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Financial Structure and Dividend Policy of Commercial Banks Listed at Nairobi Security Exchange, Kenya

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Abstract:- The Financial Structure of an organization is the composition of its equity, short-term and long-term debt, and internal funds that it has selected to run its operation. In business, the management must decide whether to use debt both short term and long term, retained earnings, equity, or a combination of both putting into consideration factors such as the cost of capital, business expansion rate, business risk, market condition, tax exposure, and dividend policy. The dividend policy determines the portion of the company's net profit paid back to the shareholders as their reward. Over the years we have seen a progressive increase in profit and increase in short-term debt, but the dividend policy is not proportional to financial structure and the profit over time. The main objective of this study was to assess the relationship between financial structure and dividend policy of commercial banks listed on the Nairobi Security exchange. The other objectives are to assess the effect of financial structure components this is Equity Capital, Short Term Debt, long-debt financing, and retained earnings on dividend policy. The study population comprised of 10 publicly listed commercial banks in Kenya as at the end of 2021. Secondary data was collected from the Capital market Authority, Central bank, and Nairobi Security Exchange over ten years from the year 2012 to 2021.The study adopted quantitative research design. The data was analyzed using STATA version 14.2, where the following tests were conducted on the panel data to get the best result; normality test, multicollinearity test, unit root test/stationarity test and Hausman test. The banks were analyzed based on census survey to get the best results-based on Random effect GLS Regression analysis after a Hausman test. The finding shows that financial structure had a significant effect on dividend policy of listed commercial banks. The results show that each variable, ordinary share capital had a positive significant effect on dividend policy for listed commercial banks, short term debt showed an insignificant positive relationship on dividend policy, long term debt had insignificant positive effect on dividend policy and retained earnings has a positive significance influence on dividend policy. The study Model showed that there exists an optimal dividend policy that satisfies the interest of both the managers and the investors. Hence the study supports the trade-off theory of capital structure, Agency Theory, pecking order theory and didn't support the dividend irrelevance theory by Modigliani and Miller proposition. Thus, each bank should have its own benchmark on financial structure ratios with a buffer beyond the minimum requirement as specified by the regulatory requirement and the Basel 111 accord based on the safety level. Therefore, banks should pay a dividend based on the optimal dividend policy. The results and analysis of the study have raised additional questions to be addressed in future studies. The study did not use moderating variable therefore further studies to be conducted using bank size, ownership structure and regulatory compliance as moderating variables to find out if similar results will be arrived at.

Keywords: *Financial Structure,Dividend Policy, Dividend Pay Out Ratio,Ordinary Share Capital Shortterm Debt, Long Term Debt And Retained Earnings.*

I. INTRODUCTION

➢ *Background of the Study*

It's reported that globally over a thousand firms report losses of two billion US dollars annually due to inappropriate financial structure, which has led to liquidation and bankruptcy (Ball,2013). The banking industry has experienced incredible changes in the recent past 40 years. This was attributed to challenges such as the global financial crisis that occurred in the 1980s and the recent financial crisis in the year 2007 to the year 2009, which led to the development of contemporary financial theories while trying to explain and solve the issues. Regulators were mandated to develop a new system to

maintain the steadiness of the banking sector across the world (Demirguc, Evansoff, & Kautman, 2011).

In the year 2004, the BASEL committee published the Second BASEL accord stating the minimum capital requirement to be adopted by international banks and its implication for financial stability across the globe. The first accord was introduced in 1988 and was adopted by more than 100 countries across the globe (Jackson & Emblow., 2001). This accord focused broadly on the requirement of credit risk. It had set forth the total risk-weighted capital of eight percent to be adhered to by each bank, failure to which shareholders will be forced to recapitalize the bank in question. Under such situations, the regulator may step in to liquidate the bank if the shareholders fail to act.

To achieve the minimum capital requirement, banks can issue: new equity, increase retained earnings, reduce asset value or switch to lower-risk assets through a portfolio mix to continue a constant asset level (Cumming & Nel, 2005). The initial accord came under substantial criticism after it had managed to increase the international capital level. This led to the development of the second accord to improve the imperfection in the previous accord. The second accord has three pillars. The first pillar focused on the minimum capital requirement. It prescribes the minimum capital that will cater to all the risks such as credit, market, and operational risks (Basel Committee on Banking Supervision, 2019). The second pillar entails supervisory responsibilities. It clearly describes the role of the supervisors and the power conferred to them regarding the banking industry. It also emphasizes risk management as envisaged in the first pillar. Generally, the second pillar creates a supervisory framework that gives authority to supervisors to review and regulate the banking sector. The third pillar focuses on market discipline. It puts forth best practices and guidelines for one to adequately show information to the public about visible risks, the risk profile, and the best mitigation practices in place (Basel Committee on Banking Supervisory, 2005). In Basel II, bank capital is divided into Tiers each having a stake of 50%. The first tier is the core capital which constitutes disclosed reserves and equity as disclosed by the financial statement of most countries. Second-tier capital is made up of supplementary capital, which include subordinated debt, hidden reserves, hybrid instruments, general provision, and revaluation reserves. The final tier is composed of the short-term capital, which covers the market risk or assists in the lessening exposure of market risk and temporary debt is a component of their third tier (Basel Committee on Banking Supervision, 2019).

After the global financial crisis of 2007-2008, the banking regulators made reforms known as the Basel III accord in the year 2010 which has been affected in the year 2019 to ensure stability in the banking sector, by tripling the size of the minimum capital reserve that banks globally must maintain against losses. Under this pact, the new capital ratio is 4.5 % with an extra buffer of 2.5% as compared to Basel II. They recommended that banks whose capital falls within the buffer zone should be restricted to offering discretionary bonuses and paying high dividends (Akkizidis & Kalyvas, 2018). The tough standards set under the Basel III accord are crucial to prevent another financial crisis from occurring. The fact remains the main source of capital for commercial basis is limited to the following: ordinary share financing, preference share financing, short-term debt, long-term debt, and retained earnings. These forms of the financial structure of any firm are not limited to commercial banks. Therefore, the board of directors must ascertain the dividend policy putting into consideration financial obligations and regulatory requirements. Dividend policy is among the major elements of the strategic policy of an institution since the firm's value is affected by the choice and extent of the policy (Lee, 2009). According to Pandey (2008), dividends reduce the liquidity of an organization and relatively increases external debt.

- *Financial Structure*

Banks play a critical role in our economy. To boost economic growth and efficient economy banks are used by the central bank as the means to stimulate economic growth and control the supply and demand of money. The need for short-term finances varies from time to time depending on the nature of the business operation and the economic situation. Hence it will be difficult to have a rigid policy implemented to proportionate financing through short-term loans, but on the other hand there exist policies regarding long term financing also known as capital structuring policies. At this juncture, a choice of debt and equity ratio and dividend is the main pillar of the policy. Banks and any other business can get long-term finances from various sources but are not limited to Share capital (Ordinary share and preference shares), Debentures, retained earnings, and Customer Deposits. All the long-term debts and equity construct the capital structure of the organizations and consolidating long-term and short-term forms the financial structure. The Financial structure of an entity is the composition of both long-term and short-term equity, debt, and internal funds that run its operation. In any entity, the management decides which capital mix and financial structure to adopt considering factors such as the cost of capital, business growth rate, financial threat, market circumstance, and tax exposure (Cziriki, 2011).

Modigliani and Miller (1958) stated that under perfect conditions, the value of the firm is determined by the capital structure and the level of leverage does not affect the market value. Capital structure theory paved the way for alternative theories of capital structure and empirical analysis as the crucial determining factor (Barclays *et al*, 1997). According to Modigliani and Miller (1958), under the frictionless market with the homogenous expectation, debt financing does not affect the value of a firm hence the irrelevance of the capital structure and financial structure decisions. The main objective or goal of an organization is the maximize the value to satisfy the shareholders. The use of debt fulfils the objective, hence a firm can uutilize100% debt capital to finance its business operation. If a business selects a specific type of finance only is likely to be

disadvantaged due to the existence of a capital market that will clearly outline the relationship between risk and return (McLaney, 2009).

To date, researchers continue to look for the optimal financial structure that an organization can adopt to finance its operation and realize the interest of both the shareholders and the management. The global financial crisis of 2008 and the consequential economic and credit crunch acted as a catalyst for researchers to focus interest in the banking sector. The emergency and increasing spate of globalization have trickled into the African banking industry hence they are in the same way affected by the changes in the banking sector globally. Regardless of the changes, banks are graded based on their profitability, several branches, accessibility, and customer service. The major function of banks is to consolidate surplus funds and avail them to the deficit sectors in the economy (Demirguc, Evanoff, & Kautman, 2011). According to Floyd *et al*, (2015) dividend policy plays a significant role in banks as compared to non-financial institutions. In the year 2015, Hirtle, showed that when the financial crisis began there were adjustments in pay-out through a reduction in share price and the dividends were unaffected.

In Africa, the banking sector development is the answer to economic growth. The study by Rehman (2008) recognized the slow growth and lack of progress and development in the banking sector, to the financing system and capital structure. Therefore, it is indispensable to examine the capital structure of banks and understand how they facilitate the managers and directors to make capital and dividend policy decisions (Demirguc, Evanoff, & Kautman, 2011).

In Kenya, the capital market is well developed as compared to our neighbouring countries. This was attributed to the institutionalization of banks during the colonial era and the changes that led to the expansion of the directive and the effectiveness of the Nairobi Securities Exchange (NSE). In addition, the establishment of the Capital Market Authority (CMA) has played a very important role in the administration and regulation of the money and capital market. The CMA fosters and reforms the market to be a more dependable source of long-term capital investment through the establishment of a central pool system, rule, and regulations put forth to ensure stability (CMA, 2013).

Monetary and fiscal policy regulators control the operation of commercial banks; they delineate the environment and conditions for operation. In Kenya, the minimum capital requirements and other capital requirements of commercial banks are harmonized by the Central Bank of Kenya. However, globalization has contributed a lot to the progression of financial systems that assist in improving transparency, discipline, and creation of financial infrastructure this poses a risky environment that requires close monitoring and evaluation by the regulatory bodies. On the other hand, managers are generally in a tight spot establishing the dividend policy putting into deliberation the agency problem; especially where there is, a difference in the interest of stakeholders that should be satisfied (Murekefu, 2012).

Dividends have a withholding tax of 5% and the capital gains are non-taxable. This makes most investors prefer capital gains to dividends. This poses a challenge to managers who have the accountability to maximize investments and profitability by use of cheaper capital in form of retained earnings and at the same time assure investors that the firm is committed to increasing their wealth. This part of a study on capital structure and dividend policy has received a lot of attention that has led to numerous theories trying to solve the dividend puzzles facing business entities worldwide (Andrew and Garry, 2001). These peculiar puzzles and agency problems are some of the factors that are attributed to the bearing of this study.

- *Dividend Policy*

There are quite a lot of theoretical and empirical research studies, which have played a greater role in the development of Capital structure and dividend policies since the formulation of the dividend irrelevancy proposition by Modigliani and Miller (1961) and the dividend relevance proposition by Walter and Gordon models. In a perfect market condition, Modigliani, and Miller claim that the value of the firm is not affected by the dividend policy. However, in an ordinary business environment, several factors in place should be put into consideration including but not limited to agency problems, taxes, information asymmetry, and transaction costs. This formed the basis for the development of a range of theories on dividend policy such as tax preference theory, agency cost, and signalling theory (Casey and Dickens, 2000).

John (2013) attributes that the dividend pay-out ratio plays a significant role in an organization. It indicates the company's financial stability this is sustainability and potential for its growth. Emerging and fast-growing companies tend to retain more earnings or issue lower dividends because they need to reinvest back in the business. Firms with unpredictable cyclical earnings usually do not maintain a stable dividend policy since in bad times it will be difficult for them to sustain high dividends. However mature and stable firms with predictable cash flow and retained earnings tend to pay high dividends. According to most investors, a stable dividend pay-out ratio is a sign of financial discipline (Hirtle, 2015). During the global financial crisis of 2007 to 2008, the dividend pay-out decision received an enormous reaction from the public. Despite the huge losses incurred most large banks in the USA maintained a stable dividend policy while other banks increased the dividend pay-out ratio until 2008. This behaviour can be explained by the desire to shift wealth from their creditors; hence, the banks were hesitant to slash dividends, fearing that it will cause uncertainty on their fundamentals causing a refinancing setback (Acharya *et al*, 2016).

