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**Ratio Analysis Determinants of Financial Performance
of Listed Banks in Kenya**

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1. INTRODUCTION

Ratio analysis is a financial analysis tool used primarily to relate two figures applicable in different categories. According to Innocent (2015), ratio analysis is the separation of data into their elements or parts, the tracing of facts to their source to discover the general philosophies underlying individual phenomena. He adds that the review of a financial statement is an interpretation, magnification and a translation of the facts found in the financial statements to draw the appropriate conclusions, thus drawing inferences about the company activities, the financial situation and the outlook.

Company profitability ratios are essential as they manifest an enterprise's ability to generate earnings relative to sales and equity. The ratios serve as a measure of the firm's capability to raise yield earnings, cash flow and profits relative to a particular indicator, typically the capital invested. Profitability is a consequence of policies and decisions, and it depicts the enterprise's combined result of liquidity, asset management, and debt. The ratios stated above educate about the company financial performance at earning profits comparative with a selected standard of measurement. Higher qualities for the more significant part of these proportions pass on that the organisation gives a correct parity in creating benefits and income. Net benefit proportion gives a decent sign of the general degree of productivity of the organisation. This proportion measures the amount of every dollar acquired by the organisation changed into benefits. The higher the overall net revenue is, the more persuasive the organisation is at changing over income into a real benefit. Net overall revenue gives proof to the organisation's policies & choices, cost structure and creative productivity. Various methodologies prompt the net revenue to shift among various organisations. A company is considered influential in converting revenue into actual profit if it has a higher margin.

Commonly it is argued that competitive markets are necessary for economic growth and, more generally, that competition is a health affair for companies and investors. The competition promises to provide incentives for efficient, innovative production and downward pressure on both costs and prices has implications for competition policy. However, it is difficult to measure the extent of competition in the market directly. Researchers often use the size of firms' size over their costs and the resulting profitability levels as proxies for competition. In particular, Aghion, Braun, & Fedderke (2008) concluded that South African manufacturing firms operate in relatively uncompetitive markets based on their empirical observations that these firms have been able to

generate abnormal profits compared to their counterparts in other markets. More specifically, ABF claims that SA manufacturing firms have consistently been more profitable on a comparable basis over a period extending from the mid-1960s through to 2006. Using various estimates of markups and profitability, they suggest that SA firms have been between 50% and 100% more profitable than their international peers, hinting strongly at the need for stricter competition policies to protect the South African consumer.

The development of financial markets and economies is significant as long as results are different, depending on the countries analysed. Several studies discovered that leverage in Chinese firms negatively influences Return on Assets (Duan & Niu, 2020). Some studies could not find any relationship between financing decisions and performance (Ebaid, 2009). (Akintoye, 2008) conducted a study to analyse corporate performance in selected companies operating in the Nigerian food and beverage industry. He used four indicators as performance measures related to earnings and dividends. Besides the role of capital structure, the author mentioned taxation, business risk, financial flexibility and managerial behaviour as essential performance factors. Other studies revealed that Romanian companies are rather intuitively managed, as managers take decisions subjectively, focusing on the short-term and forgetting about competitiveness and long-term performance (Alarussi, 2019).

Firm performance is vital for investors, stakeholders and the whole economy. Investors value the return they get from their investment, which means that well-performing businesses can reward investors with high and long-term yields to their investment. Better performing companies will boost employee income and prompt the production of quality products for customers. The profitability of firms also translates to increased future investments, spur employment opportunities and enhancing people's livelihood and income.

Profitability is a challenge for any company or firm since investors worldwide invest their money in a business to make a return (Ogachi & Zeman 2018). Managers are responsible for optimising the profits of such shareholders. Managers must do everything in their power to ensure that they increase shareholder value by minimising costs. Many investors have lost their money by making long-term investments, which has necessitated some academicians to have a different approach to studying corporate financial efficiency. One method uses ratios to predict companies' bankruptcy (Jarrow, Chava, & Jarrow, 2010). Investors' losses resulting from a lack of knowledge and know-

how to provide financial information to determine potential market prospects. For example, many listed companies in Kenya have collapsed, with shareholders losing much money.

The Uchumi Supermarket and Kenya Airways were a clear example of this. It is important to identify companies according to their financial capacity to know those financially stable companies performing well and those performing poorly in various sectors of the economy. Kaplan & Zingales (1997) used qualitative and quantitative information from published financial reports to classify firms based on their degree of financial constraint. Therefore, the management of listed companies has to ensure that they safeguard shareholders' rights as well. Businesses should produce income and ensure the efficient operation of the business based on the prudential accounting principle. Scrutinising companies' financial ratios is an essential aspect of managing a company's financial performance since its economic viability is unswervingly affected by business decisions. This phenomenon was initially studied in 1958 by Modigliani and Miller (Finance & Miller, 2006). Hence, proper attention and care are required while making such a decision.

Most of the past studies on profitability determinants of firms have not focused on identifying the profitability determinants of the listed companies in Kenya even though these companies represent the most critical sectors of the economy and hence significant pillars of the Kenyan economy. This vital knowledge gap is why this study proposes simple financial ratios as significant internal profitability determinants for the Kenyan listed companies. Financial ratios serve as the evaluation tools to measure a firm's performance. Profitability determinants are forces that directly profitability of a firm, making them indispensable parameters for decision making for firms aiming to enhance profitability. Financial ratios are the evaluators of a company's financial performance. Profitability determinants are forces that directly affect the profitability of a company and, as such, are useful tools for the firms concerned to understand their decisions in order to increase the profitability of their business. The financial statements review influences a company's sustainability, and such decisions are essential as they are essential elements of a financial plan needing attention. The research, therefore, aimed to identify the factors determining financial performance.

Any company is most concerned about its effectiveness. The profitability ratio used to measure the company's bottom line is one of the most commonly used ways of calculating the financial ratio. Profitability indicators are essential for business administrators and owners alike. When external investors invest their capital in a small business, it is the responsibility of the business' primary

owners to demonstrate the firm's profitability to these investors. Profitability ratios reflect the overall productivity and profitability of an organisation. Many researchers have studied profitability determinants in many other areas, but none studied the profitability determinant by employing financial ratio analysis (Khan & Khokhar, 2015). As a result, this study demonstrates how the financial ratio assessment helps determine the bank's profitability.

1.1. Background of the study

Financial intermediaries play a significant role in driving economic growth, and their survival is a critical component of macroeconomic stability. These intermediaries include banks, investment firms, insurance companies, mutual funds and credit unions. Despite the recent trend of financial disintermediation and growth in market-based finance, the banking sector's share in the financial system has increased, and its position has strengthened. The history of world financial catastrophes has attested that the impact of financial development and banks' intervention on economic stability and growth is acute, and the process of concocting and implementing reforms is more complicated than expected (Neves, Gouveia, & Proença, 2020).

Profits serve as a buffer to neutralise the impacts of economic shocks, and the higher the profitability of a sector, the more resilient it will be to adverse shocks. The banking sector's flexibility is even more critical in transitional economies that are continuously restructuring their legal and macroeconomic environment to comply with the international policies introduced by the World Bank (WB) and International Monetary Fund (IMF). This resiliency translates into a more robust financial system. A well-functioning and sustainable banking system are crucial to resist adverse shocks and financial distress, particularly in commodity-dependent economies (Duan & Niu, 2020).

Recent global events linked to high-profile corporate failures, such as Enron in the US, have placed the policy agenda back on the agenda and intensified discussion on the effectiveness of the determinants of the success of listed companies to build trust in capital markets. In the wake of the recent unprecedented growth of the Kenyan financial markets, new problems have arisen, requiring all players' concerted efforts to safeguard the stock market's credibility. Kenya has had a number of its setbacks as well. The new Rupert Murdoch corporation was also in the news accused of breaking into people's phones and emails to build stories because of low corporate governance systems. Many stockbrokers operate their businesses outside the expected corporate governance framework.

In the absence of professional and severe governance malpractices, some stockbrokers have so far encountered substantial financial difficulties, which have compelled the Capital Markets Regulator to put them under receivership/legislative management.

