# Influence of Loan Portfolio on Financial Performance of Commercial Banks Listed On Nairobi Securities Exchange, Kenya

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***Abstract:***

***Background****: In Kenya, while there had been improvements in financial performance of commercial banks that apply asset diversification approach others recorded loses. In this regard, this study examined influence of asset diversification on financial performance of commercial banks listed on Nairobi securities exchange, Kenya. The specific objectives were to evaluate influence of loan portfolio on financial performance of commercial banks listed on Nairobi securities exchange.*

***Materials and Methods****: The study employed descriptive survey research design and targets 8 relevant section heads/portfolio managers in each of listed the banks that made a total of 96 respondents; thus a census method was employed to avoid sampling bias. Primary data was collected from key senior management staff and secondary data from the financial reports of each of the commercial banks listed on NSE. Descriptive analysis and inferential statistics assessed nature and the strength of the relationships. SPSS version 24 is the computer-based analysis software that was used to compute statistical data.*

***Results****: The results revealed that there is no significant influence of loan portfolio on financial performance of commercial banks listed on Nairobi securities exchange. Overall, loan portfolio significantly accounted for 37.8% of variation in financial performance of listed commercial banks.*

***Conclusion:*** *The study therefore concluded that loan portfolio is significant predicator of financial performance. The researcher through the study findings recommends for commercial banks to strife and create an effective and a balanced loan portfolio through creating risk rating systems, monitoring framework ,management information system and reporting, internal controls like (audit function, loan review function, credit administration and loan compliance). This would results to improvement in financial performance as a result of loan portfolio diversification.*

***Key Word****: Loan Portfolio, Financial Performance, Commercial Banks, Nairobi Securities Exchange*

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## I. Introduction

The last global financial crisis was witnessed in 2007-2009 which was considered as the worst financial crisis since the Great depression. The CAMEL system failed to provide early detection and prevention of the devastating financial crisis. The failure in banks has seen low growth in banks globally and therefore they cope with global post financial crisis. Governments and bank regulators became tougher in enforcing laws and at the same time customer demands are increasing day by day. These factors make the global banking market place change and the emerging trend is now influenced by digital business, demographic shifts, competition from nonbank institutions that offer financial services and a changing workforce. Banks therefore had to re-invent themselves by developing new products and flexible business models for the future which were able to deliver the returns investors are looking for in the business (Eric et al., 2015).

Currently, the Covid-19 pandemic has had devastating effect on financial performance of commercial banks and most risk and fund managers try to craft financial recovery measures, among them, asset diversification (World Bank retail banking reports, 2020). But from previous studies, financial performance of banks as a result of assert diversification remains theoretical and differing in conclusions, and as a result, triggered scholarly debate. Perez (2015) infers that those commercial banks which do have higher trading assets percentage usually have a higher risk. A similar argument assert that firms which have more diversified assets tend to have less profit than focus firms (Lins & Servaes, 2016).

Further to boost financial performance, banks diversify assets into loans, financial assets, cash, other assets, and premises. That is asset diversification within banks can be measured through examining loans, financial assets, other investments made and cash equivalents. Asset diversification has been adopted widely as

a strategy aimed at mitigating the turbulent financial markets and operational environments for investors Perez (2015).However, while examining diversification from the geographical aspect, Ishak and Napier (2016). assert that there is negative link existing between the profitability of a company and its market expansion to cover a large geographic area. On the other hand, diversification does not result to reduced substantial value, but instead, the value of a firm tends to increases through increased diversification (Ishak & Napier, 2016). More so, the incremental revenues as a result of asset diversification are higher for less-capital stocks than for other assets (Fama, 2015). This is because small-cap stocks have volatile returns and their risk is easily diversified away, as they have low correlations with other assets. Same views are advanced by Chakrabarti et al. (2017) who argues that asset diversification contributes to improving performance in developing institutional environments. However, the authors point out that asset diversification causes an adverse effect on the performance in those institutional settings which are highly designed.