In Kenya, there are no rules on the dividend policy ratio that a company should adopt. But the banking act stipulates under section 157 (1) that the board of directors is mandated to prepare a report about the company and include the amount if any to be paid as dividends. This report should be prepared and used in the annual general meeting (CBK,2020). The dividend policy issue has been a contest among finance managers given that they make decisions on the rate of dividends to be paid to the ordinary shareholders. But they must consider factors such as cash availability, debt obligations/covenants, and legal requirements. Dividend policy is not constant across the above-board regime, and it is an effective way to manage agency behavior (Andrew and Garry, 2001). Among the factors affecting the leverage of most firms is the dividend policy. Rozeff (1982) depicts that low agency cost and transactions cost as associated with a high dividend pay-out ratio. To the investor dividend policy is a signal of future increase in earnings, this will automatically influence the investor's decision regarding equity financing hence deduced cost of equity (Antoniou, *et al*., 2008).

The finance manager is guided by the dividend policy to ascertain how much dividend from the net profit should be paid to the shareholders for their share capital holding in the firm (Pandey 1999). Dividend policy can be in the following forms, the first one is the constant pay-out ratio this is where the firm agrees to pay a constant percent of the net earnings as dividends. The second form is the residual dividend policy, in this, case the firm pays dividends on the final amount after all the investments have been ascertained. So, the dividend is based on the net amount after tax and future investment but if all the profit is retained for investment purposes that mean the shareholder will earn nothing in form of dividends.

- *Relationship between Financial Structure and Dividend Policy*

During the 2007 -2009 financial crisis in the US, some banks curtailed dividends policy but most of the security firms continued to pay dividends despite the crisis. Some of the firms that letter faced financial distress also increased dividend pay-out during the same period (Acharya et al, 2012). In Kenya, there are eleven listed commercial banks as outlined in Appendix B. The Banking Act demands commercial banks to pay dividends on their shares or make a distribution after the capitalized expenditure has been written off. The dividend should be paid out of profit and not out of capital. However, due to tough competition, most financial institutions prefer to retain their profits to build a base for growth. Some banks are forced to pay low dividends to attain the minimum capital adequacy ratio to enable them to have a buffer to meet future commitments instead of borrowing funds (NSE, 2018).

According to the Banking Act (2015), the ratio between core capital and deposit of the total capital of a banking institution in Kenya should not be less than 8% of the total deposit liabilities. The CBK regulates the minimum ratio between capital and assets to be maintained by the banking institution. The core capital, the total capital, and the related weighted assets, which include total loans and advances, are usually measured against the weight of the balance sheet items. This aids in the classification and evaluation of the assets. The CBK usually assesses and prescribes the higher minimum ratio of the banking institution regarding its risk silhouette (Banking Act, 2015). The CBK also requires banks to maintain a minimum holding of liquid assets as prescribed from time to time. The liquid assets include the net bank balance, funds held at the CBK, net balance abroad, and the notes and coins legal tender in Kenya. Any institution regulated by the CBK should abide by these guidelines or shall be liable to penalties and interest charged on the deficiency daily (Banking Act, 2015).

- *Commercial Banks in Kenya*

The Central Bank of Kenya (CBK) system, the Companies Act, and the Banking Act funnel the banking sector in Kenya. With the aid of straightening policy and guidelines from the regulator's Kenyan banking system is more advanced compared to other East African countries. Even though Kenya's banking system is considered a benchmark among east African countries regarding access to banking services only 20%- 40% of the country's population have access to banking services (Kimenyi & Ndungu, 2009).

At the end of the year 2021, the banking sectors under the regulation of the central bank of Kenya had 42 financial institutions broken down into 41 commercial banks and 1 mortgage finance institution. The previous year we had 45 financial institutions, the number decreased because Charterhouse bank was under liquidation, Imperial bank was placed under receivership and Jami bora bank was acquired by a cooperative and bank, Nigerian owned bank acquired 100% shares of Transnational bank. There were several mergers and acquisitions that took place over the past five years, these changes were welcomed by the central bank since it was considered vital to diversify and strengthen the resilience of the Kenyan banking sectors (CBK 2020).

In Kenya, banks have been classified into three tiers, Tier 1 banks, Tier 2 banks, and Tier3. The classification is based on the customer deposit, asset base, and market share. Banking institutions were, however, confronted by several challenges, the first one being the urgent dictates that the Kenyan economy must substantially grow, income equally distributed across the country, and the large numbers of qualified but unemployed skilled labor workforce be absorbed into the economy (CBK, 2007). The second key challenge was the practical difficulties in lending to start-up businesses with no risk capital/collateral and limited management expertise and lastly, the adherence to increasing regulatory requirements aimed at maintaining the soundness of the Kenyan financial sector.

- *Performance of Commercial Banks in Kenya*

There are several reforms in the banking sector since independence (CBK 2012). In 1986 Kenya experienced a crisis in the banking sector, where several commercial

banks shrunken. To moderate the risk, some financial institutions were taken and merged into state banks. The CBK was forced to strengthen and look over banks. This led to the prologue of the deposit protection fund which provided that a deposit of up to one hundred thousand shillings should be guaranteed (Marietta, 2012).

In 1993, the Goldenberg scandal led to the closure of the Exchange Bank. Five years later the following banks collapsed due to poor management: Trist bank, Reliance bank, Bullion bank, and Prudential bank, National bank almost shrunken in the same period. Multinational banks such as the Standard Chartered and one state-owned bank, the Kenya Commercial Bank (KCB) dominated the industry (Marietta, 2012). It was estimated that at that time a total of Ksh. 280 billion was owned by the four largest banks; this is Barclays bank, National bank, KCB, and the standard Chartered Bank, which represented more than half the total value of assets owned by commercial banks during that period. Smaller banks merged and some were taken over to meet the minimum capital requirement set by the CBK. First American Bank Kenya Limited was taken over by the Commercial bank of Africa; Akiba Bank merged with East Africa Building Society (EABS) to form EABS Bank. A single shareholding limit is in a place where no one individual is allowed to hold directly or indirectly or beneficial interest of more than 25% of capital share in any banking institution in Kenya. To stabilize the banking sector, laws were enforced by CBK to regulate the capital base for banks in operation. The statutes provided that for the bank's balance sheet to grow, it has to increase deposit-taking to enable lending their lending activities. Stringent regulation led to the merger among smaller banks to form a stronger capital base (Marietta, 2012).

According to Kipesha & Moshi's (2014) study on the financial structure and firm performance of commercial banks in Tanzania, the choice of financing structure determines the sustainability of commercial banks. Nevertheless, several studies depicted that commercial banks that failed to make the right choice of their financial structure have ended up performing poorly regarding profitability and dividend pay-out ratio (Sarwar *et al*, 2020). There has been a tremendous change in Europe over the past 20 years, this has led to reforms but is not limited to accounting reforms, bank regulations, and several other transformations that have been observed.

In Kenya, banks' performance varies depending on the bank, some banks have been experiencing rising profitability while some have been experiencing a decline in profitability even some banks collapsed. The collapse of imperial and Dubai bank in the year 2015 and the following year Chase bank was attributed to the weak financial structure. In the same year generally, the banking sector experiences a 5 % and 10% decline in profitability respectively. (Machambi,2017)

- *Statement of the Problem*

The choice of financial structure and dividend policy has a noteworthy influence on the firm's value, the type of security, the form of allotment, and the ownership structure. In Kenya, most commercial banks have adopted varying dividend policies despite the increase in profit over the years and changes in financial structure. There has been a significant increase in customer deposits and profit. This instability in dividend policy is worrying to the investors and leads to agency problems since the sectors should show similar trends putting into consideration the recent trend in insolvency and mergers and acquisitions and the introduction of the Basel 111 accord. The decision-making by financial managers of an organization determines its financial structure and how the investment proceeds are disseminated among capital gains, interest, and dividends. Most financial managers are usually in a tight spot when determining the dividend policy for them to maximize the value of the firm. According to Chisti,, Ali and Sangmi (2013,) the financing decision on a financial structure and suboptimal financing decisions can lead to a collapse of a given corporation. According to Dung Viet Tran (2021) study on bank stability and dividend policy, they regarded dividend policy as a double-edged sword on bank riskiness. But at the same time paying dividend exposes the bank to a strict market disciple to meet BASEL accord regulation, when comparing to dividend payers and non-payers on their study they depicted that, payers are associated with decreased risk taking behaviour compared to non-payer, also excessive dividends increase the risk to a worse.

A great dilemma to scholars, business managers, and investors among other stakeholders is whether there exists an optimal financial structure and dividend policy that maximizes the stakeholders' value, as the core object of firms except public utility providers. Therefore, measuring the quality of any financing decision is to investigate the effect of such a decision on the firm's performance and in particular its impact on dividend policy (Gill *et al.*, 2011). Several theories and empirical studies conducted in this area are not conclusive, although the capital constitution is considered a vital factor to determine dividend policy. There is a limited study that has tried to analyse the effect of financial structure on the dividend policy of listed commercial banks in Kenya. Stringent regulation by regulatory bodies in Kenya adds to the difficulty in determining the financial structure policies and dividend policies of listed commercial banks, especially in the banking sector; since the financial structure of banks holds opposing views from other sectors and we cannot use the results from other sectors to conclude.

Hence, this study will assist in viaduct the fissure that exists and aid bank managers, regulators, and investors to understand the effect of financial structure and dividend policy in a bid to solve agency-related problems. This will enhance the steadiness in the banking sector regarding the financial structure and investors' contentment and it will assist to minimize agency risk between managers and stakeholders in the banking sector.

➢ *Objectives of the Study*

- *General Objective*

The main objective of this study was to assess the effect of financial structure on the dividend policy of listed commercial banks in Kenya.

- *Specific Objectives*

The specific objectives of the study included:

✓ To determine the effect of Ordinary Share capital on the dividend policy of listed commercial banks in Kenya.
✓ To assess the effect of Short-term debt Financing on the dividend policy of listed commercial banks in Kenya.
✓ To Evaluate the Effect of Long-term debt financing on the Dividend Policy of listed commercial banks in Kenya
✓ To find out the effect of Retained earnings on the dividend policy of listed commercial banks in Kenya.

➢ *Hypothesis*

The following hypothesis was tested in this research:

- Ho_1: Ordinary Share capital has no significant effect on the dividend policy of listed commercial banks in Kenya.
- Ho_2: Short Term debt financing has no significant effect on the dividend policy of listed commercial banks in Kenya.
- Ho_3: Long-term debt financing has no significant effect on the dividend policy of listed commercial banks in Kenya.
- Ho_4: Retained earnings financing has no significant effect on the dividend policy ratio of listed commercial banks in Kenya.

➢ *Significance of the Study*

- *Shareholders*

Shareholders and potential investors will find it valuable to invest in listed commercial banks. Most shareholders and investors before investing their wealth usually consider stability and expected returns on their investments, which are usually measured by return on capital, equity, and asset. This study will chip into aid investors to understand the financial structure of commercial banks and be able to calculate approximately the returns on investment based on the financial structure.

- *Bank Managers*

In Kenya, we rank bank managers based on their bank's performance by comparing dividend policies. Thus, overlooking the fact that each bank has its financial structure and investment opportunities, therefore this study will assist the administration with knowledge on how best they can reward the owners, and actors based on the financial structure composition. It's better to acknowledge that each bank has a unique financial structure hence they require the dividend policy best suited to them but in the benchmark of the international best-performing mind banks.

- *Regulators*

This study offers substantiation to the regulatory bodies and the government in policymaking on financial structure and setting standards to ensure the banking sector is unwavering. They will also find it interesting in formulating policies that steer toward the financial structure that optimizes dividend policy and enable the listed commercial banks to comply with Basel 111 accord regulations and IFRS 9. A good example is a recent case in 2020 when the country was hit by covid 19 pandemic the central bank of Kenya issued a directive on dividend policy, the economic uncertainties were demanding a higher capital buffer before a lender was cleared to pay billions of shillings to shareholders. The new directive demanded banks get clearance from the industry regulator before declaring dividends for the year 2020 the directive was pegged on the capital buffer due to covid 19 uncertainties. This situation forced several banks to revise their dividend policy. In this case, the regulator coupled with the bank's risk aversion, the idea was to break the bank's records of incremental dividend policy.

- *Scholars*

This study also contributes to empirical study and adds more to the existing literature regarding the financial structure and dividend policy in the banking sector. The finding of this study will be made available to the public to attract more development and critics. One will be able to know the relationship that exists between financial structure and dividend policy among the listed commercial banks in Kenya. Further studies can be done in this area to see if the results are consistent or not This will provide insight regarding decisions and gaps identified in financial structure and dividend policy in Kenya. This paper will be available to any student or researcher who is interested to advance and refer to future studies.

➢ *Scope of the Study*

The study focused on the financial structure and dividend policy of public listed commercial banks in Kenya over 10 years, from 2012 to 2021. The study focused on ordinary share capital, short-term, long-term debt, and retained earnings as study variables. A ten-year period is adequate for a study to conduct a conclusive study and able to establish financial patterns and trends as upheld by Ishaya and Abduljeleel (2014). In the year 2020 due to covid 19 pandemic, there were a lot of uncertainties that made the central bank of Kenya approve the financials of commercial banks before dividends were declared. This was because of the buffer margin that was to be created for the uncertainties hence it clearly outlines the role the core capital (buffer capital) plays when there are uncertainties and instability in the economy.