Many of the most severe scandals in accounting have occurred within the last two decades, leading to financial crises that devastated the economies and people's lives on a grand scale. The scandals' origin was traced back to a few greedy people whose acts resulted in devastating results that brought down whole corporations and impacted millions of individuals. An overestimation of assets and underestimate liabilities, including roundtrip sales, is the most common accounting fraud type. It is not a query unique to a region. Accountants and auditing practitioners talk about accounting scandals with realistic consequences, the expectation being that Auditors produce audit reports free of either intentionally or innocently made material errors. Falsification of financial statements is an issue that misleads this relationship (Van, 2018).

The collapse of Enron in 2001 and WorldCorn in 2002 captured the world's attention. Dibra (2016) asserts that good corporate governance should ensure and demonstrate transparency of financial reports to the stakeholder and maximises shareholder value on a sustainable basis. CG most plays an essential role in standardising and ensuring the best quality and well written financial reports (Rezaee, 2004). Mallin (2002) observes that the CG environment varies across countries and from firm to firm. Agency theory asserts that to minimise the EM practices and agency cost, the firm should exercise close and stringent monitoring of managers, which the firm boards should undertake, principals, or representatives (Heath, 2009). Empirically better corporate governance implementation limits the manager's opportunistic behaviour and reduces the agency problem (Moez, 2018). To restore the investors' trust and confidence in the stock market, CG is of utmost importance as many countries have minimised their EM practices by introducing CG codes. No single study on financial performance or corporate bankruptcy prediction fails to acknowledge the Lehman Brothers Scandal in 2008, a global financial company based in New York City is one central investment bank in the United States. During the 2008 financial crisis, the company had concealed over \$50 billion in loans. These loans had been masquerading as sales using book-keeping gaps (Munteanu, 2012).

Studies researching the determinants of profitability have identified several factors in many countries. However, they do not indicate which factors are the most significant concerning the

firm's profitability, although different factors have been identified as determinants of profitability in different countries using the different study methods, which this research intends to explore. Therefore, this study explores the critical determinant used to measure listed companies' profitability in Kenya. Thus, recognising the determinants of heterogeneity in firm profitability is potentially one of the most fertile fields of study for industrial economists and strategic managers. It is understood by many that the profitability determinants of companies are of critical importance as a core strategy for economic growth for any country aiming for an export-oriented industrialisation policy in an open economic setting (Pratheepan, 2014).

Firms listed in the NSE should serve as professionally run public investment vehicles to draw investor confidence and uphold the public interest. Uchum's placement under the receivership in 2006 and subsequent delisting from the NSE is just a case in point. The failure of Uchumi pointed at the board of directors accused of malpractice and ignorance for governance and mechanisms. This study aims to define the powerful determinants for calculating companies' profitability, making investors either invest or divest from companies based on a financial position analysis (Korir & Cheruiyot, 2014).

According to the Economic Survey, there has been a marked improvement in Kenya's equity market in both primary and secondary markets in 2010. Market capitalisation increased by 40% in 2010, exceeding Kshs 1 trillion, with an average annual return of 36% based on the NSE 20 Share Index. As a result, NSE was one of Africa's best-performing equity markets after the Uganda Securities Exchange, which recorded an index return of 53%. Equity turnover and share volumes accounted for 190 per cent and 127 per cent, respectively, as market capitalisation increased by 40 per cent compared to the year 2009. The impressive performance resulted from improved business confidence in the market for economic recovery, the adoption of best practice in capital markets and the resumption of participation by foreign and institutional investors, e.g. foreign investors' turnover.

1.2. Statement of the problem.

Lack of proper financial management of banks may trigger bankruptcy, leading to the business's collapse and losing shareholders' funds. Several factors trigger bankruptcy, both directly and indirectly related to the company. Banks can declare bankruptcy if they must close operations if their performance is low due to numerous non-performing loans or assets. Banks can also have

liquidity problems if massive withdrawals are massive rather than deposits on any particular day, week, or month. Therefore the performance of companies can be measured by the use of financial reports published by the company. Financial statements include the balance sheet and the income statement, which provide information about the financial position. The bank's financial statements consist of a balance sheet that provides information on the financial situation, a sales statement to determine the bank's operating growth, and cash flows that provide information on its turnover. Company financial reports present a company's past financial performance and forecast the company's future financial condition. The high valuation of the company indicated the high prosperity that needs to be achieved by every company.

There are various techniques used in company assessment, and one of them is financial ratio analysis. A bank's performance can be indicated by looking at the liquidity, efficiency ratio, bank risk, capital ratio and profitability. The liquidity ratio evaluates the company's ability to meet short-term liabilities through the generated profits, whereas the business risk ratio measures the risks of running a business. The capital ratio assesses the capital's ability to cover losses, whereas the business efficiency ratio measures its degree of efficiency. The financial ratio is to be used to detect financial distress. The bankruptcy prediction model used is a means of early warning of financial distress; that is, it can improve conditions before reaching a crisis or bankruptcy condition.

Banks have faced several challenges in the recent past. They are ranging from cybercrime, where banks have lost money to the tune of billions of cash. On the other hand, the 2016 interest rate cap saw banks struggling in attracting interests from loans since the lending rate cap was at 4% off the central bank lending rates. As a result, banks became unattractive for investment by investors. There is no clear set of ratios used to measure banks' profitability, as most investors lack the required skills or performance indicators aside from the apparent ratio of net profit. A thorough analysis of the ratios is necessary to help investors in making investment decisions. Therefore ratio analysis using financial statements becomes a fundamental unit of analysis for ascertaining bank profitability. Lack of precise financial performance analysis has seen many investors lose money due to investments in companies or banks that collapse. Most of the crippling financial companies deceive the investors through dividends, making investors confident in the company. Over time, many investors have assessed companies' financial performance based on the amount of dividend. Some investors use assets as the only sole factor for evaluating financial performance. Inappropriate

analysis of a bank's financial performance can lead to wrong investment decisions, leading to a loss of funds in bankruptcy cases.

On the other hand, Managers use earnings management to consistently present financial statements from one period to another. They ensure consistency because large fluctuations on financial statements may raise the alarm to investors. In instances, managers have been under pressure to manipulate financial statements to use accepted modes to maintain a particular profit level acceptable by investors. In other instances, managers or CEOs alter the financial reports to portray a positive image in the market. Such statement alteration can be deceiving, mainly where the investors use the company's net profit to make investment decisions. Therefore, shareholders need to have financial analysis skills on published financial statements to make investment decisions based on facts and reason supported ratio determinants of financial performance.

1.3. Research Questions

The following research questions guided the research:

- 1) What is the relationship between the choice of capital for a company and listed banks' financial performance?
- 2) What is the relationship of company Asset on the financial performance of banks?
- 3) Does the dividend payment policy have any effect on the financial performance of banks?
- 4) How do cash flow and debt settlement affect the financial performance of listed companies?

2. RESEARCH MATERIALS AND METHODS

This chapter presents the theories as well as the methods used in this study. The following theories guided the study, Gordon Theory by Myron Gordon in 1959. Also referred to as the “Bird in Hand Theory”, it postulates that almost all shareholders want dividends from various cash to capital gains. The Portfolio Theory by Markowitz attaches significance to portfolio investment. Another theory in the study was the Agency Cost Theory Proposed by Jensen and Meckling in 1976, and the theory seeks to analyse the conflict between agents of the companies (Managers) and the shareholders. The Static Trade-Off Theory of Capital Structure used in the study contends that firms choose a capital structure acceptable to the firm to minimise bankruptcy and agency costs’ adverse effects. Lastly was the theory of investment, also called the germinal theory of corporate finance proposed by Miller and Modigliani (1958); the theory says that its value is independent of its capital structure. Instead, a firm’s market value relies on the earning power of the assets currently held and on the size and relative profitability of the investment opportunities

2.1. Research Design

This exploratory study used secondary data from listed commercial banks’ published financial statements for ten years. The study used panel data to study the behaviour of each bank over time and across space.

2.2. Study Population

The study population includes all cases about which the researcher can generalise. This study’s target population was all the 12 listed banks in Kenya (CMA Report, 2020). The study targeted all listed banks in Kenya, which are 12 in number. All the listed banks have similar characteristics, and a majority of the banks included in the study were in Tier 1, while three banks were in Tier 2. The study population included Eleven banks. The NSE listed the bank of Kigali in 2018; therefore, excluded from the Bank of Kigali. Included in the study was the National Bank of Kenya since KBC has the majority shareholding. Therefore it operates as a commercial bank.