To boost financial performance, banks are motivated to undertake asset diversification with an assumption that the achievements from pursuing higher organizational fit overshadow the expenses (Matsusaka, 2014). This is contrary to Patrick (2017) who acknowledges that there exists no consensus about the positive, negative, neutral influence of asset diversification on financial performance. The Same argument is held by Doaei et al. (2018) who point out that the existence of compelling forces might enhance the probability of discovering a non-significant asset diversification performance association. As a result of the fact that there isn't a perfect indication concerning which asset diversification is superior, broad diversification by firms is often claimed to offer excellent value (Markides & Williamson, 2018). Additionally, research done aimed at revealing the effects of different types and degree of asset diversification on the financial value of banks has led to a curvilinear link between the financial value of the banks and asset diversification (Palich, Cardinal & Miller, 2015).

There are a total of 43 banks in Kenya which are controlled by the Central bank of Kenya. Out of the 43 banks, the number of listed banks is only 11 which are made up of Stanbic bank Ltd., I&M bank Ltd., Diamond Trust Bank Ltd., HF group., KCB Group ltd., National bank of Kenya Ltd., NCBA Bank Ltd., Standard Chartered Bank Ltd., Cooperative Bank Ltd., ABSA Bank and Equity Group Holdings Ltd (NSE prospectus (2020). Nairobi Security Exchange is overseen by the board of directors and the executive committee. The Exchange is in the process of availing new products which include Exchange Traded Funds (ETFs), Financial and Commodity Derivatives and Carbon Credits. The NSE is publicly traded and is the second self-listed exchange in Africa. NSE is divided into 11 sectors where companies are grouped into Agricultural, Investment, manufacturing and allied, Telecommunication and Technology, Banking, Energy and petroleum, Insurance, Construction and Allied Investment services, Commercial and services or Automobile and Accessories. Every listed company is grouped into any of the 11 groups, NSE prospectus (2019).

In Kenya, just like other commercial banks worldwide, the Covid-19 pandemic has had devastating effect on financial performance of commercial banks and there are a number of mitigation measures, among them, asset diversification (CBK reports, 2020). In this regard, the Banking industry in Kenya has experienced tremendous diversification levels spurred by the sector liberalization and deregulation in the last two decades (Mwau, Tarus & Kosgei, 2015). This is especially so because of the competitive pressure that has resulted from non-bank institutions for example SACCOs entry into the sector as well as the resulting reductions in cost efficiencies and profit margins earlier associated with the intermediation business. While banks have resolved to be creative diversification strategies to overcome the profit compression and competition pressure, a number of questions central to this practice still linger and which this study sought to address was how asset diversification affect commercial banks financial performance in Kenya. Adding to this Mwau and Kosgei (2016) argued that commercial banks in Kenya have posted good financial performance while others have not as indicated by ROA and ROE. This is despite allowing banks to venture into a range of businesses while maintaining the traditional intermediation business. For example, all commercial banks in Kenya have added mobile, internet and Agency banking services in their lines of business so as to uphold competitiveness in operating market.

Kagunda (2014) in her study to evaluate how asset diversification policies established by fund managers and influenced the unit trusts financial performance in Kenya, used the equity-based funds that dealt with stocks traded in the Nairobi Securities Exchange (NSE). She found out that the way fund manager's allocated assets and the financial performance of unit trusts in Kenya are better resolved for performance to be effective in a very great extent. She also established that allocation of assets by fund managers is an important measure and a mitigation method to ensure that various organizations achieve the best returns possible. This study only used the equity-based funds instead of the whole population.

***Statement of the Problem***

To enhance financial performance, commercial banks are motivated to undertake asset diversification with an assumption that the achievement from pursuing higher organizational fit overshadows the expenses (Matsusaka, 2014). In Kenya, while there had been improvements in financial performance of commercial banks