The study only focused on listed commercial banks since they are highly regulated, and the study might yield a varied result if the population was comprised of both unregulated and regulated commercial banks. The reason why the study considered commercial banks is because in Kenya commercial banks play a significant role in economic development compared to other banks also other

investment and mortgage banks depend on the commercial for the provision of short-term and long-term debt. Also, they must present the audit statement to the public for review hence a reliable source of data.

➢ *Limitations of the Study*

The ten years period of study there has been changes in the banking system which entail but not limited to mergers and acquisitions, statutory receivership that led to missing information especially for banks like NIC bank that merged with NCBA bank, KCB bank acquired National bank, hence the study population was limited to only ten listed commercial banks in Kenya. The study was only limited to financial structure but there are other factors that may affect dividend policy which needs to be considered in further studies in the same area. Also, there is limited research comparing financial structure and dividend policy. The sample size of 10 listed commercial banks has challenges or normality due to small sample size.

➢ *Delimitation of the Study*

The study focused on all the listed commercials banks in Kenya, these are the largest banks in Kenya and are the main financier of other non-commercial banks. Out of the eleven listed commercial banks the study eliminated NIC bank which merged with NCBA bank. So, the total number of banks under this study were reduced to ten. Eliminating one bank doesn't affect the representation of the whole industry. Hence the effect of financial structure on Dividend policy of listed commercial banks is well represented.

II. LITERATURE REVIEW

➢ *Introduction*

Financial structure and dividend policy resolution is a contentious debate in the field of corporate finance that scholars are incessantly investigating using diverse approaches and applying different modus operandi in various markets and industries. Previous studies on financial structure, capital structure, and dividend policy are distinct from each other and were affected by common factors (Modigliani and Miller, 1958). Several inconclusive responses and questions resulting from pragmatic studies, which combine both financial structure and dividend policy theories.

The purpose of this literature review is to understand the outlook of research that has taken place in the field of financial structure and dividend policy, capital structure, financial structure, and dividend policy are indulged as two sides of the same penny. Dividend policy and financial structure are continuums that control allotment between shareholders/ investors and managers since the cross-sectional variation in both theories is based on related factors. Balanced control flanked by investors and managers plays a significant role in minimizing divergent thinking which can create disparity in the value of available opportunities or projects in the organization (Sindhu, 2014).

➢ *Review of Theoretical Literature*

- *Modigliani and Miller Theory*

Modigliani and Miller (1958) formulated the opening theory that led to the development of the capital structure and financial structure theories. The theory had three propositions. The first proposition of 1958, states that the firm's debt and equity ratio does not influence its market value given definite conditions/ assumptions. The second proposition of 1961 stipulates that firm leverage does not have any effect on the working average price of capital (Roberts, 2002). Whereas, the last proposition of 1965, established that the market price of the firm is not affected by the dividend policy. The theory was formulated based on the assumptions that there is no transaction charge, the market is faultless, there is information equilibrium, -and there are no taxes and bankruptcy expenses. According to this theory the firm's market value is not affected by the capital structure but rather the market value depends on its capability to generate income using its resources (Chen, Jung, & Chen, 2011).

The first proposition stipulation that there are no taxes and assumed that shareholders value the firm based on the cash flow barely taking into contemplation how the firm is financed since debt funding, in this case, lacks interest deductibility payback. Therefore, most firms will be indifferent to the sources of capital they may choose (Luigi & Sorin, 2012). The second proposal assumes that the association between the cost of equity and the cost of debt is linear. The cost of equity is elevated compared to the cost of debt; creditors have a preference during dissolution as compared to Shareholders. Hence, the higher the fraction of debt in the capital structure increases the cost of equity but the working average cost of capital will remain steady/ is not affected, Modigliani and Miller's third proposition concludes that the dividend pay-out a firm chooses to follow does not affect proceeds and the present price of shares given a firm's investment strategy (Chen, Jung, and Chen, 2011).

This theory only made sense under the perfect market condition where there was no transaction cost, no bankruptcy costs were incurred, free access to information to insiders and shareholders, and no taxes. The components of the financial structure (Retained earnings, Long & short-term debt financing, and ordinary share capital) are irrelevant and did not influence the value of the firm and dividend policy (Fama & French, 2002). In the ordinary business environment, the assumptions made are realistic since there are transaction charges, bankruptcy expenses, taxes, and information unevenness hence rendering the theory unfeasible. This study considers a realistic environment where transaction charges, taxes, and that information lop-sidedness exists.

Modigliani and Miller went further to illustrate realistic situations to show the dividend irrelevance proposition. Where they squabble that irrespective of the dividend policy, investors have the wherewithal to make cash flow from the stock depending on their cash desires.

Hence, a shareholder can take advantage of the arbitrage to sell their shares to fill the fissure left by the dividend issued. At the same time, in this case, there is no cash requirement investors can reinvest dividends in stock. Based on this argument Modigliani and Miller stated that the dividend policy of a firm has no effect on the investment decision by the investors. On the arbitrage argument dividend, the issue of dividend is offset through borrowing. When dividends are issued stock value reduces and nullifies the gains made by the investor (Modigliani & Miller, 1963). Based on the study by Frank and Goyal (2003) on Testing the pecking order theory of capital structure they argue that Modigliani –the Miller theorem did not provide a realistic explanation of how firms finance their business operation, but it provides a means of finding reasons why the financial structure is very crucial.

This theory was relevant to this study since Listed commercial banks ought to use alternative financing sources and a mix of both short-term and long-term liabilities. The use of both long-term and short-term debt helps commercial listed banks to enjoy the benefit of a tax shield and enhance credit creation to enable the banks to proceed with their major activity of lending. This study points evaluated the outcome of financial structure components as per the study objective on a dividend policy of listed commercial banks in Kenya, which can either hold up the theory or invalidate it since the theory is based on several postulations that are unrealistic. It also provides a non-biased perspective on the relationship between financial structure and dividend policy based on the augment that financing decisions are irrelevant to the organization this offers a platform for inclusive empirical analysis between the study variables.

- *The Trade-off Theory of Capital Structure*

This theory was formulated by Myer, (1984), it stipulates that the optimal capital structure is a swap between an interesting shield and the price tag of financial distress which can be articulated by an equation {V= Ke + PV (Tax shield) –PV (Cost of Financial Distress)}. This theory that initiated from the work of Modigliani and Miller (1963) after a lot of critics based on the perfect market condition and the irrelevance theory. By putting into consideration, the existence of tax in the real-world and arbitrage happenings are not always sustainable. According to Modigliani and Miller's model, a lift in borrowing results in a high chance of financial distress (Roberts, 2002). A firm may not recognize the benefits of a tax shield if there is excessive borrowing. The cost of financial distress increases with an increase in the debt level based on the intensity of financial distress. Therefore, there is an optimal debt ratio, which makes the most of the value of the firm (Masidonda, 2013)

This theory is best suited to explain the difference in financial structure among industries, but it does not explain why some profitable businesses have a low leverage ratio contrary to the trade-off proposition on tax shield and profitability. The theory asserts that there is an optimal financial structure when a given firm sets a target debt and equity proportion at a point where costs related to financial distress and bankruptcy cost are equal to the benefit of a tax shield (Myers, and Majiluf,1984). According to the study by Al Tally (2014), profitable firms are associated with low bankruptcy costs and hence a higher leverage level. This is in line with the trade-off theory which stipulates that an optimal debt ratio is determined by evaluating the costs related to debt financing alongside the benefits that will be attained if debt financing is utilized.

Empirical studies have found tangible evidence that supports this theory Frank & Goyal (2008). Other studies that support the theory include but are not limited to, (Deesomsak *et al,* 2004), (De Han & Hinoopen, 2003), (Karadeniz *et al* and Huson *et al* 2008) studies on financial structure determinants are in favor of this theory since it offers more explanatory powers compared to other theories on financial structure. The trade-off theory holds that firms can only be financed by debt up to an optimal point where the tax shield offsets the cost of debt financing. This theory however does not explain the conservative business nature. There is no elaboration on the tax bit of theory and its effect on financial leverage. According to Owalobi & Anyang (2013), the current tax margin correlates to the additional cost of the present value of the financial distress. According to Abdelja *et al* (2013) study depict that a percentage change in preferred financial structure affects the cash in each period. The theory assumes that there is an observable target that real-life life is difficult to ascertain.

Dynamic trade-off theory assumes that payment in form of cash either as interest, dividend, or taxes affects the organization. The dynamic model prefers tax savings compared to bankruptcy costs. In the cases of uncertainty firms' realty is different from adverse market shocks, but they need to rebalance without incurring additional charges therefore a target debts level takes advantage of tax savings The dynamic theory fails to consider transaction cost though it argues that tangible assets protect a firm from taxation burden hence a reasonable leverage debt ratio needs to be considered. Firms with more intangible assets are likely to collapse in case of liquidation for that case they need to capitalize on share capital. This theory plays a significant role in determining the returns on investment as a shield against tax burden. This theory suggests that debt finance is mostly associated with tangible assets while equity capital is mostly associated with Intangible assets (Acharya, 2015). This theory is relevant to this study since it provides an explicit understanding of the effect of short-term and long-term debt financing on the value of the firm and the tax benefits associated with borrowing. Furthermore, the theory addresses the issue of agency cost as well as financial distress regarding financial structure. The theory also tries to show the relationship between how the financial structure on how debt can negatively bring about urgent costs associated with both short-term and long-term financing. This is in line with our objective on the effect of both short-term and long-term debt on dividend policy.

- *The Pecking Order Theory*

The concept of information unevenness was not considered in the trade-off theory. This aspired Myers and Majiluf (1984) to put forward a pecking order theory, which puts into contemplation the divergence between the insiders and outsiders regarding information asymmetry. However, this theory does not take into consideration the notion of optimal capital structure. Furthermore, the theory also considers the signalling effect (Mostafa and Bore Gowda, 2014).

Pecking order theory emerged as an advance on Modigliani and Miller's framework where Myers and Majiluf (1984) introduced unevenness information in the framework. In the asymmetric context, managers are held to be acquainted more with the prospects of the firm than shareholders do, and any action they undertake acts as a signal of the firm. These arguments act as the basis of this theory. During the period of the share price declaration, the price of the stock generally declines since most investors suppose that managers will issue overpriced stocks. Therefore, most firms will desire to issue debt given that this will facilitate the sourcing of funds without sending appalling signals in the market. Since these obligations can result in an information predicament with a high probability of default. If a manager is pessimistic, he will issue debt before the information goes to the public (Mercado and Willey, 2005).

The foregoing perspectives led to the pecking order theory, which states that when making a financial resolution, internal funding is ideal over external funding. Moreover, in case there is a call for external financing, debt should be issued first, and equity should be considered as the last remedy. This theory gives the impression that there is a low debt ratio in lucrative firms since they will use internal funding. The advantage of this theory over the trade-off theory is that it can explain the diversity in capital structure in a certain industry (Juma, 2008). In the firm's capital structure decisions on a transaction, charge play a noteworthy role. This charge is linked with acquiring outside financing at a high cost as compared to internal funding. This hypothesis regards the market-to-book ratio as a good measure of investment opportunity. Mostafa and Bore Gowda, (2014) who allude to Myers's work of 1984 later made some adjustments to the pecking order theory. They proposed that firms should issue shares to take advantage of filling a monetary slack in cases where there is minimal information asymmetry. According to Myers, firms can issue more flexible debts. Hence, emergent firms should maintain a lower level of debt (Roberts, 2002). Consequently, if the firm's debt level surpasses its debt capacity this will hurt the value of the firm. Therefore, based on the above notion it can be concluded that the target debt proportion as explained in the trade-off theory is like the target debt relative amount according to the trade-off theory. The only option to distinguish the two theories based on a given firm is to check during the initial public offering (IPO) of shares if all the internal sources are exhausted or if the internal sources are for an investment project, then one can conclude that the firm is following pecking order hypothesis (Baker & Wurgler, 2007).

The study by Baker and Wurgler (2007) on the market timing and capital structure findings depicted that the pecking order theory aims to make certain that the tenure structure of the organization is maintained and make sure managers enjoy the buoyancy of the shareholders. The shareholders determine the deeds of managers. Hence, the study demonstrates the best relationship between reserve funds in the banking sector and the dividend policy that minimizes agency costs. Like any other theory, some studies support others oppose it According to Fama and French's (2001) study on disappearing dividends, they argue that share capital is preferred over debt. Since the theory is supported and opposed with equal measures firms should establish their financial structure according to their best choice of financing hierarchy. Pecking order theory plays a significant role when determining the financial structure of an organization which determines the profit margin of the firm.