2.3. Multiple Regression Model Specification

The research used a multiple regression analysis to predict the various predictor variables’ effect on the dependent variable. A multiple regression analysis was vital in this research study because listed banks’ financial performance is affected by more than two variables.

Multiple regression analysis assesses the degree and character of relationships between a dependent variable and independent variables in an objective way. As a result of the analysis, estimated regression coefficients indicate each independent variable's relative importance in predicting the dependent variable. They show how much one unit increase in the independent variable would affect the dependent variable if all the other independent variables remain unchanged. The model summary of the study will be as shown below;

$$Y1_{it} = \alpha + \beta1X1_{it} + \beta2X2_{it} + \beta3X3_{it} + \beta4X4_{it} + \beta5X5_{it} + \beta6X6_{it} + \beta7X7_{it} + \beta8X8_{it} + \epsilon_{it} \dots\dots\dots 1$$

$$Y2_{it} = \alpha + \beta1X1_{it} + \beta2X2_{it} + \beta3X3_{it} + \beta4X4_{it} + \beta5X5_{it} + \beta6X6_{it} + \beta7X7_{it} + \beta8X8_{it} + \epsilon_{it} \dots\dots\dots 2$$

Where;

Y1 = First Dependent Variable – Return on Equity (ROE) - Measure its financial performance and gauge a company's profitability about total assets (Net income/Total assets) ROA replaced with Net Profit.

Y2= Second Dependent Variable – Net Profit (NP) or Net Income (NI) – This is the Gross profit you less all the operating expenses, computed by deducting the cost of goods sold from revenues. In this case, we will use NP.

X1, Long-term debt to equity ratio, X2= Log of Assets, X3, Capital adequacy, X4 = Growth in revenues (growth prospects) X5=Leverage, X6=Debt Ratio, X7 = Dividend Pay-out , X8= Dividend Yield

ϵ_{it} Error term in year (t)

it=time in years

3. RESULTS AND DISCUSSIONS

This section of the research discussed the study’s findings and results based on the panel, secondary data collected from listed banks. This research aimed at determining analysis determinants of the financial performance of listed banks in Kenya.

3.1. Demographic Information

This section provides demographic information regarding banks concerning specifically chosen variables. The researcher’s metrics of concern included bank assets, capital adequacy, leverage, debt ratio, growth in revenues, dividend payment, and dividend yield. The findings from the field presented as shown;

3.1.1. Bank size

The size of the banks presented about assets is shown in Figure 2;

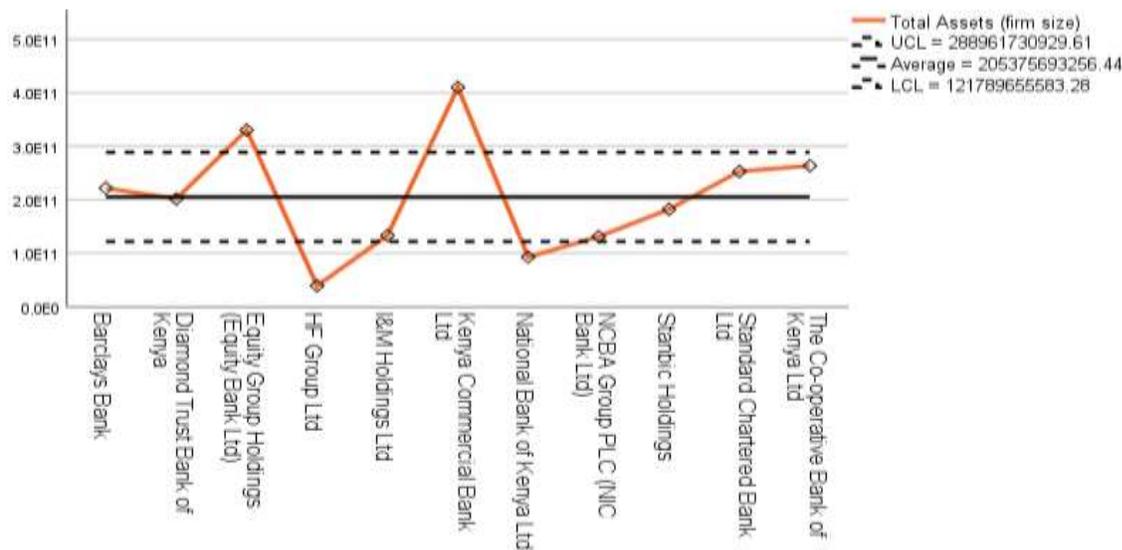


Figure 1. Bank size 2009-2018

Source: NSE Data on Listed Banks 2009-2018

Figure 1 shows the asset distribution of all listed banks over time. The study found out that Kenya commercial bank had the most assets among all the banks, followed by equity bank. They were the only banks that had assets above the upper control limit (UCL). Standard Chartered Bank and Cooperative bank had an almost equal amount of assents. From the year 2009 to 2018. Findings revealed an increase in some banks’ assets while other banks had a constant growth in assets over time while others stagnated. Kenya’s HF and national banks had a relatively small amount of assets below the lower control limit.

3.1.2. Total Assets

Figure 2 shows the total asset distribution for banks for the period 2009 to 2018. The findings from the financial statements are as shown below;

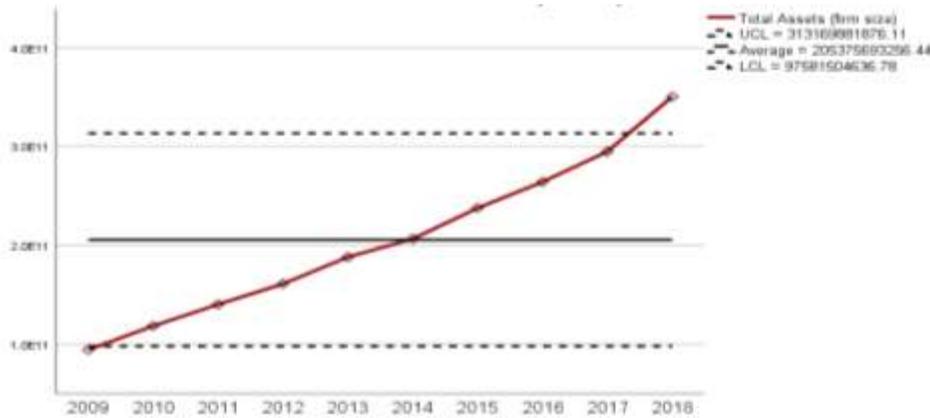


Figure 2. Total Assets

Source: NSE Data on Listed Banks 2009-2018

Findings from figure 3 show asset distribution over 10 years between 2009 to 2018. There has been a constant increase in the value of assets. The growth in assets slowed down in 2013 and 2014. Bank assets increased sharply between 2017 and 2018. A higher asset base for banking institutions enables them to offer more financial services at a low cost

3.1.3. leverage

Leverage is using borrowed capital funding as a source to expand the firms' asset base. Bank leverage distribution as shown;