that apply asset diversification approach others recorded loses; and worse still, three commercial banks in Kenya were placed under receivership by CBK over a period of less than one year. These include Dubai Bank Kenya, Imperial Bank Limited and Chase Bank (Kato, Otuya, Owunza & Nato, 2014). Among other reasons for recorded financial losses, this was also attributed to increased asset diversification without certainty on the expected financial outcome. These setbacks in the banking sector eroded depositors' confidence in commercial banks, as a result, weakening their deposit franchises and potentially curbing any hope of using asset diversification to enhance financial performance in commercial banks (Mwakio, 2015). More interestingly, studies on asset diversification and financial performance relationship have also yielded inconsistent results. For instance, Oyedijo (2018) study showed diversification insignificantly and negatively influenced financial performance; Kahloul and Hallara (2017) study findings nullified the asset diversification-performance relationship and that financial risk was linearly unrelated with asset diversification; while Cernas (2011) study on use of financial assets as a diversification tactic affirmed that increase in company's financial assets, results to increase in its net income; but warned that a company with multiple financial assets also gets to depreciate the value of those assets In Kenya, while Ojiambo (2014) found a significant relationship between real estate financing and financial performance, Odhiambo (2015) study showed that real estate finance did not have a significant influence on the financial performance of listed commercial banks. In fact, Patrick (2017) study insisted that there exists no consensus about the positive, negative, neutral influence of asset diversification on financial performance thus the need for more empirical studies by examining influence of asset diversification on financial performance of commercial banks.

### *Hypothesis of the Study*
    i)   **$H_0$:** There is no significant influence of loan portfolio on financial performance of commercial banks listed on Nairobi securities exchange
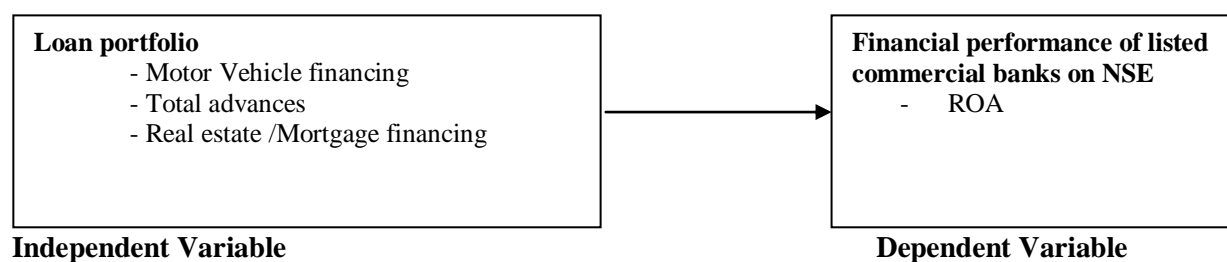
## II. Literature Review

### Theoretical Framework
The study was guided by The Modern Portfolio Theory (MPT). The theory of portfolio choice was developed by Harry Markowitz (1952). The MPT is a sophisticated investment decision approach that aids in classifying, estimating and controlling both the kind and amount expected risk and return. There are a number of government activities and projects that can be organized into portfolios, each with its own budget consistent with the MPT used in financial decision making and asset management under conditions of risk and uncertainty (Khan & Hildreth, 2002). The theory attempts to maximize portfolio expected return for a given level of portfolio risk or equivalently minimize risk for a given level of expected return, by carefully choosing proportions of various assets (Fabozzi, Gupta & Markowitz, 2002). This implies that for the listed commercial banks, combining different investment options whose returns are not perfectly positively correlated, MPT seeks to reduce the total variance of the portfolio return while assuming that investors are rational and markets are efficient. Mathematically, the MPT formulates the concept of diversification in investing with the aim of selecting investment having collectively lower risks than any individual product. With regards to asset diversifications in this study, the MPT aids the listed banks in describing investment options in terms of the inherent risks and expected returns, determining the allocation of resources among diversified classes of investments, reconciling risks and returns and measuring the banks, financial performance.

### *Conceptual Review*
The conceptual framework has been developed from existing empirical studies and theoretical underpinning. Independent variable includes; loan portfolio while the dependent variable in this study is financial performance. Figure 1.0 presents the conceptual framework.

| Loan portfolio<br>    - Motor Vehicle financing<br>    - Total advances<br>    - Real estate /Mortgage financing | ⟶ | Financial performance of listed commercial banks on NSE<br>    - ROA |
| --- | --- | --- |
| **Independent Variable** | | **Dependent Variable** |

**Figure 1.0: Conceptual Framework**

***Empirical Review***

Qais and Boris (2018) researched on various determinants of financial performance of 15 Commercial Banks operating in Afghanistan. The study covered foreign bank branches, local private banks as well as state/government owned banks to the extent of information available or provided by them. The data analyzed covered a 5 year period from 2012 up to 2016. Multiple regression results showed that among other variables, loan portfolio showed a significant relationship with financial performance thus recommended that banks should be keen on Non-Performing loans to total loan portfolio ratio. Nazir (2017) analyzed financial performance of all commercial banks in India, for a period of 5 years; 2013-2017. The empirical results showed that India's commercial banks most commonly had their assets invested in a diversified set of portfolios. Strategies varied across banks. Most commonly such investments are as loan portfolio to its clients. Banks foresee risks and operate in investments that provide reasonable returns at acceptable levels of risks based on their risk appetite. Profits arising from investments by the bank are subject to those risks and volatilities, which are specific risks like default on loan and market conditions such as interest rates, exchange rates.