According to the pecking order financing structure, the internal sources come first followed by low-risk debt financing, and finally share financing (issuing shares to raise capital). According to the previous empirical studies, financiers of a long-term debt require collateral in form of fixed assets, and this is a demerit of firms characterized by intangible assets hence the need to consider internal sources first as suggested by this theory (Githire & Muturi, 2015). A study by Amjed (2006) on the impact of financial structure on firms' performance in the Pakistan setting, concluded that most profitable firms prefer to employ Internally generate funds over the long-term debt financing their conclusion is inconsistent with the pecking order theory. Based on this theory which is in line with the study variables Ordinary shares, Retained earnings and long-term debt financing regarding dividend policy. The finding and conclusion can either support this theory or not.

- *Agency Theory*

Jensen and Meckling (1976) developed the Agency theory. They based their discussion on ownership and control problems. The managers of other people's resources cannot be expected to watch over if they have their interest in the firm. In this case, managers will put their interests and sacrifice the interest of the owners hence this results in an agency problem which can best be described as a clash of interest between managers and shareholders (Mercado and Willey, 2005).

Allen *et al* (2012) depict the connection between debt financing and dividend policy. They based their study on loan precise data to document a noteworthy relationship between dividend policy and the intensity of the firm's dependence on debt funding. They concluded that debt financing protects the veracity of shareholders' claims on the assets of the firm hence dividend pay-out is restricted (Roberts, 2002). Furthermore, dividend declines with increased monitoring by the relationship bank, which is an effectual governance mechanism. Monitoring of banks and

a good corporate governance system are the harmonizing mechanism to resolve the agency dilemma of the firm. Using debt financing to pay dividends bores the agency problem between owners and managers. The higher the debt level associated, the fewer dividends allotment.

Findings in the study by Casey and Theis (1997) on the petroleum sector support the notion that dividend policy is strongly related to agency quandary and risk, and neither the size nor the investment opportunities. Also, the study by Casey and Dicken (1977); maintain that investment opportunities and agency problem are the main determinants of dividend policy and not the risk magnitude of the firm. Mercado and Willey (2005) studied the effect of profitability, size, life cycle, investment prospect, and agency problem on dividend pay-out ratio using a logit regression model. Their result showed that agency reduction and all the other variables outlined had a constructive effect on the dividend policy (Mercado and Willey, 2005).

In the year 2009, Al Kuwari carried out a study in the financial sector listed in the Saudi Arabia security Market, his findings depict that capital structure, profitability, shareholding, and the government had an affirmative effect on the allotment dividends end and an unconstructive effect was associated with the debt level. He avowed that firms issue dividends to plummet agency problems and stabilize the reputation of the firm. (Al Kuwari, 2009). Kinfe (2011) studied foreign-owned commercial banks in Lebanon for a period of five years (2000 – 2005) and establish that there was a direct impact on the proportion of ownership in the banks and the capital structure composition on dividend allotment. However, earnings from the same banks had an adverse consequence on dividend sharing. Hence, he concluded that this happened since most banks in Lebanon take into consideration; agency problems, last year's dividend, and liquidity when making dividend policy resolutions (Kinfe, 2011). Given the agency philosophy, the optimum capital structure is based on disbursement among several capital structure composition like equity, debts, and other securities and that let the settlement of conflicts of interests among the capital benefactors (shareholders and debt providers) and managers hence the reason why the study considered ordinary share capital, short term debt, retained earnings and long-term debt the findings either support or contradict this theory.

- *Bird in Hand Theory*

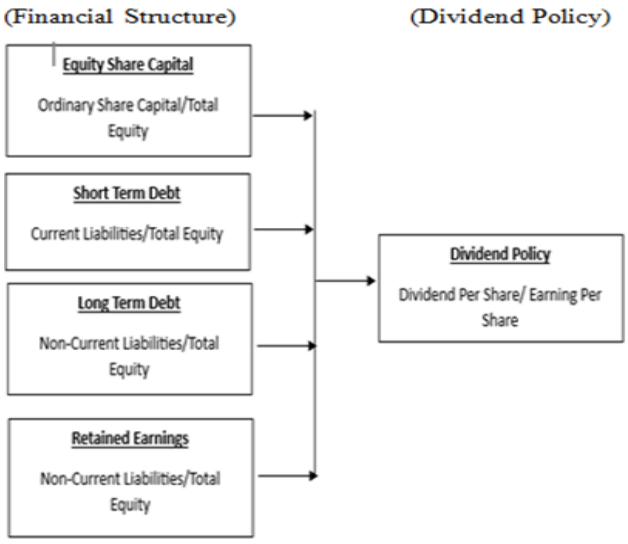
Myron Gordon and John Lintner developed the bird-in-hand theory as a contrast to the Modigliani-Miller dividend irrelevance theory. The dividend irrelevance theory maintains that investors are indifferent to whether their returns from holding stock arise from dividends or capital gains. Under the bird-in-hand theory, stocks with high dividend pay-outs are sought by investors and, consequently, command a higher market price. Graham and Dodd (1934) contended that dividend pay-out on average has four times the impact on stock price compared to retained earnings. This was the first empirical support for the Bird-in-hand hypothesis. They asserted that dividends are worth more than retained earnings to investors citing the uncertainty of future cash flows. His theory assumes investors as risk-averse preferring predictable return cash dividends now rather than capital appreciation in the future. In a world of uncertainty and imperfect information, dividends are valued differently than retained earnings (or capital gains). Investors prefer the "bird in the hand" of cash dividends rather than the "two in the bush" of future capital gains. Increasing dividend payments, all else remaining the same may then be associated with increases in firm value (Malkawi, Rafferty & Pillai (2010).

Studies that provide support for the BIHH include Gordon and Shapiro (1956), Gordon (1959, 1963), Lintner (1962), and Walter (1963). Modigliani and Miller (1961) criticized the BIHH and argued that the firm's risk is determined by the riskiness of its operating cash flows, not by the way it distributes its earnings. Consequently, M&M called this argument the bird-in-the-hand fallacy. Bhattacharya (1979) further suggested that the reasoning underlying the BIHH is fallacious. Moreover, he suggested that the firm's risk affects the level of the dividend, not the other way around. That is, the riskiness of a firm's cash flow influences its dividend payments but increases in dividends will not reduce the risk of the firm. Empirical support for the BIHH as an explanation for paying dividends is generally very limited, and the argument has been challenged especially by Modigliani and Miller (1961) who argued that the required rate of return (or the cost of capital) is independent of dividend policy, suggesting that investors are indifferent between dividends and capital gains.

➢ *Conceptual Framework*

The conceptual framework confers ocular representation of the principle, concept, and theory. The variables presented are interconnected with each other.

❖ Independent variable
❖ Dependent Variable



(Author, 2023)
Fig 1 Conceptual Framework 1

The study operationalized the financial structure as a proportion of equity capital, Short-term debt, long-term debt, and Retained earnings to total equity. The dividend policy ratio was operationalized as dividend per share to earnings per share.

- *Equity Share Capital*

Equity financing is comprised of share capital (both authorized and issued). The banking industry in Kenya Capital is divided into three tiers. The first tier is the core capital that encompasses disclosed reserves and equity, which are the only stuff, normally disclosed in the financial statement of most countries as stipulated by Basel guidelines. Second-tier capital is composed of complementary capital that constitutes the reserves, which are concealed, hybrid instruments, general provisions, subordinated debt, and revaluation reserves. The final capital tier is comprised of the short-term capital, which covers the market risk or assists in the alleviation of exposure to market risk short-term obligation is a constituent third-tier tier (Basel Committee on Banking Supervision, 2005).

The recent 2008 financial crisis which started with the financial institution in the US, lead to a critical analysis of the financial statement of most banks to identify the major factors that lead to this. The following factors were examined, lending, cash flow, market risk, and equity capital as a cushion to absorb the operating loss. Regulators were compelled to respond after several banks collapsed. In the US the federal reserve lowered shorter interest to ease access to financing some banks such as AIG were bailed out. The same year there was a reduction in corporate tax, individual tax refund, and adjusting relevant causes in the law to increase the probability of refinancing (Acharya, 2012).

Regarding equity capital Basel 111 accord recently enacted shows that there is a rise in tier 1 (CET1) or common equity to risk-weighted assets from 6 percent to 7 percent in the years 2015 and 2019 respectively. The federal reserve put it mandatory for banks to meet the minimum financial leverage ratio which is the Tier 1 capital ratio also maintain a minimum supplementary capital buffer of 2.5 percent (Cziraki *et al*, 2016).

- *Long-Term Debt Financing*

Debts that are payable or have an amortization of more than 12 months are regarded as long-term debt. According to the study by Burgstra (2012) on the effect of capital structure and profitability n The Netherlands, his finding depicted that there was a strong relationship between long-term debt and firm profitability due to stable cashflow and regular repayment period, they adopted descriptive research design to arrive on the above results.

Capital structure is also affected by the relationship between debt and equity. According to Jensen (1986), firms use debt financing to reduce agency costs of free cash flow. The cash flow crisis often arises when the management invests the fund beyond the optimal level. This, in turn, leads to enhanced resources under their control therefore more rewards in the form of bonuses, which are associated with the growth, and size of a given organization. The use of debt helps to curtail unnecessary spending. The board of directors' role in monitoring management investment resolution can be realized using a similar principle. Correspondingly, the shareholder can monitor the management of the firm to shrink conflict of interest (Brailsford et al, 2002).

Borrowing is the main source of funds for commercial banks after deposits. Commercial banks may borrow from other banks, the Central banks, or their head office (for international banks). Banks experiencing deposit challenges can borrow from other banks instead of disposing of short-term assets. The extent to which a bank can normally increase its liabilities to other banks is set within its credit limit. When an individual bank in the domestic system gets into a financial crisis, other banks tend to support it in the hope of avoiding the contagious effect of failure on their operations (Acharya, 2012). Among the factors that influence the leverage of most organizations is the dividend pay-out ratio. According to Rozeff (1982), the higher the dividend pay-out ratio the lower the agency and transaction charges which have motivated firms to prefer equity funding. Payment of dividends acts as a signal for future raises in profit, which in return leads to a decrease in the cost of equity funding (Anntoniou *et al*., 2008).

- *Short-Term Debt Financing*

Deposits are considered among the most important factors that influence the profitability and the going concern of banks. According to Choudhry (2011), bank deposits are restricted to cash deposits and are confidential with limited restrictions. Deposits can be classified into Current, term, and saving deposits respectively. On-demand and Current deposits are withdrawable at any given time depending on the customer's needs. Saving deposits accrued interest but it can also be withdrawn at a customer's will. On the other hand, a time deposit is flexible and cannot be cashed out by check. deposits are considered the main source of finance and the cornerstone. Customer deposit financing provides more capital for short-term investment opportunities, but this depends more on the demand and supply of money in the economy (Acharya, 2012).

Short-term borrowing has often been blamed for precipitating financial crises. We argue that while the empirical association between a financial institution, or countries, short-term borrowing, and susceptibility to crises may exist, the direction of causality is often precisely the opposite of the one traditionally suggested by commentators. Institutions like banks that want to enhance their ability to provide liquidity and credit to difficult borrowers must borrow short-term. Similarly, countries that have poor disclosure rules and inadequate investor protections, have limited long-term debt capacity, and will find their borrowing becoming increasingly short-term as they finance illiquid investments. Thus, it is the increasing illiquidity of the investment being financed (or the

deteriorating credit quality of borrowers) that necessitates short-term financing and causes the susceptibility to crises (Floyd & Skinner,2015).

Once illiquid investments have been financed, rather than making the system more stable, a ban on short-term financing may precipitate a more severe crisis. Even a priori, a ban is not without adverse consequences – policymakers must trade off the costs of decreased credit creation and investment against the benefits of greater stability. A ban on short-term debt often deals with symptoms rather than underlying causes. Studies have shown that interbank lending is liable to be associated with fewer dividends as compared to borrowing from depositors who offer external finance (Farre-Mensa *et al*, 2015).

- *Retained Earnings Financing*

Finance managers have a responsibility to ascertain the percentage of profit to be retained back into the firm. Retained earnings are considered as per financing or capitalization. Retained earnings are defined as part of the net income of a given business entity that has been retained and not paid out as dividends and added to cumulative retained earnings from the prior period. The fund is retained to settle debts and to be utilized for growth opportunities. Retained earnings are considered part of shareholders' equity they comprise venue and capital reserve (Bandyopadhyay & Barua, 2016). Revenue reserves in most cases are usually utilized to compensate for the drop in profit for business sustainability While revenue reserve acts as an affordable source of financing and is used for credit rating when seeking external sources of capital.