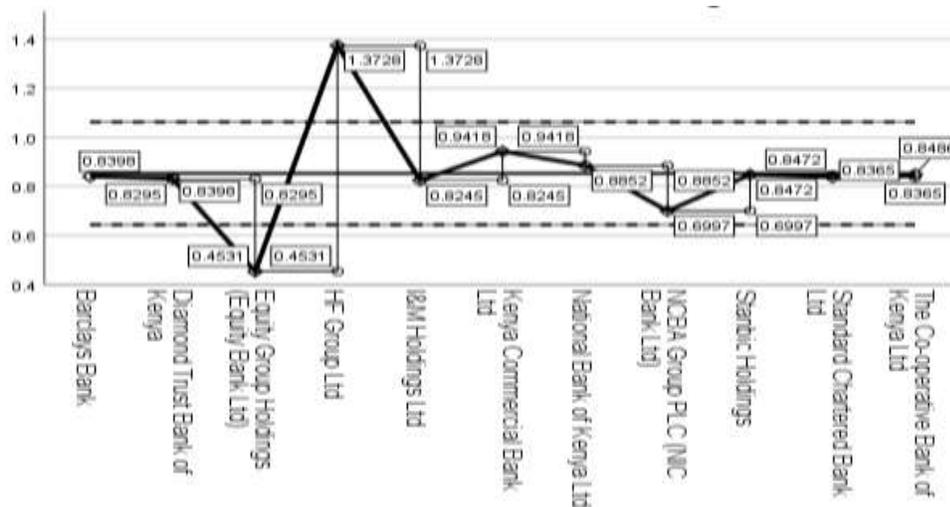


Figure 3. Leverage Ratio

Source: Authors Construction Based on NSE Data, 2009-2018

Findings from the study revealed that HF Bank uses more debt financing compared to other banks. This can be very dangerous for a bank since most of its operations are financed by debt financing. Equity bank, which is second in terms of its asset base, uses the least leverage in its operations. Findings have revealed that banks with a high asset base tend to use less debt in financing their operations. Different scholars have established varying relationships between leverage and the financial performance of companies. Findings from past research supported these study findings. Similar findings by Chary, Kasturi and Kumar (2011) established a negative relationship between leverage and financial performance. Overleveraged firms have a possibility of accumulating financial costs and systemic risk, therefore creating financial risk. In addition to that, Demirhan & Anwar (2014) established that leverage has an inverse relationship with company efficiency. Jaafar, Muhamat, Alwi, Karim, & Rahman (2018) also found out that leverage had an inverse relationship with business performance. Higher levels of debt expose the firm to bankruptcy risk. An increase in profitability is a kind of gesture for firms as it is an indicator of enough capital for sustaining companies.

3.1.4 Capital Adequacy

Classification of the Banks in Kenya relies on availability in terms of capital. Banks in Kenya classify as tier 1, tier 2 and tier 3. Findings regarding capital adequacy were as shown in figure 4;

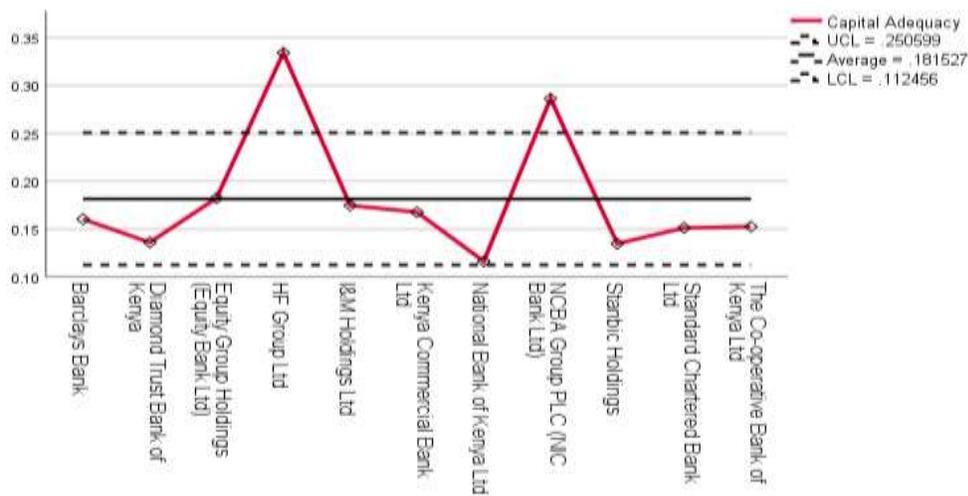


Figure 4. Capital Adequacy

Source: Author's Construction Based on NSE Data, 2009-2018

All banks involved in this study were under Tier 1. Findings revealed that HF bank and NIC bank had higher levels of capital adequacy. Stanbic Bank and standard chartered banks had lower capital

adequacy values less than the LCL level. National Bank of Kenya had the lowest capital adequacy. A reason why it has been declaring negative profits over time. In a study seeking to establish bank success factors, Frederick (2016) established capital adequacy and management efficiency, asset quality, interest income as crucial drivers of bank performance in Uganda. Haidary & Abbey (2018) and (li & Akhtar (2011) used capital adequacy as an indicator for measuring the performance of banks.

3.1.5 Debt Ratio

The debt ratio for a given company indicates its debt and how much its assets are. It is a measure of how much someone owes compared to how much they own, with higher liabilities indicating greater debt-financing levels. Debt ratios determine an individual, business, or government’s financial health. Analysts and investors consider the company’s significant financial statements when calculating the debt ratio.

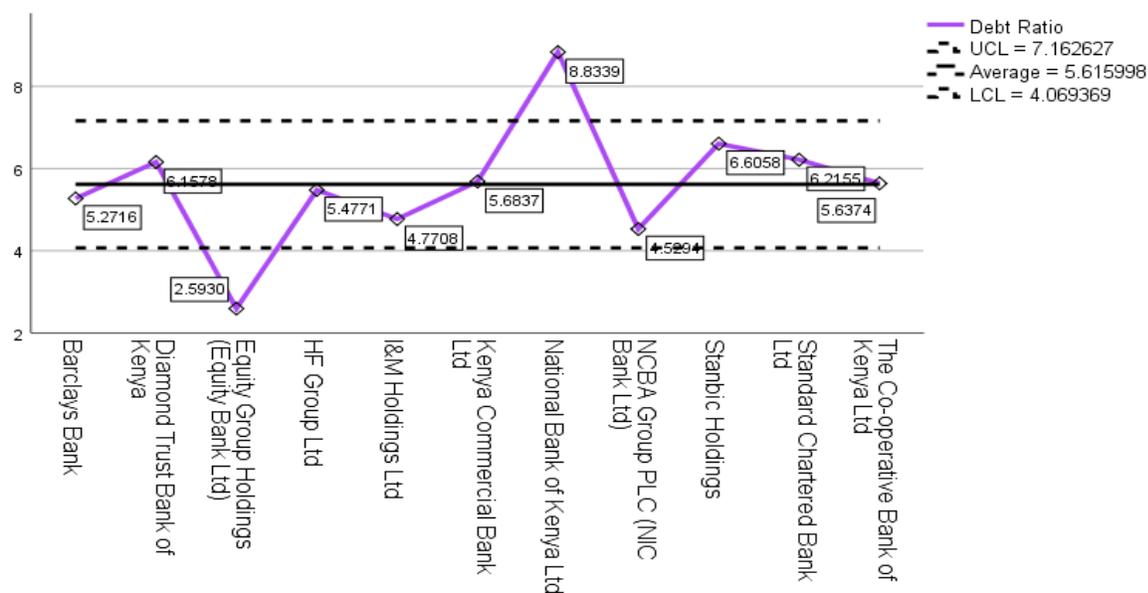


Figure 5. Debt Ratio

Source: Author’s Construction Based on NSE Data, 2009-2018

The debt ratio shows the proportion of debt-financed by assets. The study’s findings revealed that Kenya’s National Bank has the highest Debt ratio at 8.8339 above the UCL. Stanbic Bank, Standard Chartered Bank and DTB bank have an average level of Debt Ratio. Equity bank uses the lowest debt in financing its operations, a possible reason it performs exceedingly well in terms of financial performance. A study by Ogachi, Ndege, Gaturu, & Zeman (2020) to establish bankruptcy

predictors established an inverse relationship between debtors' turnover, debt ratio, and current ratio.

3.1.6. Growth in Revenues

This is the rate of increase in revenues over time. Figure 6 shows the revenue growth prospects in the banking industry for over ten years.

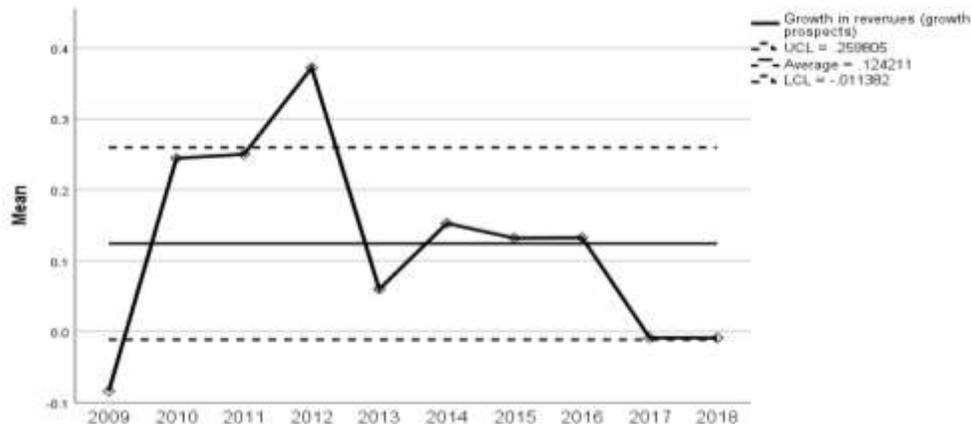


Figure 6. Growth in Revenues

Source: Author's Construction Based on NSE Data, 2009-2018

Findings revealed that the growth rate in bank revenues for 2009 and 2010 increased at a higher rate. The growth in revenues stagnated between 2010 and 2011. Most of the banks experienced a higher percentage of revenues in the year 2010. In the other years, the growth was constant. The maximum growth in revenues for most companies attained in 2010. This could be due to the 2010 oil crisis. There was a negative growth in revenues between 2012 to 2013. 2014-2016 saw a decline in the growth prospects of banks. The growth rate in revenues for 2017-2018 was stagnant, possibly because of the elections held in Kenya marred by irregularities and chaos.