Anbar and Alper (2019) study on loan portfolio and profitability of banks in Turkey found that loans sometimes pose a high risk to bank profitability. Such loan related risks are proactively and reasonably determined and reflected on to the financial statements before such losses from the risks are actually unfolded. These risks are reflected as loan provision and impairment liabilities on to the balance sheets of the banks. As a requirement of financial reporting standards, banks are also required to provide quantitative and qualitative details on loan risks in the disclosure notes to the financial statements. These notes, provisions and impairments indicate the quality of assets held by the bank. Nakayiza (2018) conducted a case study on the centenary bank in Entebbe to investigate loan portfolio performance in commercial banks in Uganda. The study was guided by the objective of examining how the centenary bank was able to maintain its loan portfolio within acceptable limits which enhanced its performance as well as examine how the bank worked out problems with loans in order to boost its performance. The study included 73 respondents selected at random from the employees of the centenary bank. The employees cut across from the top executive to the subordinates and were subjected to a structured interview and the data was collected. The results of the study showed that there was a steady increase in the interest rates of the banks in Uganda. Additionally, the value of the loan portfolio was also on the increase while the number of nonperforming loans exhibited a reducing trend. This is an indication that the performance of the loan portfolio affects a bank's financial performance, a gap that was addressed in this study.

Gongera (2019), studied on the effect of loan portfolio management on organization profitability; a case of Commercial Banks in Kenya. The variables studied were loan portfolio management, interest expense, administration costs and assets value. A descriptive survey design was employed in this study. The population of the study was the management employees working for commercial banks in Kenya. The sample was accessed by use of both stratified and simple random sampling. A structured questionnaire was used to gather the primary information. Statistical package for social sciences (SPSS) was used to analyze primary data while the SAS v.6 of 2009 was used to analyze the secondary data gathered from the banks. Findings of the study showed that public sector banks and private sector banks were not much affected by increasing or decreasing of interest margin. It can therefore be interpreted that the profitability growth of public and private sector banks are not dependent on fluctuation of interest rate although the foreign banks have the benefit of high return due to increase or decrease in interest margin. However, loan portfolio management was a significant predictor of liquidity, thus recommended a similar study to be done so as to compare results. Bello and Adewusi (2019) did a comparative study analyzing the performance of real estate and financial assets as security for mortgage lending in Nigeria with a view to ascertain whether or not the drift towards financial assets is justified. The study sought to assess the performance of real estate and financial assets used as a security for loans and used a sample of 46 transactions from selected banks in Lagos. The study involved landed and financial assets to test the difference between two population means and revealed that though the banks still prefer financial assets, both real estate and financial assets provided cover for the secured loans. Moreover, the study revealed that real estate portfolio yields superior performance in the long run and exhibited higher growth compared to financial assets over the entire loan period. It is in this basis that the study discovered that most of the sampled banks preferred financial assets as security than real estate yet the results of the hypotheses testing indicated that both assets proved adequate but real estate appreciated steadily over the period yielding better financial performance.

Dirnhofer (2012) examined the influence of mortgage-backed securities influenced the performance of top 35 banks in the USA during the 2007 financial crisis. In particular, the study sought to unearth how the performance of banks that were engaged in mortgage financing were impacted by the financial crisis that took place in the U.S market. The analysis involved a regression conducted with two different dependent variables to assess how bank performance depends on several factors which reportedly caused the financial turmoil. The findings of the study revealed that mortgage-backed securities have proven how financial instruments can have a large impact on the entire financial market. It also emerged that during the financial turmoil, hundreds of the banks used the mortgage-backed securities to enhance their growth. Rop, Kibet, and Bokongo (2016) studied on

the effect of real estate investment on the financial performance of commercial banks in Kenya. A population of 40 commercial banks and a sample of 40 operational commercial banks in Kenya and used secondary data collected using data collection sheets. The data was then analyzed using explanatory and inferential statistics with the help of SPSS. The empirical findings showed a low correlation between returns on real estate and non-real estate assets and concluded that a significant relationship exists between real estate investment and financial performance of banks.