In India, the growth of firms is highly associated with retained earnings. There is no Cost such as bankruptcy and transaction cost related to retained earnings hence the reason why retained earnings are considered the main source of finance. Future investment and growth opportunities create a high demand for internally sourced funds. According to the study on "Firm Growth and Retained Earnings Behaviour" in India by Ravi Thirumalaisamy in the year 2013, his study comprised 149 profit machining companies in India, tan and the focus were on the various industry for the period 1996 to 2010 regression and correlation results show that retained earnings highly depend on the amount paid out as divided they concluded that retained earnings are highly influenced by growth opportunities of most firms in India. The dividend policy depends on more current and future earnings of the firm. According to DeAngelo *et al* (2006), there is a high correlation between dividend policy and retained earnings to equity ratio. Hence the reason why retained earnings are considered among the study variable.

- *Dividend Policy*

Martono and Hardjito (2002) stated that dividend policy is a part that cannot be separated by the financing decision of a firm. Mardiyati *et al* (2012) stated that dividend policy is often considered as a signal for investors in assessing the good or bad of a corporate because the dividend policy can influence the share price of a given firm. Dividend policy can either be measured using dividend yield or dividend pay-out ratio. Dividend policy will be measured using the dividend pay-out ratio computed as earning per share to dividend per share ratio. The dividend pay-out ratio shows the percentage of profit that is retained by the business to finance available investment opportunities and the other percentage paid to the investors as a reward for their investment (Putri & Rachmawati,2018).

Also, a study by Senata (2016) illustrated that policy must be taken by management to decide whether the profit obtained by the firm during a period will be shared to all or divided partly for the dividend and partly not shared in the form of suspended profit. Dividend policy can be gotten from the values of dividend pay-out ratio (DPR). This ratio shows the percentage of company income to be paid to shareholders in the form of dividend (Meidiawati and Meldawati, 2016). The ability of the firm in paying dividends can affect the value of the company. The higher the DPR then the share price will be higher which means the value of the company is to be also higher. A study by Putri, and Rachmawati, (2018) on the effect of profitability, dividend policy, debt policy, and firm age on firm value in the non-bank financial industry measured dividend policy using dividend pay-out ratio which was ascertained as earning per share to dividend per share. Some studies as outlined in the literature review also used dividend pay-out ratio. This forms a basis why the study will use dividend pay-out ratio to measure dividend policy.

➢ *Empirical Review*

According to a study on the relationship between bank leverage ratios and measure of bank assets risk by Gropp and Heider (2008) the finding depicted that there exists a negative relationship, Flannery (2000) had undertaken a parallel study on the 20 largest U.S banks the finding did not favor the argument that bank leverage decision is determined by market demands. Several studies have been undertaken to analyze variations in capital levels across banks over time. Up to now, they have not established a beyond-question finding but Flannery and Rengan (2008) presented more compelling evidence against Equity cushion. Their finding showed that there is no correlation between bank asset volatility and excess book capital over the cushion (Required Capital); this is not consistent with the regulatory view that the purpose of a cushion is to guard the banks against unexpected risk regarding regulatory capital prerequisite. These studies show the significance of being cautious when making elucidation regarding the construal of the negative relationship between asset risk and bank leverage. Since well-capitalized banks may take less risk, echo the risk preferences of managers or shareholders.

Several studies have been undertaken regarding determinants of dividend policy in diverse industries across the globe. According to Pandey and Bhat (1994) on the determinants of dividend policy in the Indian banking diligence, they applied Linter's replica. Their findings depicted that the present earnings and the preceding

dividend pattern were the key determinants of dividend policy. Bodla *et al* (2006) findings supported their study, they used present income, lagged dividend, depreciation, and capital expenses as variables, but they noted that present earnings and lagged dividend were pertinent regarding the decision of dividend policy, but depreciation and capital expenditure were extraneous regarding dividend decisions of banks. According to studies undertaken by HariBabu and Nancy Sahni (2014), Maladjian and Khoury (2014), Abdellaet al. (2016), Yu-Jen Hsiao and Tseng (2013), Dada et al. (2015), Kesto and Ravi (2015), Yimam (2016), Eng et al. (2013), Kinfe, T. (2011), Edet et al. (2014), Lim (2013), Mutairi and Omar (2009), Lagged dividend was found positive and noteworthy. However, according to Dickens *et al*, 2002 future income was found positive and significant.

Studies unfolding financial leverage as the determining factor of dividend pay-out ratio in the banking sector have found the leverage to be negatively affecting dividend decisions. According to studies undertaken by Rizvi and Khare, (2011), Gul *et al*. 2012; Erick Karaka, 2012; Yimam, 2016) financial leverage unconstructively affect dividend pay-out decision this contrast a study by Felix Babatunde Dada *et al* on Nigerian Banks. (2015). Felix used the Debt-to-Equity Ratio as a measure of leverage.

Iwarere and Akinleye (2010) studied factors considered by Nigerian banks to decide on the optimal capital structure, they used a questionnaire survey in their study, and their findings depicted that banks should decide on the optimal mix of capital, lessen debt issue, and invest intensively in liquid assets and minimize tangible assets. The study on the correlation between leverage ratio, bank size, dividend pay-out ratio, and profitability by Aremu *et al*. (2013) about the capital structure models and theories; showed that there is a strong correlation between bank capital, size, dividend policy ratio, tax charges, risk and profitability risk, and tax charges.

- *Ordinary Share Capital and Dividend policy*

Dividend policy and capital structure have been the area of focus in the recent past this is because the policy directly relates to capital structures that have been employed to reduce the cost of capital and increase the value of the firm (Ross,2013). The availability of information makes the investors make the right choice for the investment. Dividend policy plays a vital role in corporate finance since it determines share valuation and agency problems (Gordon & Lintner,1956). The volatility of share price is a systematic risk dealt with by ordinary shareholders (Hussainery *et al*, 2011). According to Suleiman (2011) dividend yield has a positive relationship with share price volatility of share price has a positive significant relationship with dividend yield. This conclusion was arrived at after analyzing data from the Karachi stock exchange regarding the five significant sectors for the period of five years from 2005 to 2009 by use of the multiple regression analysis. A study on how dividend policy affects share price volatility in the banking industry in Kenya by Mokaya & James (2013). Concluded that dividend policy is the main factor driving the share price. Their study covered a sample of 100 respondents by use of a questionnaire. This result was achieved after adopting both descriptive and inferential statistics to determine and ascertain the relationship.

James & Ray (2013), and Barker & Powell (2003), find depicted that share price based on the rate of return has a positive relationship with share price volatility. They supported their finding with an argument that dividend pay-out should be considered as an alternative to ascertain the growth and investment opportunities hence firms with higher pay-out tend to have higher share prices. They also conclude that the payment of dividends shows the stability and steadiness of a given firm, therefore, minimizing fluctuations that are attributed to systematic risk in the banking sector. According to the study by Chiang, Chan, and Hui (2013) on capital structure and dividend pay-out ratio listed companies in Hong Kong Stock exchange they sampled 35 listed firms their finding showed a significant association between Capital Structure and dividend pay-out ratio. The Gill, Biger, and Mathur (2011) study aimed at extending Abor's (2005) results on capital structure and dividend pay-out. The study specifically targeted the American service and manufacturing firms. Findings demonstrated that the ratio of long-term debt to total assets enhances dividend pay-out. Similar positive associations were reported between total debt to total assets and dividend pay-out in the service industry.

Bhaduris (2002) suggested that dividends are the signal of financial health to outsiders. A firm with a constant stream of dividends will face less asymmetric information when entering the equity market. Dividend payments decrease the number of internal funds and increase the need for external financing. Dividend policy allows for releasing of resources when a firm has no profitable projects and conveys information about a firm's future expectations to capital markets. There is a positive relationship between the pay-out ratio and debt (Frank and Goyal, 2004). Studies carried out by various scholars suggest that there is a notable relationship between dividend policy and capital structure. However, there is a conflict as to whether there is a direct or indirect relationship. Sierpinska (1999) suggests that dividend policy is directly connected to capital structure. This view is supported by Wandeto (2005) who in his study concluded that firms with high gearing ratios pay low amounts of dividends to tend. Bittok (2004) pointed out that there is a significant relationship between dividend pay-out ratio and the value of the firm in that dividends are relevant to the value of the common stock.

The financing verdict of an organization is reliant on its dividend policy (Sindhu, 2014). Besides, free cash flow influences the allotment of dividends. There are numerous determinants of dividend pay-out which have been explored by varied scholars. Lintner's Model (1996) demonstrates that compensation of dividends can be expressed as a function of net income after tax and the preceding

dividends that were paid. According to Barclays Smith and Watts (1995), the determinants of dividend policy include but are not limited to signaling factors, size of the firm, investment opportunity, and regulations. In the petroleum trade, dividend policy is indomitable by the agency problem and the risks and not the size or investment opportunities (Casey, 1997). Casey and Dickens (2000) shore up the concept of investment opportunities and agency problems as recommended by (Sidhu 2014). In this case, the risk and size of the firm were not considered determinants of dividend policy.

Other factors that determine dividend payment include risk, size, investment prospect, dividend record, capital adequacy, signalling, and ownership (Dickens, Casey, and Newman, 2002). Conversely, Al Ajmi (2010) used different determinants of dividend pay-out ratio, which include cash flow per share, earnings per share, market to book value, risk, the ratio of capital to the asset, size of the firm, and the dividend per share. Further, the study by Nishat (2013) considered earnings, cash flow per share previous dividend, and size of the firm as the determinants of the dividend pay-out ratio. All these determinants are pertinent variables and cannot be derelict. Dickens, Casey, and Newman (2002) used investment opportunities, capital adequacy, size, signaling, ownership, dividend narration, and risk to explicate dividend payments. In this study ordinary share capital, will be analysed using a multiple regression model to get the upshot of ordinary shares on a dividend policy of listed commercial banks in Kenya.

- *Long Debt Financing and Dividend Policy*

The icon of the company to investors is often built through a dividend policy. The compensation of dividends depends on several variables among them is the financial leverage of the bank. According to Sindhu (2014), banks with high financial leverage tend to pay a high dividend ratio as compared with those with lower leverage.

Several studies illustrate the relationship between debts and dividend pay-out ratio. A good case is, Allen *et al.* (2012) who described the relationship between dividend policy and the level firms are financed by debt. They used lending data to illustrate the relationship between the intensity of reliance on funding from loans and firms' dividend policy to safeguard the integrity of the superior claims on the assets of the firm. Bank's corporate governance mechanisms are considered a complementary means to shrink the firm's agency problems. If a firm scrounge or uses debt to patch up dividends this gives rise to agency problems among the management and the owners of the organization. If the firm has a higher debt level, the management is likely to recommend a lower dividend pay-out ratio.

Aivaizan, *et al*., (2006), study on the relationship between public debt share, dividend smoothing policy, and bank debt. They established that firms with public debt were more probable to pay dividends as compared to firms with private debt. Because of the restraint of data availability, they used credit evaluation as a surrogate for public debt. The method was not accurate for that kind of study, particularly in the banking sector. Thus, the reason why the study considered debt ratio among other variables.

- *Short-term Debt Financing and Dividend Policy*

The level of financial leverage is anchored on the deposit level where the higher the level the more the leverage level in the banking sector. Deposits amplify resources for banks to broaden their investment portfolio leading to more proceeds. The higher the profitability the more the shareholders will be rewarded with higher dividends Conversely, these results were pertinent to non-banking institutions nevertheless when it comes to the banking sector outside borrowing in the form of deposits is the key determinant of profitability.

Demirguc *et al.*, (1999) found that deposit is the main contributor to profitability in the banking industry. Athanasoglou *et al.*, (2009) reached an analogous conclusion. The study by Sindhu (2014) also indicates that the convenience of cash did not impact the policy in the Pakistan banking sector. He also showed that more lucrative investments were given predilection to be funded by external financing in the form of deposits rather than internal funds. Contradictory to the pecking order theory the banks in Pakistan continue to pay dividends to shareholders as they accumulate supplementary deposits from the public and to fund future investments. Muturi and Ngumi (2016) finding showed a mixed results among the financial structure variables, Their study finding revealed that external equity, short-term debt, retained earnings and long term debt had insignificant negative relationship on return on equity but on aggregate the financial structure had a significant positive relationship on return on asset and return on equity. Also a study by Adenuga, Ige and Kesinro (2016) on the relationship between financial leverage and firms' value of selected Nigerian banks, they sampled five listed firms on Nigerian stock exchange for the period of five years from 2007 to 2012, their finding concluded that financial leverage had a significant effect on the value of the firm , thus concluded that financial leverage was the most preferred source of capital as compared to equity financing when making long term investment decisions however according to a study by Kajirwa (2015) debt negatively insignificantly affects firm performance in Kenya. This study considered short-term liabilities which is comprises of short-term loans from other banks, Customer deposit, accounts payables any other liability under the current liabilities in the balance sheet.