3.1.7. Longterm Debt to Equity

The long-term debt to equity ratio represents the amount of debt used by banks relative to equity. The greater the ratio, the more significant the bankruptcy risk rate. Findings from data regarding Longterm Debt to equity was as shown

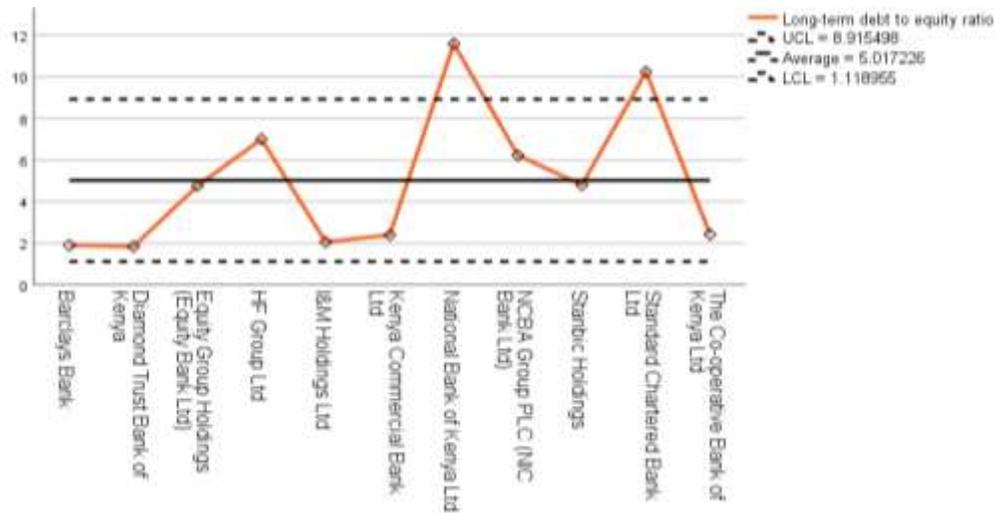


Figure 7. Longterm Debt to Equity Ratio

Source: Author's Construction Based on NSE Data, 2009-2018

Findings from figure 8 show the ratio of debt to equity of all the listed banks. The figure shows the first four banks that are heavily dependent on debt financing compared to debt financing. The national bank of Kenya finances its obligations through debt financing. The second position is Equity Bank Ltd, followed by I & M Bank and Stanbic Banks. The banks are heavily reliant on long-term debt as compared to equity.

3.1.8. Dividend Payout

Dividend pay-out shows the number of dividends paid to shareholders relative to banks' income or revenue. Data from financial statements was as shown in figure 10.

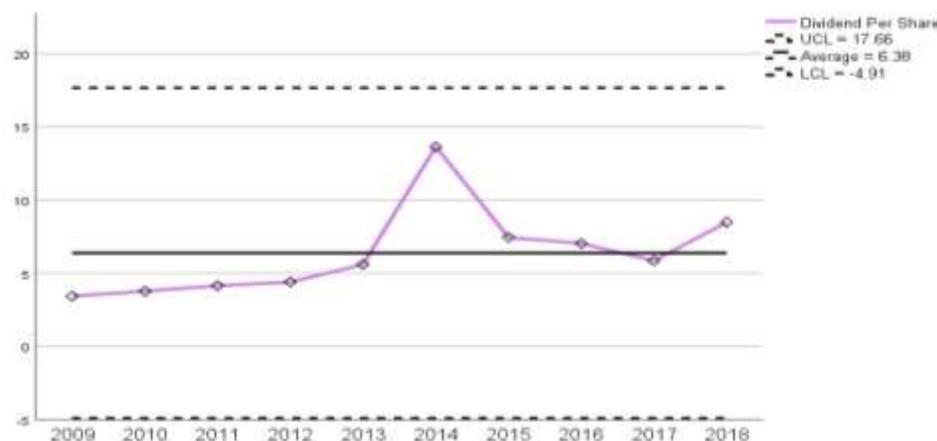


Figure 8. Dividend Pay-out

Source: Author's Construction Based on NSE Data, 2009-2018

Dividend payment for the banks was highest in the year 2014. During the financial crisis of 2009 and 2010, shareholders saw minimum dividends declared by banks. 2013 to 2014 has a sharp increase in the dividends paid to shareholders. Dividend pay-out reduced drastically between 2014 to 2017, increasing again in 2018. The dividend payment ratio is the ratio of the total amount of dividends paid to the shareholders concerning its net income. It is the percentage of earnings paid to shareholders in the form of dividends.

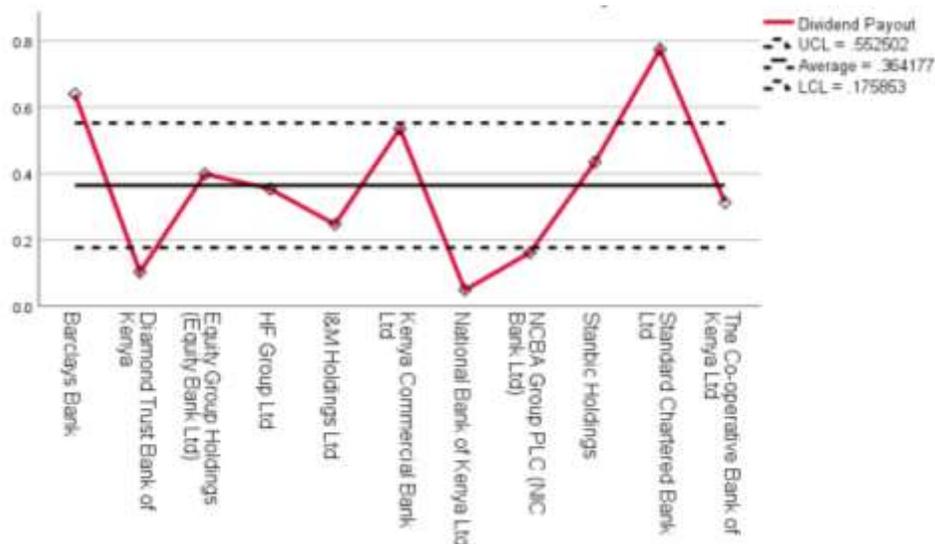


Figure 9. Dividend Pay-out

Source: Author's Construction Based on NSE Data, 2009-2018

Regarding dividend payment by banks in Kenya, the study found out that standard chartered bank Absa Bank Kenya was among the best banks in dividend payment. Mamaro & Tjano (2019) established a negative relationship between the dividend pay-out ratio of Top40 firms with profitability and liquidity and a positive relationship found on dividend pay-out with net profit margins (NPM), leverage (LEV), growth (GRO), and firm size (SIZE). The findings were in tandem with a study by Chinedu, Uchekukwu, & Ikechukwu (2015). The researchers' empirical results suggest that the dividend pay-out ratio has a positive relationship with ROCE, ROA and ROE used for this study dependent variables. It further revealed that the dividend pay-out ratio (DPR) has a statistical effect on Return on Capital Employed (ROCE) and Return on Assets (ROA) of quoted cement companies in Nigeria.

3.1.9 Dividend Yield

This is a financial ratio that shows how much a company pays dividends each year related to its share price.