Ojiambo (2014) studied on the effect of real estate finance on the financial performance of commercial banks listed on the Nairobi Securities Exchange in Kenya using data from annual reports of 11 commercial banks for a five-year period; 2009-2013. The study adopted a descriptive research design and used secondary data sourced from the annual reports that are available from the individual banks websites, the NSE and the CBK website. The findings showed that real estate finance influences the financial performance of listed commercial banks, noting that mortgage finance had a strong effect on financial performance. The study further indicated that mortgage finance failed to improve the financial performance of commercial banks and thus suggested that the necessity to diversify the banks' product portfolio to enhance financial performance. However, a study by Odhiambo (2015) studied on the effect of Real Estate Finance on the financial performance of listed commercial banks in Kenya using secondary data from the banks' annual reports for the period 2009-2013 from nine listed commercial banks. The financial data from the banks were analyzed using descriptive statistics where a panel regression analysis was conducted. The findings of the study showed that real estate finance did not have a significant influence on the financial performance of listed commercial banks. As a result, the study recommended that all stakeholders in the housing industry should consider strategies that improve the uptake of affordable mortgage loans in order to improve the overall performance of banks.

## III. Material And Methods

In this study, descriptive survey research design was employed since this design is suitable for exploring associations (Peshkin (1990). The study targeted all listed commercial banks on NSE in Kenya. Specifically, the study targets 8 relevant section heads/portfolio managers in each of listed the banks who made a total of 88 respondents. The sampling frame consisted of Risk Managers, Finance Managers, Portfolio Managers, Credit Managers, Investment Banking Managers, Mortgage Banking Managers, Accounts managers and Operations Mangers. Since the population is fairly small-below 100, a census method was employed to avoid sampling bias when the study population is small (Mugenda & Mugenda, 2003). The study employed both primary and secondary data. Primary data was collected by means of self-administered structured questionnaires. The structured questionnaires was structured and designed in multiple choice formats. That is, primary data was collected from key senior management staff and secondary data from the financial reports of each of the commercial banks listed on NSE. The secondary data collected was used to measure financial performance between 2016 and 2020. Secondary data was extracted from declared financial reports of listed commercial banks as reported by CBK. The data collected was used to calculate ratios for financial performance (Return on Asset) thereafter; it was transformed into five point likert scale. A total of 88 questionnaires were administered and 73 questionnaires were returned depicting a response rate of 83.0%. Reliability was established using Cronbach Alpha whereby the instrument yielded an Alpha value of 0.767. All collected data was coded, cleaned, tabulated and analyzed using descriptive and inferential statistics with the aid of specialized Statistical Package for Social Sciences, version 24. Descriptive analysis such as frequencies, means, standard deviation were utilized whereas analyzed data presented in tables and graphs.

## IV. Result and Discussion

*Analysis of Descriptive Statistics*

These are descriptive statistics based on summarized responses on the structured questions about the influence of loan portfolio on financial performance of commercial banks listed on Nairobi securities exchange. The responses are based on Likert scale with values ranging from 5 to 1; that is; where 5 = Strongly agree, 4 Agree, 3, Uncertain, 2, Disagree and 1 Strongly disagree. The results are presented in the table 1.0 showing frequencies of responses as per each statement and its corresponding percentage score in brackets, means and standard deviations.