- *Retained Earnings and Dividend Policy*

Retained earnings are considered part of shareholders' equity they comprise revenue and capital reserve (Bandyopadhyay & Barua, 2016). Revenue reserves in most cases are usually utilized to compensate or drop profit for business sustainability While revenue reserve acts as a fordable source of financing and is re-used for credit rating when seeking external sources of capital. Thirumalaisamy's (2013) study on the effect of retained earnings and dividends depicted that the level of retained

earnings influenced companies' future investment, cash flow, and dividends.

A study by Akinyi (2015) on the effect of liquidity on dividend policy and cash dividends conducted for the period 2010 to 2014 depicted the debt-to-equity ratio. Return on investment and earning per share variable partly influenced cash dividend. Other studies in the areas attributed prior-year patterns to be affecting Retained earnings positively correlated to the dividend policy, is because they have a greater effect on the probability of dividend pay-outs compared to other factors such as firm size profitability and growth opportunities. On the other hand, firms with negative retained earnings do not pay a dividend, In case established firms increase the retained earnings they are likely to use the funding to settle the long-term debt hence reducing debt. But based on our study this won't solve the urgent problem-based agency theory and optimal financial structure there exist a level where the mix of financial structure maximizes the interest of both shareholders and the management (Baker and power, 2000). Firms with a high dividend pay-out ratio are more profitable but they will have low investment levels. Since most firms tend to retain more due to more available investment opportunities hence maximizing the interest of shareholders for this case due to the signalling theory most investors are likely to shift to companies that pay high dividends.

➢ *Critic of the Literature Review*

Ever since the formulation of the foremost theory on capital structure by Modigliani and Miller in 1958, many theories have evolved. There are also misapprehensions since the capital structure and dividend policies are determined by factors, which are interconnected and cannot be detached. A study in the UK by Al Shabib and Remesh, (2011) on capital structure and dividend pay-out ratio established that there is no noteworthy connection between debt and dividend pay-out ratio. This result is in contrast with the results by Al-Kuwari, (2009) who established a significant constructive relationship between the two. According to Ogebe and Kemi (2013), a decision on the capital structure of a firm is very vital since it determines its worth and survival. There is a significant difference between dividend behavior for a firm operating in an emerging bazaar compared to dividend policy in developed nations (Adaoglu, 2000).

In addition, Adaoglue, 2000 found that firms operating in developed markets have a stable dividend policy compared to those operating in emerging markets, which had an unsteady dividend policy. yet, Aivazial *et al*, (2003) affirmed that some firms in the US market exhibit unstable dividend policy. The only difference is that firms operating in up-and-coming markets are more fretful with a few variables, which are indicators of financial constrain in their operating surroundings. Avail also showed that most firms operating in emerging markets seem to be affected by asset mix, which is related to over-reliance on bank loans in the bank-dominated setting. However, this is only applicable in non-banking institutions (Brantford *et al*, 2002). Based on the empirical studies the dividend puzzle remains unsolved. Many studies have explained why most firms/ corporates should pay or not pay dividends several models have been adopted in the process.

The empirical evidence on financial structure provides information correlating financial structure and dividend policy as being dynamic. Most of the research conducted focused on the non-banking sector. consequently, the need for continuous research to solve this dividend puzzle. Therefore, this study on the effect of financial structure on dividend pay-out ratio for public listed commercial banks in Kenya is being undertaken. The results are important for managers, investors, researchers, and employees of commercial banks to make relevant decisions regarding financial structure and dividend policy.

➢ *Research Gap*

From the reviewed literature, it is evident that the results of the studies conducted are conflicting. It is also evident in all surveys that equity capital has not been separated to analyse in isolation the impact of retained earnings, ordinary capital on dividend policy. It's also evident that most research analysing the relationship between financial structure and dividend policy have been general and not industry specific to get the results in a specific industry especially the banking sector. The working capital studies available to the researcher has analysed more on cash cycle and not current liabilities effect on financial performance. Moreover, no literature available to the researcher compares the effect of financial structure on dividend policy in Kenya & EASE. This are therefore pertinent gaps that this study aspired to fill.

➢ *Summary*

The above chapter reviews both the theoretical and empirical literature related to the study variables and their underlying relationships. The review then provided a basis for developing a conceptual framework that facilitates a quick understanding of the connection between the response and explanatory variables by the reader. This connection is particularly important in ascertaining the economic plausibility of variables so that only the variables that have logical and defensible relationship are related. Failure to do a background check on variables is likely to result to spurious relations or relations that do not make business sense. In addition, the chapter provides a positive critique to the literature that forms the basis of identifying the research gaps as also discussed in the chapter.

III. RESEARCH METHODOLOGY

➢ *Introduction*

This section outlines the study model, research design, and the variables explored that unearthed the effect of financial structure on the dividend policy of listed commercial banks in Kenya. According to Cooper and Schindler (2003) The research methodology is a systematic procedure, technique, or mode of inquiry to ascertain the study objective therefore the methodology is not limited to research design, population of study, sampling,

instruments, data collection, analysis and presentation as outlined in this section.

➢ *Research Design*

The most important issue after defining research problem is preparation of research design since it facilitates the smooth conduct of the various stages of research. It helps to decide upon issues like what, when, where, how much, by what means, regarding an enquiry or a research study (Kothari, 2004). Cooper and Schindler (2003) define a research design as a blueprint for conducting a study with maximum control over factors that may interfere with the validity of the findings Research design has also been defined as the conceptual structures within which research is conducted and constitutes the blueprint for collection, measurement, and analysis of data by Kothari (2004). It is therefore an arrangement of conditions for collection and analysis of data in a manner relevant to the research purpose. A good research design depends on the purpose, skills of researcher, funds, and nature of the research problem such that while a particular design may be good for one problem, it may not be equally good to other problems (Bryman & Bell, 2011).

The study used quantitative research design. This research design was selected for the study since the data collected on the study variables was in financial ratios and hence of quantitative nature. The financial ratios computed for each firm during the period of study were then transformed into panels. This approach is useful for this kind of study where both the cross-sectional and longitudinal characteristics of the units being analyzed constitute an important ingredient of the study (Gujarati, 2003).

Quantitative research design has in the past been employed in other studies including one by Gitau and Nasieku (2016), which was analysing the effect of capital structure on financial distress of non-financial companies listed in NSE in Kenya. Equally Sindhu (2014) adopted it while studying the relationship between free cashflow and dividend also a study Motanya (2019) who examined the effect of financial structure on profitability of petroleum firms in Kenya used the same. Hence the reason why our study adopted quantitative research design to establish the relationship between financial structure components and dividend policy.

➢ *Target Population*

Mugenda and Mugenda (2013) defines study population as the total elements in the universe that is being considered in the study that have observable common features. Similarly, it can be said that population is the group of all elements that conform to the defined characteristics in research (Kothari, 2004). Further the scholar points out that study population should have observable features which will ensure that the findings of the study can be generalized (Ahmad et al., 2012)

The target population was all the eleven public listed commercial banks in Kenya by NSE as of December 2021. The listed banks are required to make it public their dividend policies, and their market value financial structure is easier to establish. It was also easier to obtain data from public listed companies as compared to private ones because of obligatory annual reporting regimes, which are tied to dividend outlay.

➢ *Sampling Technique*

Sampling is the practice of choosing units from a particular population so as to justly generalize the results to the target population (ZhiYong, 2015) in our case the listed commercial bank. A sample is part of the target population from which data was collected, summarised, analysed and inferences about the target population from which the sample is drawn is done (Kumar, 2005). The study adopted a census technique where all the listed commercial banks at NSE were considered. Census approach is the complete inclusion of all observation in the study (Bryman, 2016). According to Kothari (2016) a census approach improves authenticity of the collected data by incorporating certain cases with rich information. A census survey was conducted where data is collected from the study population that is less than 30. Banks with incomplete data resulting from mergers or liquidation, delisted, or listed after 2012 were excluded from the analysis hence bank analysed were 10.

➢ *Data & Data Collection*

Secondary data for the listed commercial banks was collected from the CBK and NSE from 2011 to 2021, Central Bank of Kenya (CBK) regularly publishes the supervisory report for all the banks in Kenya, the report typically contains the audited financial statement of all the banks. Nairobi Security Exchange has made it obligatory for all banks to submit and publish their audited annual financial statements. From these two sources, we gathered all the crucial information for this study. The data was obtained from the NSE database, as it is a prerequisite for listed commercial banks to publish their financial statements for the common topic. The audited financial statements were used to uphold veracity. The study adopted Panel data since it's a series of multidimensional data that enables different firms to be observed over a given period, Panel data also assists to control different variables that may not be measurable or observable over time across firms (Wooldridge, 2002). A secondary data assortment sheet was used in this study to refer to addendums A2 and A3.

➢ *Diagnostic Tests*

The following test were carried outs in this study: Normality test, Autocorrelation, Multicollinearity test, Heteroscedasticity Stationarity, Hausman test for model effect estimation, cointegration test and Hausman test.

- *Normality Test*

This test confirms if the data is normally distributed this can either be ascertained graphically or numerically. The graph shows the shape of the curve if it's normally

distributed or skewed (Corbin, Strauss & Strauss, 2014). Also, this can be tested numerically using the following test, ShipiroWilk test Kolmogorov-Smirnov Test. Shapiro-Wilk test is preferred for a data set that is <50, if the sample size is more than 50 Kolmogorov-Smirnov Test will give more accurate results. For both tests, if the significant value is more than 0.05 the data is normal if it is less that means the data significantly deviates from the normal distribution curve. For our case, the sample size comprises 10 listed commercial banks which is why Shapiro Wilk test was preferred in this study.

- *Multicollinearity*

Multicollinearity usually arises when the model includes multiple variables that are correlated not just to the dependent variable but also among independent variables. After the normality of the data in the regression model, the next step is to determine if there exists a similarity between independent variables by use of the multicollinearity test. We use variance inflation factors (VIF) to test the multicollinearity The results are interpreted as follows If the VIF values fall between 0 to 10 there is no multicollinearity in the data but if the VIF values fall outside this range then there is multicollinearity (Cziraki *et al*, 2016).

- *Autocorrelation*

Autocorrelation always arises when thereon correlation between tables. Durbin-Watson test is usually conducted to ascertain if there is autocorrelation. If the range falls between zero and two it's an indication or evidence that the data is positively autocorrelated if the range falls between two and four the results show that the data is negative autocorrelated (Wooldridge, 2002). The Durbin-Watson statistic varies from 0 to 4 where a value near 2 indicates non-autocorrelation while a value closer to 0 shows autocorrelation. A value closer to 4 indicates negative autocorrelation.

- *Heteroscedasticity Test*

Heteroscedasticity is also known as unequal scatter. In the context of error terms or residuals, it's defined as a systematic variation in the spread of residues that vary on several variables under a given study (Gujarati, 2003). Any variables with heteroscedastic possess a challenge to the researcher because of the residue and homoscedasticity under ordinary least squares (OLS) regression. Heteroscedasticity invalidates the test statistics and the confidence level (Wooldridge, 2002). This study will adopt the Reusch Pagan method.

The Breusch-Pagan test is used to determine if there is heteroscedasticity in the regression model. The test uses both the null and the alternative hypothesis

- ✓ Ho = Homoscedasticity is present, and the residuals are distributed with equal variance
- ✓ HA = Homoscedasticity is present, and the residuals are not distributed with equal variance

If the result from the test is less than a=0.05 significant level the null hypothesis is rejected hence there is heteroscedasticity in the regression model and vis versa However, if you reject the null hypothesis of the Breusch-Pagan test, this means heteroscedasticity is present in the data. In this case, the standard errors that are shown in the output table of the regression are unreliable.

- *Stationarity*

According to Gujarati (2003), Stationarity is a state where the mean, variance and autocorrelation of data structure are constant over time. This test is necessary to ensure that regression results are not spurious such that there is a high coefficient of determination between variables due to non-stationarity even if there is no cause-and-effect relationship (Wooldridge, 2012). Non stationarity also distort t-ratios to yield invalid significance tests (Gujarati, 2003). Its not advisable to conduct augmented Dicky Filler test for panel data. There the study adopted Leuin-lin-chu test. Levin-Lin-Chu unit-root test was used with the null hypothesis ($b=k-1\geq 0$) of non-stationarity and if the test statistic is more negative (since it is a one-sided test) than the critical value at 5% level of significance, the null is rejected to imply stationarity (Stock & Watson, 2003).

- *Hausman Test*

For the study to establish if a Fixed or random-effect model is best suited for a given study Hausman test is usually carried out for each of the panel data regression models. Our case analysis will determine if the fixed effect or random effect is the most preferred model for this study. Based on the Hausman test for random and fixed effects. The null hypothesis is done on the selected regressors. The hypothesis stipulates that the regressors and specific heterogeneity are exogenous. The key argument under the fixed model is that if the unobserved variable does not change over time, then any change in the response variable must be due to influences other than these fixed characteristics (Stock & Watson, 2003). It is therefore possible to remove or hold constant the effect of those time-invariant characteristics and assess the effect of the predictors on the response variable (Stock & Watson, 2003). On the contrary, in the random-effects model, the variation across entities is assumed to be random and uncorrelated with the predictor variables in the model enabling time-invariant characteristics to be included in the model as predictors (Stock & Watson, 2003).