Figure 10. Dividend Yield

Source: Author's Construction Based on NSE Data, 2009-2018

The findings from figure 10 show a stagnating dividend pay-out during the financial crisis of 2009 and 2010. After the oil crisis, there was a tremendous increase until 2012 when companies reduced their shareholders' dividend amount. A tremendous increase also experienced between the year 2015 to 2016. The year 2016 was the peak year for shareholders since they received the maximum yield. During the 2017 electioneering period, the country experienced a low dividend yield for countries regaining further after the elections. It was evident also that there was a steady growth in dividend yield for the year 2018.

3.2. Multiple Regression

Additional analysis conducted established the relationship's nature and predictor variables' contribution to the dependent variable. Multiple regression was, therefore, the best measure to establish this kind of relationship. The collinearity diagnostic was essential to establish if the regression model was affected by higher correlations among the variables. The findings are as presented.

Table 1. Collinearity Statistics Coefficients

Model	Tolerance	VIF
Size=Log(Assets)	.623	1.606
Leverage ratio	.536	1.864
Capital Adequacy	.427	2.344
Growth in revenues (growth prospects)	.886	1.128
Long-term debt to equity ratio	.523	1.914
Dividend Pay-out	.891	1.122
Dividend Yield	.714	1.401

Dependent Variable: ROE

Source: Owner's Construction Based on NSE Listed Bank Data

All the VIF were below 10. The assumption of the model met. The study, therefore, concluded that the regression model was not affected by higher levels of multi-collinearity.

Table 2. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.512 ^a	.262	.211	.0893554

Predictors: (Constant), Dividend Yield, Growth in revenues (growth prospects), Capital Adequacy, Dividend Pay-out, Leverage ratio, Size=Log(Assets), Long-term debt to equity ratio

Source: Owner's Construction Based on NSE Listed Bank Data

The R-value from the model summary in table 2 shows multiple correlation coefficients between the dependent and independent variable. It indicates the degree of correlation between the predictor and the dependent variables. A value of .512 indicates a lower degree positive of correlation. The R Squared indicates how much of the dependent variable's total variation can be explained by the independent variable. From table 7, 21.1% of the total variation explained by the independent variables. This value was too small; therefore, the regression model was not the best analytical tool for establishing relationships between the variables and a similar regression analysis was conducted using Net Profit as a dependent variable.

Table 3. ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.289	7	.041	5.171	.000 ^b
	Residual	.814	102	.008		
	Total	1.103	109			

Dependent Variable: ROE

Predictors: (Constant), Dividend Yield, Growth in revenues (growth prospects), Capital Adequacy, Dividend Pay-out, Leverage ratio, Size=Log(Assets), Long-term debt to equity ratio

Source: Author's Construction Based on NSE Data, 2009-2018

The findings from the ANOVA table 3 shows how well the regression model fits the data. It reveals the relationship between the predictor and the dependent variables. The sig value of 0.000 is below 0.05. Therefore the regression model statistically and significantly predicts the dependent variable. It is a good fit for the data. The model, thus, predicts the dependent variable significantly very well.

Table 4. Coefficients

Model		Unstandardised Coefficients		Standardised Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	.562	.352		1.598	.113
	Size=Log(Assets)	-.022	.031	-.076	-.706	.482
	Leverage ratio	.035	.023	.172	1.477	.143
	Capital Adequacy	-.357	.084	-.554	-4.254	.000
	Growth in revenues (growth prospects)	.063	.046	.122	1.347	.181
	Long-term debt to equity ratio	-.020	.005	-.478	-4.060	.000
	Dividend Pay-out	.033	.027	.108	1.197	.234
	Dividend Yield	-4.375-12	.000	-.005	-.051	.960

Dependent Variable: ROE

Source: Owner's Construction Based on NSE Listed Bank Data

Capital adequacy and Long-term Debt to Equity ratio have a significant inverse relationship with the dependent variable. Assets, too, had a negative relationship, although it was insignificant. On the other hand, Leverage Ratio, Growth in Revenues and dividend pay-out have an inverse relationship with the dependent variable; however, the relationship was not significant because all the corresponding P-Values were more outstanding than 0.05. The regression model from the analysis was as shown;

$$ROE = .562-.020X1-.022X2-.357X3+.063X4+.035X5+.033X7-4.375E-12X8+ \epsilon_{it}.....3$$

3.3. Fixed Effect Regression Model

This section establishes the fixed and random effect on the regression model using the panel data for 2010 to 2019. Findings were as presented in table 25;

Table 1. Fixed Effect Regression Model Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.760 ^a	.578	.500	.0711656	1.208

Predictors: (Constant), Dividend Yield, Growth in revenues (growth prospects), Stanbic Bank, Leverage ratio, Stanchart, IM, Coop, Long-term debt to equity ratio, DTB, NIC, Absa Bank Kenyas, HF, Dividend Pay-out, Equity, Capital Adequacy, Size=Log(Assets), NBK

Dependent Variable: ROE

Source: Author's construction based on SPSS Version 25, 2021

Table 5 shows a strong positive correlation coefficient of 0.760 of the predictor variables on the dependent variables. According to the R-Square, 57.8% of the fixed-effect model's variance brought about by the dividend yield of banks, their growth prospects in terms of revenue, leverage ratio, Long-term debt to equity, dividend pay-out, capital adequacy and the size of the bank. A specific variable determined as being the key financial indicators in specific banks. For instance, dividend yield and bank growth prospects were critical financial performance indicators in Stanbic Bank. The leverage ratio was a critical financial indicator in I&M bank and the cooperative bank of Kenya. The findings revealed that the longterm debt to equity ratio was vital in determining the financial performance of DTB Bank, NIC Bank, Absa Bank Kenya and HF Bank. Dividend pay-out is a vital indicator at Equity Bank. Asset size is a significant performance indicator in the National Bank of Kenya. The close association between R-Square value and Adjusted R-Square shows a good fit for predicting the relationship. The Durbin Watson (DW) was used to measure the autocorrelation in the regression's statistical residuals. A value of 1.208 is between the required value of 0 and 4. Values from 0 to less than 2 indicate positive autocorrelation. Therefore, the price of yesterday has a positive correlation with today's price. If there was a price fall yesterday, there is a likelihood that the price today will increase.

Table 6. Random Effect GLS regression (ROE)

Random-Effects GLS Regression		Number of obs	=	110
Group Variable: Year		Number of Groups	=	10
R-sq:		Obs per group:		
Within	= 0.1483	Min	=	11
Between	= 0.8256	Avg	=	11.0
Overall	= 0.2619	Max	=	11
corr(u_i, X) = 0 (assumed)		Wald chi2(6)	=	.000
		Prob > chi2	=	.000

ROE	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
SizeLogAssets	-.0219889	.0311326	-.071	0.480	-.0830077 0.390299
Leverageratio	.0346408	.0234491	1.48	0.140	-.0113186 0.0806002
CapitalAdequacy	-.3565589	.0838137	-4.25	0.000	-.5208308 -.192287
DebtRatio	-.0197542	.0048659	-4.06	0.000	-.0292912 -.0102171
Growthinrevenues	.0625967	.046458	1.35	0.178	-.0284594 .1536528
Longtermdebttoequityratio	0	(omitted)			
DividendPayout	.032747	.0273575	1.20	0.231	-.0208727 .0863666
DividendYield	-4.38e-12	8.63e-11	-0.05	0.960	-1.73e-10 1.65e-10
_cons	.5619757	.3517043	1.60	0.110	-.1273521 1.251304
sigma_u	0				
sigma_e	.08849106				
rho	0	(fraction of variance due to u_i)			

Source: Author's construction based on SPSS Version 25, 2021

The Prob > chi2 of 0.000 leads to the rejection of the null hypothesis and therefore concluding heteroscedasticity. The Wald chi of 0.000 was below 0.05, an F-test statistic showing that the model was okay and that all the coefficients were different from zero. A prob value of less than 0.05 from the table; therefore, the relationship is significant, and therefore, a fixed-effect model useful. The findings established that capital adequacy and debt to equity ratio with corresponding p-values of .000 significantly influenced the dependent variable (ROE). Company size (Assets), Leverage ratio, company growth prospects, dividend pay-out, and dividend yield influence ROE though the relationship was not significant while Long-term debt to equity omitted from the model.

