *Working Paper*, 6137.
- Hildebrand, T., Rocholl, J., & Schulz, A. (2012). Flight to Where? Evidence from Bank investments During the Financial Crisis. Retrieved from Warwick
- Hoekstra, R., Kiers, H. A. L., & Johnson, A. (2012). Are assumptions of well-known statistical techniques checked, and why (not)? *Frontiers in Psychology*, 3.
- Instefjord, N., & Sasaki, K. (2007). Proprietary trading losses in banks: do banks invest Sufficiently in control? *Annals of Finance*, 3(3), 329-350.
- Javed I. and Aziz H. (2005). Arbitrage Pricing Theory: Evidence From An Emerging Stock Market. *The Lahore Journal of Economics* 10: 1 (Summer 2005) pp. 123 139.
- Kamau, G. G., & Rugami, J. M. (2017). International Journal of Current Aspects in Social Sciences (IJCASS), Volume 2, Issue I, December 2017, PP 1-11, 2(I), 1 11.
- Kiweu, J. M. (2012). Income Diversification in the Banking Sector and Earnings Volatility: Evidence from Kenyan Commercial Banks. *Working Paper Series: Centre for Research on Financial Markets and Policy*, WPS/02/12(December), 1 32
- Kwan, S. H. (1997). Securities Activities by Commercial Banking Firms' Section 20 Subsidiaries: Risk, Return, and Diversification Benefits. Retrieved from FBSF
- Landi & Venturelli.,(2012) —determinants and effects of diversification on efficiency and profitableness) 2nd ed). Project Management Institute, Newtown Square, PA
- Levi, K. (2010). Transfer of Innovation ,, Development and Approbation of Applied Courses Based on the Transfer of Teaching Innovations in Finance and Management for Further Education of Entrepreneurs and Specialists in Latvia , Lithuania and Bulgaria ". *Education and Culture Lifelong Learning Programme*, 1-166.
- Lubatkin M., & Chatterjee S. {1994). Extending Modern Portfolio Theory into Domain of Corporate Diversification: Does it Apply?. *The Academy of Management Journal*, 37(1), 109-136.
- Makokha, A. N., Namusonge, G. S., & Sakwa, M. (2016). the Effect of Asset Diversification on the Financial Performance of Commercial Banks in Kenya, 5(9), 5-8. Retrieved from University of Nairobi
- Manapon L. (2007). An empirical investigation of Asset-Pricing Models in Australia.
- Mauri P. (2006). Tests Of The Arbitrage Pricing Theory Using Macroeconomic Variables In The Russian Equity Market.
- Menggen.,(2007) The dark side of diversification: The case of U.S. financial holding companies. *Journal of Banking and Finance*, 30, 2131-2161
- Metcalf, T. (2017). How Banks Invest Money I Pocket Sense. Retrieved March 7, 2018,