- *Cointegration Test*

Cointegration test in this case provides or helps us to establish if there exist a stable long run relationship among study variables (Baltagi *et al*, 2005). The study is supposed to perform cointegration test when time series are non-stationary. The time series are said to be non-stationary if they have a mean or variance that varies overtime. The assumption in the test is that the variables are not cointegrated. Johansen test is preferred over other test if the variables are more than two. The test is carried out among the variables against the null hypothesis of no cointegration of variables and alternative hypothesis that the variables are

cointegrated. We reject the null hypothesis if the trace and max statistics p value is more that 5 % significant level otherwise, we accept the null hypotheses

- ✓ Null Hypothesis: No cointegration among variables
- ✓ Alternative Hypothesis: All Panels are cointegrated.

➢ *Data Analysis and Presentation*

Data analysis was based on the variables of financial structure composition. The collected data were then analyzed using inferential statistics of correlation and regression analysis comparing the ordinary share capital financing to dividend policy, short-term debt to dividend policy, long term debt, and retained earnings to dividend policy. The regression model provides a forecast on dividend policy (dependent) blueprint depending on the variables of financial structure (Independent Variable) of listed commercial banks in Kenya. The information collected was analyzed using the Statistical Package Stata version 14.1 This study adopted the regression model to successfully analyze the effect of financial structure on the dividend policy of public listed commercial banks in Kenya. The different components analysed are Ordinary share capital, short-term debt, and long-term debts, and retained earnings.

- *Model Specification*

The study utilized panel data regression analysis model. This model allows more observations, more information, and more degree of freedom. The model incorporates changes within a firm as well as changes across firms. It accounts for the influence of firm specific attributes. The panel data regression equation had dividend policy as the dependent variable and financial structure (Ordinary share capital, Short-term debt, long term debt and retained earnings) as independent variables.

The study model was formulated as follows:

$$\text{Dividend Policy } (Y_{it}) = \beta 0 + \beta 1\ X1it + \beta 2\ X2it + \beta 3\ X3it + \beta 4\ X4_{it} + \varepsilon_{it}$$

Yi,t is dividend policy measured by dividend pay-out ratio.

Where:

Subscripts i denotes individual firms (i = 1, 2…100), t denotes period (t = 2011, 2012…2021).

- ✓ α = constant which is the intercept of the regression equation
- ✓ β1, β2, = the slope which represents the coefficients of the independent variables
- ✓ X1= Ordinary Share Capital is measured by the Ordinary share to total equity ratio.
- ✓ X2= Short Term debt is measured by total current liabilities to total equity ratio.
- ✓ X 3=Long term liabilities are measured by total non-current liabilities to total equity ratio
- ✓ X4 = Retained earnings are measured by cumulative retained earnings to the Total equity ratio

ε_{it} – Is the error term or residual term. The error term accounts for other variables that have not been included in the model study that could influence dividend policy, errors in measurement and errors in specification of the model.

The strength of the association amid the financial structure and dividend policy of public listed commercial banks was tested using the correlation – coefficient. According to KARL Pearson, the correlation coefficient(r) should range from -1 to +1, these measures will show the strength of the bond between financial structure variables and dividend policy on the same where; 1 represents a perfect negative relationship, the range between -0.5 to -1 is an indication of a strong relationship and a value between -0.5 to 0 is an indication of coexistence of a negative weak relationship. On the other hand, 0 to 0.5 is a signal of a weak positive relationship, while 0.5 to 1 is a signal of a strong positive relationship. The study used a 95% significant level, this means that a variable with a p-value less than 0.05 will have a significant relationship with the dependent variable with a p-value of more than 0.05 showing that the relationship is insignificant.

- *Hypothesis Testing*

Test of Significance Tests for statistical significance address the probability that a relationship between variables exists and in the event they do how strong the relationship is. The objective of this study was to examine the relationship between financial structure and dividend policy of listed banks at NSE. To test the level of significance, t-tests will be carried out at a desired significance level of 5%. The relationship is rejected when β1 is less than 0.05 and therefore insignificant. The hypotheses testing will be arranged as per the study objectives which will entail Equity Capital, Short-term debt, Long term debt and retained earnings. The decision rule provides that when p < 0.05, the null hypothesis should be rejected and when p > 0.05, then the null hypothesis should be accepted. The hypothesis testing will be conducted as follows:

- ✓ Ho_1: Ordinary Share capital has no significant effect on the dividend policy of listed commercial banks in Kenya.
- ✓ Ho_2: Short Term debt financing has no significant effect on the dividend policy of listed commercial banks in Kenya.
- ✓ Ho_3: Long-term debt financing has no significant effect on the dividend policy of listed commercial banks in Kenya.
- ✓ Ho_4: Retained earnings financing has no significant effect on the dividend policy ratio of listed commercial banks in Kenya.

IV. DATA ANALYSIS, PRESNTATION AND INTERPRETATION

➢ *Introduction*

This chapter presents data analysis of the information that was collected to ascertain the effect of financial structure on the dividend policy of listed commercial banks in Kenya. This chapter bring about descriptive statistics,

Diagnostic Tests results, correlation analysis, and regression analysis on each study objective. The aim of this study was to establish the effect of financial on dividend policy of listed commercial banks in Kenya between the year 2012 and 2021. Information was obtained from yearly audited financial reports publication for the 10 listed commercial banks based on the study variables for the same period.

➢ *Descriptive Statistics*
The pertinent results are presented in Table 1 bellow.

- *Descriptive Statistics of Listed Commercial Banks*

Table 1 Summary Descriptive Statistics Listed Commercial Banks

summarize equitycapital shorttermdebt longtermdebt dividendpolicy retainedearnings

Variable	Obs	Mean	Std. Dev.	Min	Max
equitycapi~l	100	.0270244	.0314904	.0014461	.1104089
shorttermd~t	100	.7680817	.1232621	.0756573	1.226601
longtermdebt	100	.0640356	.0674855	0	.2997754
dividendpo~y	100	.3598479	.2687684	-.2914772	1.103448
retainedea~s	100	.0854087	.0552983	-.0838228	.150786

The above finding shows that on average most commercial banks relay on short-term debt financing with a mean of 76.8% followed by retained earnings, long term debt and finally equity capital respectively. The highest standard deviation shown by short-term debt show that most banks transact or rely majorly on short term debt, which is easily available, followed by long term debt, retained earnings and finally equity capital financing. Hence the above order supports the pecking order theory which state that debt or external financing should be preferred over equity financing if external financing is required. This confers with the study by Githire & Muturi, (2015), According to the pecking order financing structure, the internal sources come first followed by low-risk debt financing, and finally share financing (issuing shares to raise capital). The above results show that short term debt being cheaper than long term debt among other financing options is given priority.

✓ *Equity Capital*

Table 2 Descriptive Statistics Ordinary Share Capital Listed Banks

Equity Capital

	Percentiles	Smallest		
1%	.0016525	.0014461		
5%	.0035033	.0018589		
10%	.0040615	.002801	Obs	100
25%	.0072232	.003291	Sum of Wgt.	100
50%	.011509		Mean	.0270244
		Largest	Std. Dev.	.0314904
75%	.0244031	.0975158		
90%	.0856191	.1053533	Variance	.0009916
95%	.0965674	.10695	Skewness	1.393175
99%	.1086794	.1104089	Kurtosis	3.365946

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The finding on equity capital measured by ordinary share to Total asset ratio shows a mean of 0.0157 (1.57%), the mini maxi is 0.0014 (0.14%) and 0.1104 (11.04%) with a standard deviation of 0.0314 (3.14%) This shows that on average most commercial banks are reluctant to issue new ordinary shares, but they depend more on other financing options to finance their operation. This can be attributed to higher cost of raising capital through initial public offer and the procedure and time. Also in regard to Ordinary shareholder the issue of share dilution needs to be put into consideration.

✓ *Short Term Debt*

Table 3 Descriptive Statistics Short-term Debt

Short term debt

	Percentiles	Smallest		
1%	.2085211	.0756573		
5%	.5805464	.3413849		
10%	.6602887	.4440678	Obs	100
25%	.7528149	.5786547	Sum of Wgt.	100
50%	.7822568		Mean	.7680817
		Largest	Std. Dev.	.1232621
75%	.8089202	.9324383		
90%	.8472728	.9397532	Variance	.0151935
95%	.9087536	1.025663	Skewness	-1.860209
99%	1.126132	1.226601	Kurtosis	14.68472

The finding on short term debt measured by current liabilities to Total asset ratio shows that on the average public listed commercial banks had a mean of 0.76 (76%) and with a mini maxi of 7.5% and 122% respectively and a standard deviation of 12.3% This shows that on Average most commercial listed banks depend on short term debt to finance their operations. This is attributed by the cost of deposits most of the customer deposits and interbank borrowing attract less cost hence and are easily accessible. This is shown by a higher standard deviation.

✓ *Long Term debt*

Table 4 Descriptive Statistics Long Term Debt Banks

Long term debt

	Percentiles	Smallest		
1%	0	0		
5%	0	0		
10%	.0041665	0	Obs	100
25%	.0252672	0	Sum of Wgt.	100
50%	.0407113		Mean	.0640356
		Largest	Std. Dev.	.0674855
75%	.077885	.2759639		
90%	.1647458	.2809674	Variance	.0045543
95%	.2443293	.2928526	Skewness	2.006195
99%	.296314	.2997754	Kurtosis	6.656407

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Long term debt measured by long term liabilities to Total asset ratio finding show a mean of 0.06403 (6.4%) with a maximin of 0.2997 (30%) and nil respectively with a standard deviation of 0.06748 (6.74%) this demonstrates that most commercial bank don't rely on long term debt financing to finance their operation but there are other financing options available among the listed commercial banks. The standard deviation of 6.7% shows minimal reliance on long term debt financing by listed commercial banks in Kenya as compared to other financing options in this study.

✓ *Retained Earnings*

Table 5 Descriptive Statistics Retained Earning of listed Commercial Banks

Retained Earnings

	Percentiles	Smallest		
1%	-.0806977	-.0838228		
5%	-.0424142	-.0775726		
10%	.0060358	-.0491569	Obs	100
25%	.06051	-.0429356	Sum of Wgt.	100
50%	.1010056		Mean	.0854087
		Largest	Std. Dev.	.0552983
75%	.1230523	.1469005		
90%	.1393334	.1471763	Variance	.0030579
95%	.1423433	.148302	Skewness	-1.300343
99%	.149544	.150786	Kurtosis	3.975029

The average retained earnings measured by cumulative retained earnings to Total Asset ratio among listed commercial bank over the period of 10 years is 0.0854 (8.5%) with a minimum and maximum of -0.08069 (-8.1%) and 0.1507 (15.07%) respectively. The standard deviation was 0.0553 (5.53%) this demonstrates that a most listed commercial banks usually retain a portion of the retained earnings to finance their operation but there is other finance option which are considered by commercial banks to finance their operations.

✓ *Dividend Policy*

Table 6 Descriptive Statistics on listed Commercial Banks Dividend Policy

Dividend Policy

	Percentiles	Smallest		
1%	-.1457386	-.2914772		
5%	0	0		
10%	0	0	Obs	100
25%	.1335285	0	Sum of Wgt.	100
50%	.3704021		Mean	.3598479
		Largest	Std. Dev.	.2687684
75%	.5	.8467023		
90%	.7737419	.8695652	Variance	.0722364
95%	.8333333	.9189189	Skewness	.316695
99%	1.011184	1.103448	Kurtosis	2.66791

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The results show that dividend policy measured by dividend per share to earnings per share ratio, in average based on the above results is 0.36 (36%) this implies that on average listed commercial banks pay-out ratio is 0.36 (36%) with a minimum of 0 and a maximum 1.103 (110%). The standard deviation on the same is 0.27 (27%) from the average value, this reflects the percentage of variation across listed commercial banks in Kenya. These finding show that there are other variables that moderate dividend policy.

- *Diagnostic Tests*

- *Normality Test*

Table 7 Normality Test of Commercial listed Banks Shapiro-Wilk W test for Normal Data

Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
equitycapi~l	100	0.70413	24.428	7.089	0.00000
shorttermd~t	100	0.75484	20.242	6.672	0.00000
longtermdebt	100	0.74754	20.845	6.737	0.00000
retainedea~s	100	0.85506	11.967	5.506	0.00000
dividendpo~y	100	0.98060	1.602	1.045	0.14801

Based on the above finding we reject the null hypothesis since $p<0.05$ there for we conclude that there is no sufficient evidence to show that the data is normally distributed.