3.4. Dupont Model

DuPont analysis is fundamental to decompose the different drivers of ROE. This allowed investors to focus on key financial performance metrics individually to identify bank strengths and weaknesses. Three primary financial metrics used in determining their influence with ROE included operating efficiency represented by net profit margin or net income divided by total revenue, asset

use efficiency measured by asset turnover ratio & financial leverage measured by the equity multiplier. Dupont Analysis = Net Profit Margin x AT x EM,

Where, Net Profit Margin=Revenue/Net Income, Asset turnover (AT) =

Average Total Assets/Revenue and Equity multiplier (EM) = Average Shareholders' Equity/
Average Total Assets

Table 7. DuPont Analysis Metrics

Name of Company	ROE	NPM	L	AT	EM	DA
Kenya Commercial Bank	19.82	22.88287	94.17897	14.47373	6.20281	31192.12
National Bank of Kenya	9.63	9.77136	88.52198	13.02533	9.70750	11266.65
NIC Bank	15.59	21.92078	69.97009	12.13298	5.59917	18609.55
Standard Chartered Bank	21.44	28.74172	83.64778	10.87266	7.32353	26139.84
Equity Bank	20.92	23.56073	45.31052	15.98034	5.52214	17059.79
Co-operative Bank	21.35	23.14019	84.86493	13.94490	6.62879	27384.86
Absa Bank Kenya	21.77	21.04964	75.31847	15.19894	5.53377	24096.8
I&M Holdings Bank	32.79	47.75854	91.11532	13.40155	6.51161	58317.31
Diamond Trust Bank	21.69	35.64333	82.95031	8.28980	7.49495	24509.83
Housing Finance Bank	9.80	12.35705	137.28472	22.24568	5.84280	37738.33
Stanbic Holdings	13.07	17.20427	84.72134	9.74197	7.82614	14199.59

Return on Equity (ROE), Net Profit Margin (NPM), Leverage (L), Asset Turnover (AT) and Equity multiplier (EM)

Source: Author's construction based on SPSS Version 25, 2021

Table 7 shows that Absa Bank Kenya, Diamond Trust Bank, Standard Chartered Bank and Co-operative Bank have a higher ROE ratio than other banks, which shows the amount of after-tax net income generated concerning total shareholder equity. National Bank and Housing Finance generate the lowest return from stocks, while Housing Finance, Kenya Commercial Bank, I&M Holdings Bank and National Bank of Kenya are among the most significant four banks with a higher leverage ratio. Equity Bank, NIC Bank and Absa Bank are the lowest consumers of leverage. Housing Finance Bank, Equity Bank, Absa Bank Kenya and Kenya Commercial Bank efficiently use their assets to generate income. Banks with higher NPM tend to have a low asset turnover, evident in I&M Holdings Bank and DTB Bank.

National Bank of Kenya Stanbic Holdings Diamond Trust Bank and standard chartered bank have high equity multipliers, indicating that they use a higher debt to finance their assets. Equity Bank, Absa Bank and NIC Bank had lower EM values, indicating that they are less reliant on debt

financing. The equity multiplier reveals how much of the total assets are financed by shareholders' equity.

3.5. New Scientific Results

1. Based on the different analytical methods, the asset value has a conflicting financial performance relationship. Hence, it recommended that assets be relied entirely upon in making investment decisions in the banking industry. Some established significant positive, while others established significant negative. There need, therefore, for investors to consider other ratios when making investment decisions.
2. Leverage has a significant inverse relationship with the financial performance of companies. Therefore, better-performing companies should have a decreasing level of leverage. Leverage entails using borrowed funds to expand the operations of the company. Therefore, this research concluded that the debt ratio was a significant variable for making listed banks' investment decisions. Ideally, companies with a lower ratio are preferable by investors. These are true also in this study. Therefore, best performing banks must reduce the debt ratio as it shows the value proposition financed by assets. Over time scholars have recommended equity financing rather than debt. Therefore, promoting the notion of using equity since debt must be refunded to the owners as an interest. It is, therefore, advisable to invest in banks that have reduced levels of debt funding. The lower the leverage, the better for a shareholder or investor.
3. Capital adequacy has a negative relationship with the financial performance of banks. There exist an inverse relationship. However, the inverse relationship was not significant. Banks, which have lower capital adequacy in their reserves, are better than those with higher amounts. Therefore, investors should invest in companies with a declining capital adequacy trend: the lower, the better investors.
4. Growth in revenues is a good measure of financial performance when regressed against the ROE. When using growth in revenue as a performance indicator, it must be compared with ROE to decide. Best performing banks have higher and increasing levels of growth in Revenues.
5. Long-term debt to equity has a significant negative relationship with financial performance. Therefore, banks need to decrease their long-term debt over equity.

6. Findings from the different analytics, i.e. correlation regression and ARIMA, established that Dividend payment has an insignificant both inverse and positive relationship with bank performance. The dividend payment is not a good predictor of financial performance. Therefore, payment of dividend used as a basis for investing in bank stocks. Therefore, the findings from this research support Miller and Modigliani Theory, which attaches the insignificant contribution of dividend payment to companies' performance.
7. As a measure of how much a company pays out in dividends each year relative to its stock price, the Dividend Yield has a positive relationship with listed banks' financial performance. In summary, based on the ratios, the study concluded that Leverage, Capital adequacy, Debt ratio, and long-term debt to equity growth in revenues were the best determinant ratios of financial performance in listed banks in Nairobi.

4. CONCLUSION AND RECOMMENDATION

4.1 Conclusion

The banking industry's rapid changes have continuously caught growing attention among the banking sector's various stakeholders. Among the concerned party include the managers, the government, shareholders, competitors, the customers and the general public. Scholars are also not left out. Therefore, information concerning the financial performance or soundness of banks is crucial to the various actors. These form a strong basis for the need for the research to establish financial performance indicators using ratios. Therefore, this study's main objective was to establish determinants of banks' financial performance using ratio analysis. The study period was from 2009 to 2018, 10 years.

Banks play an indispensable role in the allocation of financial resources within a country. They act as a channel for the movement of funds from depositors to investors. However, they need to generate enough income to cover their operational costs for effective functioning, which means that banks need to be profitable for sustainable intermediation function. Moreover, the financial performance of banks has critical implications on the economic growth of countries. The study used correlation, Logistic regression and the time series ARIMA models to establish relationships between the predictor and the dependent variable.

4.2. Recommendations

1. The study recommends alternative sources of financing company operations apart from leverage. Therefore banks should try as much as possible to avoid leverage as their primary source of financing their business operations. Debt finance has a financial implication on the performance of banks as the banks must pay it back. Permanent sources of financing should be preferable to shorter modes.
2. The debt ratio has a significant negative relationship with financial performance. The study, therefore, concluded that debt ratio was a significant variable for making investment decisions on listed banks. Ideally, companies with a lower ratio are preferable by investors. These are true also in this study. Therefore, best performing banks must reduce the debt ratio as it shows the value proposition financed by assets.

3. There is a need for banks to work hard towards increasing revenue growth found to be a strong determinant of financial performance. Best performing banks have higher and increasing levels of growth in Revenues.
4. This research established that Dividend payment has an insignificant both inverse and positive relationship with bank performance. The dividend payment is not a good predictor of financial performance. Therefore, payment of dividend should not constitute a basis for investing in bank stocks. Therefore, this study's findings support the Miller and Modigliani Theory, which attaches the dividend's insignificant contribution to companies' performance.
5. With increased competition from banks, there is a need for the management of banks to be efficient in dispensing banking operations. They need to be dynamic, especially in the ever-changing business environment.
6. Investors in the banking industry should not use dividend payment to make investment decisions which may be misleading as not all banks paying dividends are doing well financially. Some banks are struggling with their finances. They declare dividends just to build up investor confidence.
7. The derivatives markets in the NSE has not been fully functional. Currently, the NSE has two traded derivatives, the Equity Index Futures and Single Stock Futures. There is a need to broaden the securities and exchange market by introducing other derivatives like options and swaps. Many companies and individuals have little information about their existence and way of operation. Therefore banks need to adopt the derivatives markets in order to increase the scope of their business. The study further recommends that the CMA involve commercial banks more in the ongoing rollout of the derivatives markets as this will offer them a channel for managing their financial risks.
8. Based on this study's findings, the Central Bank of Kenya should enhance the commercial banks' managerial capacity by conducting seminars and workshops on the emerging financial risks management practices that can enhance the bank's profitability.
9. Listed banks should design more robust credit analysis policies and loan administration. These will allow the commercial banks to expand their lending activities to individuals and small businesses, overcoming the challenges experienced due to the interest rate caps. Furthermore, commercial banks should strengthen their loan monitoring practices and integrate digital applications in recovery processes. A further recommendation is for commercial banks to put in

place measures for identifying and monitoring liquidity risks. The banks need to adopt a system that comprehensively monitors cash flows to ensure that the liquidity gap is not breached.