**Table 1.0: Descriptive statistics: Loan portfolio**

| Statement | 5 | 4 | 3 | 2 | 1 | Mean | Std.dev |
|---|---|---|---|---|---|---|---|
| The bank has feasible loan portfolio terms | 21 (28.8) | 35 (47.9) | 8 (11) | 7 (9.6) | 2 (2.7) | 3.90 | 1.02 |
| The bank has rolled out varied loans and advances to members | 17 (23.3) | 42 (57.5) | 9 (12.3) | 3 (4.1) | 2 (2.7) | 3.95 | 0.88 |
| Using analytical techniques in mortgage financing can lead to | 23 | 23 | 16 | 7 | 4 | 3.74 | 1.17 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| better analysis of risks facing mortgage loans portfolio | (31.5) | (31.5) | (21.9) | (9.6) | (5.5) | | |
| Design of real estate financing depends on the nature of the housing system, the allocation of risk and the economic and institutional factors in a country | 12 (16.4) | 40 (54.8) | 14 (19.2) | 4 (5.5) | 3 (4.1) | 3.74 | 0.94 |
| Loan portfolio diversification helps reduce the problem of bad loans as the bank's loan portfolio grows | 10 (13.7) | 28 (38.4) | 22 (30.1) | 11 (15.1) | 2 (2.7) | 3.45 | 1.00 |
| **Valid list wise 73 Grand mean** = 3.76 | | | | | | | |

From Table 1.0, slight of the respondents strongly agreed (28.8%) and agreed (47.9%) that their bank has feasible loan portfolio terms and further 11.0% were uncertain on the same. A mean of 3.90 postulated that respondents were in agreement that the bank has feasible loan portfolio terms. More so, 23.3% and 57.5% of respondents strongly agreed and agreed respectively that their bank has rolled out varied loans and advances to members while 12.3% were uncertain. A mean of 3.95 implied that the bank has rolled out varied loans and advances to members. Further, slight majority of the respondents strongly agreed (31.5%) that mortgage financing generates more incomes for the bank, 31.5% agreed and additional 21.9% were uncertain on the same. A mean of 3.74 revealed that respondents agreed that mortgage financing generates more incomes for the bank. More so, 54.8% and 16.4% of the sampled respondents agreed and strongly respectively that real estate finance increases bank profitability evidenced by increased interest incomes, proceeds from processing fees, net profits. A mean of 3.74 suggested that real estate finance increases bank profitability evidenced by increased interest incomes, proceeds from processing fees, net profits

Lastly, 13.7% of the respondents strongly agreed that loan portfolio diversification helps reduce the problem of bad loans as the bank's loan portfolio grows and further supported 38.4% of the respondents who agreed while 30.1% of them were uncertain. A mean of 3.45 indicated that respondents were uncertain loan portfolio diversification helps reduce the problem of bad loans as the bank's loan portfolio grows. These results are in agreement with other studies. For example, a study by Perez (2015) acknowledges that loans ranks as the key and the most valuable types of asset that is held by banks because it's from them that banks receive income. Same views are raised by Bismark and Chengyi (2015) who argue that the largest assets the source of income and asset for bank is loan portfolio. According to Morsman (2003), loan portfolio also constitutes the major asset and the predominant basis of income. Globally, banks grant loans to customers as a way of enhancing financial performance (Bonin & Huang, 2001). Perez (2015) notes that banks were classified based on the asset size they have, the key trend that might be exhibited is larger proportions loans. Other interesting trends are that loans are not very much valued by for larger banks, reason being such large banks diversify their asset portfolio to a large extent. A review of the work of Nduwayo (2015) on effect of loan on the financial performance of Rwandan commercial banks in Kigali shows that well managed loans are main source of positive financial performance.