from Pocket Sense

- Molyneux, P., & Yip, J. (2013). Income diversification and performance of Islamic banks. *Journal of Financial Management, Markets and Institutions*, 1(2011), 47-66.
- Montgomery, D. C., Peck, E. A., & Vining, G. G. (2001). *Introduction to linear regression analysis* (3rd ed.). New York, NY: John Wiley & Sons.
- Muchomba, J. K. (2013). Determinants of Commercial Banks' investment portfolios in Kenya: 2007 To 2012. Retrieved from University of Nairobi
- Mulwa, J. M., Prof, I. I., Tarus, D., & Kosgei, I. I. D. (2015). Commercial Bank Diversification : A Theoretical Survey. *International Journal of Research in Management & Business Studies*, 2(1), 45-49.
- Murithi, J. G. (2013). Effects of Revenue Diversification into Non-Interest Income on Financial Performance of Commercial Banks in Kenya (A Case of Five Most Profitable Banks in Kenya). Retrieved from University of Nairobi
- Musonye, F. M. (2015). Effects of capital investment appraisal techniques on financial Performance of banks listed at the Nairobi Securities Exchange. Retrieved from
- Mwangi, G. (2012). The Effect of Credit Risk Management on the Financial Performance of commercial Banks in Kenya. *International Journal of Financial Research*, 1(1), 45-47.
- Nakayiza, K. S. (2013). Interest Rates and Loan Portfolio Performance in Commercial Banks. A case study of Centenary Bank Entebbe Road Branch (Uganda).
- Nguyen, M., Perera, S., & Skully, M. (2016). Bank market power, ownership, regional presence and revenue diversification: Evidence from Africa. *Emerging Markets Review*, 27, 36-62.
- Njuguna, J. (2012). The relationship between corporate governance practices and-investment decisions by Commercial Banks in Kenya. Retrieved from
- Ojiambo, L. A. A. (2014). The Effect of Real Estate Finance on Financial. *Department Of finance and Accounting School of Business University of Nairobi*, (October), 1-61.
- Olszewski, K. (2012). The impact of commercial real estate on the financial sector, its tracking by central banks and some recommendations for the macro-financial stability policy of central banks, (May), 1-40.
- 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.
- Orabi, M. wan M. A. (2012). Assessment of Investment Portfolios of Jordanian Banks, 8 (12), 251-271.
- Osborne, J. W., & Waters, E. (2002). Four assumptions of multiple regression that researchers Should always test. *Practical Assessment, Research & Evaluation*, 8(2).
- Oweis, Ahmed. (2012). The Impact of Corporate Diversification on the Financial Performance of U.S. Bank Holding Companies Pre and Post the Financial Services Modernization Act of 1999. CGU Theses & Dissertations, 58.

- Rubin, J., Giczewski, S., & Olson, M. (2013). Basel III ' s implications for commercial real Estate, (August), 1-5.
- Samsi, A. M., Yusof, Z., & Cheong, K. C. (2012). Linkages between the real sector and the Financial sector: The case of malaysi. *Asian Academy of Management Journal of accounting and Finance*, 8(SUPPL.), 93-113.
- Sankale, O. S. (2013). Effect of treasury bills rate on commercial paper yield for companies listed at the Nairobi Securities Exchange.
- Sanya, S., & Wolfe, S. (2011). Can Banks in Emerging Economies Benefit from Revenue Diversification? *Journal of Financial Services Research*, 40(1-2), 79-101.
- Saunders A., & Cornett M. M. (2006). *Financial Institutions Management: A risk Management Approach* — 5th ed. Irwin McGraw-Hill.
- Shim, J. (2013). Bank capital buffer and portfolio risk: The influence of business cycle and revenue diversification. *Journal of Banking & Finance*, 37(3), 761-772.
- Simpson, J. L., & Evans, J. P. (2003). Banking Stock Returns and Their Relationship to Interest rates and Exchange Rates: Australian Evidence. *SSRN Electronic Journal*.
- Stiroh, K. J. (2012). *Diversification in Banking*. Oxford University Press.
- Sy, A. (2005). Managing the Interest Rate Risk of Indian Banks ' Government securities Holdings. October, 1-18.
- Tan, Y., & Floros, C. (2012). Stock market volatility and bank performance in China. *Studies in Economics and Finance*, 29(3), 211-228.
- Thiong 'o, P. K., Matata, K., & Simiyu, A. (2016). Effect of Loan Portfolio Growth on Financial Performance of Commercial Banks in Kenya.
- Triad. (2016). Top 4 Reasons Banks Should Have a Diversified Portfolio. Retrieved March 7, 2018, from Triadfs .
- Wagner, W (2010), "Diversification at financial institutions and systemic crises", *Journal of Financial Intermediation* 19(3): 373-386.
- Wijethilaka, E.T.S. (2015). *Impact of Bank Income Diversification to Bank Performance: Evidence from Sri Lanka*. In Proceedings of the 4th Students' Research Symposium, Department of Finance, Faculty of Commerce and Management Studies, University of Kelaniya, Sri Lanka. p 48.
- Zhang, D., Cai, J., Liu, J., & Kutan, A. M. (2016). Real estate investments and financial stability: evidence from regional commercial banks in China. *The European Journal of Finance*.