10. With increased competition, the need to be efficient in banking operation requires a continuous update of knowledge worldwide from the findings and the conclusions of this study. The following recommendations (managerial and policy-based) are presented to improve listed banks' risk management and financial performance at the Nairobi Securities Exchange.
11. There is a need for the NSE and CMA to increase the Kenyan financial markets' integration with international markets that are doing well. These will help in making it competitive in the global market. There is also a need to broaden and deepen Kenyan financial markets to offer alternative investment options attractive to shareholders.
12. There is a need to increase awareness on the financial derivatives market for investors to cushion them from increased volatility in asset prices in local and international financial markets;
13. NSE should also work towards availing more and helpful sophisticated risk management tools and strategies to help businesses and banks to manage and mitigate risks.

5. SUMMARY

The Kenyan stock market faces multiple challenges ranging from lack of knowledge, low-level capital market liquidity, low investor confidence, a low local competition to high vulnerability to shocks. In general, the sector is overwhelmed with inadequate information and awareness about the typical operations, functions, and roles of a stock exchange and CMA to the potential business entities and investors. The majority of Kenyans have little know-how about the NSE and CMA roles, and the market has not made significant efforts to market itself to reach potential investors or offer a variety of products that would attract different companies. These downsides attributed to financial and human limitations. Lack of awareness to the public presents a significant barrier to corporate and investor participation in the market.

The Kenyan stock market is highly vulnerable to market shocks, mainly because the techniques for determining share prices may cause a small-batch deal to affect the market capitalisation severely. The people and enterprises exhibit little confidence in stock markets' performance and feel that corporate governance is low quality since there are no publicly available corporate governance reports from both the NSE and brokers. Consequently, there are only a few players in the market, and any efforts directed towards market innovation are never appropriately cultivated and end up creating other challenges like market inflexibility and limited access to capital. While other markets worldwide are continually developing new products like derivatives, securities and availing options for funding and risk management, the Kenyan market has been significantly slow to do the same, leaving companies to rely on short-term money markets.

Low-level capital market liquidity is also a significant challenge plaguing the Kenyan stock market. Despite being the most liquid and active market relative to other East African markets in the sub-Saharan Africa region, the NSE is significantly less liquid with unpredictable prices and returns when viewed through the lenses of international standards. Low liquidity is most profound in secondary bonds as well as equity markets. Additionally, high incidents of "buy and hold" have been recorded among the dominant institutional investors.

The NSE has very few listings, and this is even more evident in recent years. For the past fifteen years, the NSE has had only traded stocks from 55 quoted companies. Currently, the NSE has listed only sixty companies despite there being hundreds of companies in Kenya. Limited listings negatively affect the supply of new equities and lead to the restricted use of the equity market as a

financing source. With a history of failure to attract new equity, the NSE’s biggest challenge is to increase the listings of medium-sized and large family businesses and state-owned companies in Kenya.

The general factors that limit share supply include the reluctance of the family business owners to dilute ownership, the costly and cumbersome process of making public offers and the tendency of eligible companies to feel that the risks associated with additional disclosure are never appropriately compensated through returns. High real short-term interest rates have surged the market, significantly reducing the demand for capital market tools and significantly overwhelmed domestic savings leaving behind short-term government securities. The effect was pronounced in 2001 when the treasury rate bill was at 12.6% and the inflation rate at 0.8%. The situation reversed, leading to a rise in demand for both equity and debt instruments. The NSE reports that the interest spreads are high with a current value of 13% with low deposit rates and high lending, a trend that has discouraged domestic savings and investment. Domestic savings valued at 10% of the GDP and insufficient to satisfy investment needs and generate significant demand for debt and equity instruments. Figure 11 shows a summary of this study;

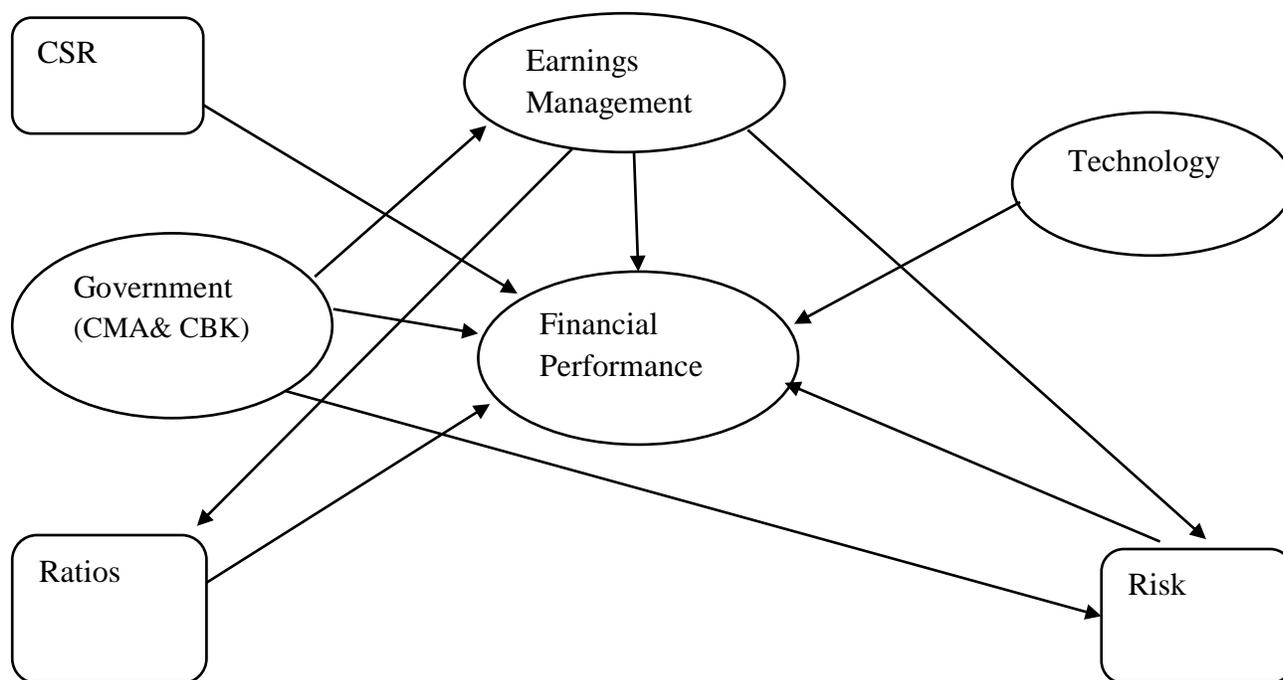


Figure 11. Summary of Study
 Source: Author Construction 2021

The figure shows a summary of all the factors that affect the financial performance of banks. Earnings management regulates the information displayed in the financial statements. It considers that the financial reports' information represents the fair value of the company's financial position. Earning management ensures that the company does not overstate or understate its financial position to deceive the shareholders and other potential investors. With the ever-changing global trends in technology and the internet, those companies or banks that successfully adopt new technology tend to have a competitive edge over applying traditional banking methods. Through the CMA and the CBK, the Kenyan government plays an essential role in regulating banks and the securities markets. The CMA regulates listed companies and lays down procedures and requirements for a listed company in the stock exchange market. Similarly, CBK plays a role in overseeing and regulating business operations in the banking industry. In general, it deals with the regulations of the financial institutions in the country.

The other variable of concern in banks' financial performance is CSR's role in promoting banks' financial performance. Most companies, both listed and non-listed, engage in charitable activities to the community, which increase the community perception towards these specific companies. Companies with successful CSR activities creates confidence in the general public. As a result, they may attract or retain existing customers. Lastly, banks operate in an environment full of risks. Both internal and external risks. Therefore banks that successfully develop a risk management plan can cushion themselves against any market shocks that may affect their operations.

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