*Time series Analysis for Financial Performance*

**Table 2.0: Time series Analysis for Financial Performance (ROA)**

| Year | Minimum | Maximum | Mean | Std Dev | Skewness | Kurtosis |
|---|---|---|---|---|---|---|
| 2016 | -0.92 | 4.83 | 2.86 | 1.408571 | -1.50653 | 5.582332 |
| 2017 | 0.06 | 4.35 | 2.82 | 1.137784 | -1.16624 | 3.988198 |
| 2018 | 0.19 | 3.65 | 2.40 | 1.149644 | -0.92152 | 2.661893 |
| 2019 | -0.18 | 4.2 | 2.28 | 1.207862 | -0.36261 | 2.684236 |
| 2020 | 0.14 | 8.4 | 2.82 | 2.332305 | 1.470431 | 4.134773 |
| **Summary** | **-0.92** | **8.4** | **2.64** | **1.48489** | **0.732464** | **6.319439** |
| **BANK** | **Minimum** | **Maximum** | **Mean** | **Std Dev** | **Skewness** | **Kurtosis** |
| Stanbic | 1.58 | 2.35 | 1.96 | 0.31 | -0.08 | 1.65 |
| ABSA | 1.20 | 3.49 | 2.39 | 0.89 | -0.16 | 1.81 |
| COOP | 2.89 | 4.83 | 3.44 | 0.79 | 1.39 | 3.11 |
| DTB | 0.89 | 4.35 | 2.64 | 1.38 | 0.03 | 1.65 |
| EQTY | 2.32 | 4.20 | 3.51 | 0.72 | -0.97 | 2.64 |
| HFG | 0.19 | 2.75 | 1.87 | 1.02 | -1.00 | 2.51 |
| I&M | 1.28 | 8.40 | 4.03 | 2.64 | 0.94 | 2.73 |
| KCB | 2.10 | 3.52 | 2.87 | 0.61 | -0.27 | 1.42 |
| NBK | -0.92 | 0.37 | -0.11 | 0.50 | -0.95 | 2.56 |
| NCBA | 2.01 | 6.58 | 3.28 | 1.86 | 1.42 | 3.16 |
| Standard | 1.76 | 3.61 | 2.67 | 0.67 | 0.07 | 2.26 |
| **Summary** | **-0.92** | **8.40** | **2.64** | **1.48** | **0.73** | **6.32** |

Table 2.0 shows return on asset ranged from -0.92 to 8.40 with a mean of 2.64. The distribution had a standard deviation 1.48. Skewness of value smaller than 2 and kurtosis value smaller than 6 should be considered normal (Tabor, 2011). From Table 2.0, return on asset has kurtosis less than 6 (4.622). This implies that are normally distributed and the data was adequate and met the assumption of linearity. This observation was also supported by Skewness values which were less than 2 (0.847). Figure 2.0 shows scatter plot for return on asset between 2016 and 2020.
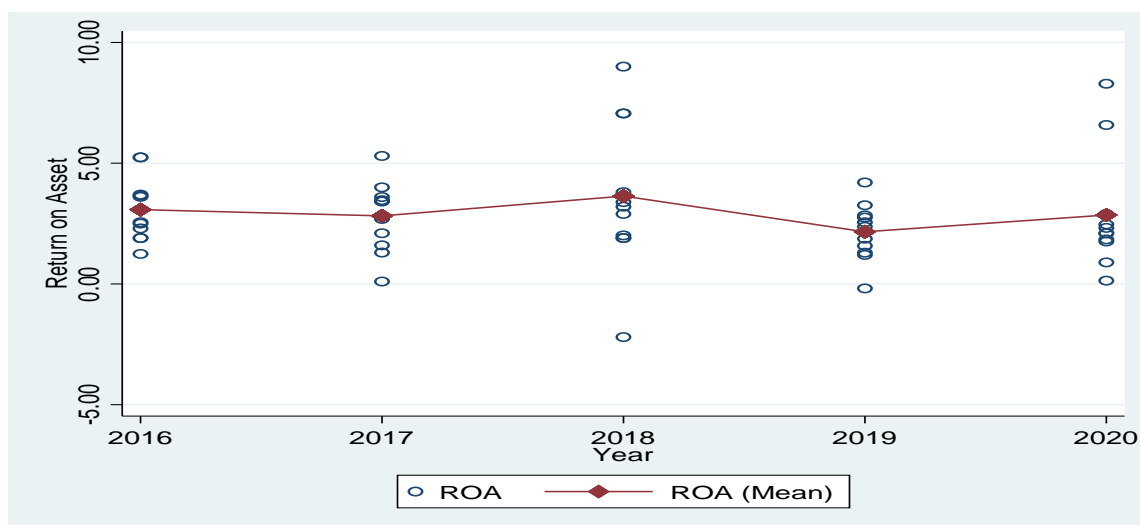


**Figure 2.0: Scatter Plot for Return on Asset**

### Inferential Statistics

Simple linear regression analysis was conducted to establish direct influence of loan portfolio on financial performance of commercial banks listed on Nairobi securities exchange. The results are as shown in Table 3.0 In the simple regression analysis, beta (β), this is equivalent to the Karl Pearson correlation coefficient (r) (Sekaran, 2003) was used to measure the relationship.

**Table 3.0: Regression Results of Loan portfolio on financial performance**

| Model Summary | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Model | R | R Square | Adjusted R Square | Std. Error of Estimate | Change Statistics | | | | |
| | | | | | R Sq Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .614[a] | .378 | .369 | .6935 | .378 | 43.074 | 1 | 71 | .000 |

a. Predictors: (Constant), loan portfolio

| ANOVA[a] | | | | | |
|---|---|---|---|---|---|
| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
| 1 | Regression | 20.715 | 1 | 20.715 | 43.074 | .000[b] |
| | Residual | 34.145 | 71 | .481 | | |
| | Total | 54.860 | 72 | | | |

a. Dependent Variable: Financial performance
b. Predictors: (Constant), loan portfolio

| Coefficients[a] | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | .394 | .463 | | .851 | .398 |
| | Loan portfolio | .789 | .120 | .614 | 6.563 | .000 |

a. Dependent Variable: Financial performance

The results illustrated that there was a statistically significant positive relationship between loan portfolio and financial performance of commercial banks listed on Nairobi securities exchange. Loan portfolio accounted for 37.8% ($R^2 = 0.378$) variations in the financial performance of commercial banks listed on Nairobi securities exchange. Therefore, loan portfolio is a significant predictor of financial performance of commercial banks listed on Nairobi securities exchange. Results also showed that loan portfolio had a positive, linear and significant (p-value is less than 0.05) relationship with the financial performance of commercial banks listed on Nairobi securities exchange {regression coefficient, B=0.789, ANOVA, F=43.074 and t-test value, t=6.563}. The results are represented in the following model:

$Y = \beta_0 + \beta_1 X_1 + \varepsilon$

Where Y= financial performance of commercial banks listed on Nairobi securities exchange,

$\beta_0=0.394$ (constant)

$\beta_1= 0.789$

$X_1=$ Loan portfolio

Replacing in the equation above, the model becomes: $Y=0.394 + 0.789X_1$

From the above equation, the constant had coefficient of 0.394, p=0.000, this implies that in the absence of loan portfolio, financial performance of commercial banks listed on Nairobi securities exchange will be at 0.394. This performance will be insignificant (P>0.05). On the other hand, loan portfolio had beta coefficient of 0.789. This implies when everything is held constant, a unit increase in the loan portfolio would results to a significant increase in financial performance of commercial banks listed on Nairobi securities exchange by 0.789 units. Descriptive analysis majority of the respondents were in agreement that their bank has feasible loan portfolio terms, bank has rolled out varied loans and advances to members and real estate finance increases bank profitability evidenced by increased interest incomes, proceeds from processing fees, net profits. Inferential analysis revealed loan portfolio has significant influence on financial performance of commercial banks listed on Nairobi securities exchange. This implies that increase in loan portfolio would results to improvement in financial performance of commercial banks listed on Nairobi securities exchange. These findings are supported by various empirical studies on the relationship between loan portfolio and financial performance. These results are in agreement with Thingo (2016) revealed that growth in a bank's loan portfolio had a positive and significant effect on financial performance of commercial banks in the current year but the effect was adverse in the subsequent years. Onchomba (2020) also revealed that loan portfolio influenced the commercial banks' financial performance in Kenya. Overall, there exist a strong influence of loan portfolio on ROA, ROE and current ratio. These influences are important at 5% level of significance.

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## V. Conclusion and Recommendation

In regard to loan portfolio, the study concluded that loan portfolio has a direct and significant impact on financial performance of the commercial banks in Kenya. This is a very strong relationship which implies that loan portfolio is the most assets that commercial banks and they significantly determine the financial performance of commercial banks. The listed commercial bank has feasible loan portfolio terms and banks have rolled out varied loans and advances to members such as personal loans, mortgage, and real estate loans among others which significantly influence financial performance. Since an effective loan portfolio diversification is what commercial banks are looking for, it is recommended for commercial banks to strive to this end, for purposes of improving their financial performance. The researcher through the study findings recommends for commercial banks to strife and create an effective and a balanced loan portfolio through creating risk rating systems, monitoring framework ,management information system and reporting, internal controls like (audit function, loan review function, credit administration and loan compliance). This would results to improvement in financial performance as a result of loan portfolio diversification.

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