Table 8 Skewness/Kurtosis tests for Normality ------ joint ------

Skewness/Kurtosis tests for Normality

------ joint ------

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	Prob>chi2
equitycapi~l	100	0.0000	0.3053	18.76	0.0001
shorttermd~t	100	0.0000	0.0000	47.45	0.0000
longtermdebt	100	0.0000	0.0001	37.31	0.0000
retainedea~s	100	0.0000	0.0602	19.02	0.0001
dividendpo~y	100	0.1771	0.5951	2.16	0.3400

The above results illustrate the Skewedness/Kurtosis test on the panel data. The main objective of carrying this test was to find out if the data is normally distributed. The test statistic is a chi-square distribution for both individual and joint measures of skewedness and kurtosis. The test was carried out against the null hypothesis of normal distribution. The results indicate that the chi-square statistic for both individual and joint tests for all variables except retained earnings and dividend policy had corresponding p-values equal to 0.0000. Hence, we reject the null hypothesis at 5% significant level. This means that the alternative hypothesis of normality is accepted at 5% significance level; implying that the data was not normally distributed.

- *Multicollinearity*

✓ *Multicollinearity Test Results*

Table 9 Listed Banks Multicollinearity Test

```
. estat vif

    Variable |      VIF      1/VIF
-------------+----------------------
retainedea~s |     4.17    0.240089
equitycapi~l |     3.95    0.253309
longtermdebt |     1.52    0.655860
shorttermd~t |     1.49    0.669102
-------------+----------------------
    Mean VIF |     2.78
```

The results are interpreted as follows if the VIF values fall between 0 to 10 hence there is no multicollinearity in the data. This means that the beta values of the regression model of all the independent variables would be stable with low standard errors.

The above finding shows that there is no multicollinearity hence the variables merit. This means that the beta values of the regression model of all the independent variables would be stable with low standard errors.

- *Autocorrelation*

✓ *Autocorrelation of Listed Commercial Banks*

Table 10 Autocorrelation Test on Listed Commercial Banks

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.418[a]	.174	.140	.24928	1.686
a. Predictors: (Constant), Equity Capital, Long term debt, Short term debt, Retained Earnings					
b. Dependent Variable: Dividend Policy					

The result of Durbin -Watson test falls at 1.686 the range falls between 1.5 to 2.5 results show that the data is not autocorrelated since the value is closer to 2. Durbin statistic must fall between 1.5 – 2.5 (Garson, 2012). The results of the test for listed commercial banks shown in table 18 imply that there was no autocorrelation in the correlation residuals. Gujarati (2009) and Ogunde *et al* (2012) used Durbin -Watson test on their study to determine autocorrelation in their data residuals they depicted similar results no autocorrelation in their data hence in our case the result imply that the residuals do not form any unique pattern hence the conclusion that there is no autocorrelation in the variables invested in this study.

- *Heteroscedasticity Test*

✓ *Heteroscedasticity Test for Listed Commercial Banks*

Table 11 Heteroscedasticity Test for listed Commercial Banks

```
. estat hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of dividendpolicy

         chi2(1)      =    1.28
         Prob > chi2  =    0.2574
```

The above results can be interpreted as follows.

- **Ho:** This is the null hypothesis of the test, which states that there is constant variance among the residuals.
- **Variables:** This tells us the response variable that was used in the regression model. In this case, the variables were equity capital, short term debt, long term debt and retained earnings.
- **chi2(1):** This is the Chi-Square test statistic of the test. In this case, it is 1.28 for listed commercial banks.
- **Prob > chi2:** This is the p-value that corresponds to the Chi-Square test statistic. In this case, it is 0.2574. Since, these values are greater than 0.05, we reject the null hypothesis conclude that heteroscedasticity is present in the data. This enables us to interpret the output using Random Effect GLS regression since its takes care of heteroscedasticity.

- *Unit Root Test /Stationarity Test*

One way to test whether a time series is stationary is to perform Levin-Lin-Chu unit-root test**,** which uses the following null and alternative hypotheses:

H_0: The time series is non-stationary. Meaning that the variables have time-dependent structure and do not have a constant variance over time.

H_A: The time series is stationary.

If the P-value test results is less than some significance level $\alpha = .05$, then we can reject the null hypothesis and conclude that the time series is stationary. Based on the bellow results of listed commercial banks variables we reject the null hypothesis

✓ Stationarity Test of listed commercial Banks

Table 12 Stationarity Test on each Variable based Levin-Lin-Chu unit-root Test

```
xtunitroot hadri

Hadri LM test for equitycapital,short term debt,Long term debt , Retained Earnings & Dividend Policy
---------------------------------
Ho: All panels are stationary               Number of panels  =     10
Ha: Some panels contain unit roots          Number of periods =     10
Equity Capital
------------------------------------------------------------------------------
                                        Statistic      p-value
------------------------------------------------------------------------------
Equity Capital      z                    8.5608        0.0000
------------------------------------------------------------------------------

Short term Debt     z                    2.4674        0.0068
------------------------------------------------------------------------------
Long Term Debt      z                   12.0048        0.0000
------------------------------------------------------------------------------
Retained Earnings   z                   10.9378        0.0000
------------------------------------------------------------------------------
Dividend Policy     z                    1.9750        0.0241
------------------------------------------------------------------------------
```

Based on the above results, the null hypotheses that all panels are Stationery for all variables were accepted at 5% significance level because the p values were less than 5%. This shows that all the variables are stationary and there are no unit roots. Hence cointegration test will not be conducted since cointegration test should be conducted if the unit root test result show that the data is nonstationary.

- *Hausman Test*

✓ *Hausman Test of Listed Commercial Banks*

The test was conducted against the null hypothesis that random effect model was the preferred model. The test results show that the chi-square statistics for panel equation 2 was statistically insignificant at 5% level as supported by the p-values of 0.7116. The study therefore failed to reject the null hypothesis that the random effects estimation was appropriate for equation 1 at 0.05 significance level. Effectively, the study estimated the panel equation 1 for random effect.

Table 13 Hausman Test of Listed Commercial Banks

Hausman Specific Test .

	---- Coefficients ---- (b) TIERONE	(B) .	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
equitycapi~l	.3919823	3.221441	-2.829459	.9545752
shorttermd~t	.3452628	.0696414	.2756214	.1903849
longtermdebt	.0949317	.028614	.0663177	.3651462
retainedea~s	-.3759935	3.753785	-4.129778	.

b = consistent under Ho and Ha; obtained from regress
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(4) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 0.25
Prob>chi2 = 0.9926
(V_b-V_B is not positive definite)

Table above shows the Hausman specification test results for panel regression for the listed commercial banks in Kenya. The test results show that the chi-square statistics for panel data for listed commercial banks was statistically insignificant at 5% significant level as supported by the p-values of 0.9926 and 1 respectively therefore we fail to reject the null hypothesis that the random effects estimation was appropriate for this study. The study effectively estimated the panel equation for listed commercial banks using random effect GLS.

➢ *Inferential Statistics*

- *Correlation Analysis*

To establish if there subsist a liaison between financial structure variables and dividend pay-out ratio, several statistical tests have been conducted. The main statistical software used was Stata Version 14.2 and the relationships between variables were measured using Pearson correlation. According to KARL Pearson, the correlation coefficient(r) should range from -1 to +1, these measures will show the strength of the bond between financial structure variables and dividend policy on the same where; 1 represents a perfect negative relationship, the range between -0.5 to -1 is an indication of a strong relationship and a value between -0.5 to 0 is an indication of coexistence of a negative weak relationship. On the other hand, 0 to 0.5 is a signal of a weak positive relationship, while 0.5 to 1 is a signal of a strong positive relationship. Even though the correlation coefficient is used in this sort of study, it has a few limitations amongst others; the foremost limitation is that it only shows the strength of the linear relationship that means the nonlinear relationship is excluded in the analysis. Apart from showing that there is a relationship between variables it does not demonstrate the causality of the relationship amongst the study variables since it merely specifies that a relationship exists but goes not give a cause-effect of given variable.

✓ *Correlation Analysis of Listed Commercial Banks*

Table 14 Correlation Analysis of Listed Commercial Banks

```
. correlate equitycapital shorttermdebt longtermdebt retainedearnings dividendpolicy
(obs=100)

             | equity~l shortt~t longte~t retain~s divide~y
-------------+---------------------------------------------
equitycapi~l |   1.0000
shorttermd~t |   0.2182   1.0000
longtermdebt |   0.0021  -0.5082   1.0000
retainedea~s |  -0.8563  -0.1971  -0.1354   1.0000
dividendpo~y |  -0.3112  -0.0973   0.0965   0.3787   1.0000
```

Source: Author (2022)

From table above all the predictors' variables findings show that we either have a positive or a negative relationship between them. The findings show that there is weak negative relationship shown by the correlation of 0.0973 shown by short term debt, and the positive weak relationship shown by the correlation of 0.0965 on Long term debt and equity financing with a correlation of -0.3112 which represents a medium negative relationship while retained earning had a medium positive relationship shown by a correlation of 0.3787. According to Wong and Hiew (2005) if a correlation coefficient value (r) ranges from 0.10 to 0.29 the relationship is considered weak, if the relationship array between 0.30 to 0.49 is presumed medium and if the range is above 0.50 to 1.0 is considered strong.

- *Regression Analysis*

Table 15 Listed Commercial Bank Panel Data Regression Analysis

```
. xtreg dividendpolicy equitycapital shorttermdebt longtermdebt retainedearnings, re

Random-effects GLS regression                   Number of obs     =       100
Group variable: bankid                          Number of groups  =        10

R-sq:                                           Obs per group:
     within  = 0.1972                                         min =        10
     between = 0.1517                                         avg =      10.0
     overall = 0.1641                                         max =        10

                                                Wald chi2(4)      =     22.56
corr(u_i, X)   = 0 (assumed)                    Prob > chi2       =    0.0002

------------------------------------------------------------------------------
 dividendpolicy |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
----------------+-------------------------------------------------------------
  equitycapital |   2.687576   1.297441     2.07   0.038     .1446386    5.230514
  shorttermdebt |   .1202486   .1840015     0.65   0.513    -.2403876    .4808848
   longtermdebt |   .6669564   .4590301     1.45   0.146    -.2327261    1.566639
retainedearnings |   3.817606   .8784697     4.35   0.000     2.095837    5.539375
          _cons |  -.1739088   .2160446    -0.80   0.421    -.5973485    .2495309
----------------+-------------------------------------------------------------
        sigma_u |  .23354286
        sigma_e |  .17193365
            rho |  .64851404   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```

From table above 23 the coefficient of determination between the study variables are strong at R=0.1641. This points out that the relationship between equity capital, short term debt, long term debt and retained earning financing to dividend policy is strong. Regarding the listed commercial banks, the analysis show that the panel data strongly balanced for random effect regression analysis. The minimum, maximum and average number of observations were all equal to 10. The results for R squared for within, between and overall were 0.1972, 0.1517 and 0.1641 respectively. In this case the R square represents the percentage variation of dependant variable that can be explained by the predictor variable in the random effect model. The P value is also less than 0.05 which shows that the estimated coefficients of financial structure that is equity capital, short-term debt, long term debt and retained earnings for listed commercial banks are significant at 0.05 significant level. The standard deviation for residuals within the groups and overall error are represented by sigma_u and sigma_e respectively Rho shows intra class correlation. From Table 23 above the intra-class correlation is 0.6485 this imply that there is 64.85% variance caused by differences across the panels.

➢ *Model Specification*

The panel data regression equation had dividend policy as the dependent variable and financial structure (Ordinary share capital, Short-term debt, long term debt and retained earnings) as independent variables.

The study model was formulated as follows:

$$\text{Dividend Policy } (Yit) = \beta 0 + \beta 1\ X1_{it} + \beta 2\ X2_{it} + \beta 3\ X3_{it} + \beta 4\ X4_{it} + \varepsilon_{it}$$

Yi,t is dividend policy measured by dividend pay-out ratio.

Where:

Subscripts i denotes individual firms (i = 1, 2…100), t denotes period (t = 2011, 2012…2021).

- α = constant which is the intercept of the regression equation
- β1, β2, = the slope which represents the coefficients of the independent variables
- X1= Ordinary Share Capital is measured by the Ordinary share to total equity ratio.

- X2= Short Term debt is measured by total current liabilities to total equity ratio.
- X 3=Long term liabilities are measured by total non-current liabilities to total equity ratio
- X4 = Retained earnings are measured by cumulative retained earnings to the Total equity ratio

εi, t – Is the error term or residual term. The error term accounts for other variables that have not been included in the model study that could influence dividend policy, errors in measurement and errors in specification of the model.

Listed banks regression model is as follows:

Y= (0.1736)+2.688X1+0.1202X2-0.6669X3+ 3.818X4

The Durbin Watson result for the above models was close to 2 that can be approximated to 2. This is an indication that the model was not auto correlated. Having interpreted the model, we can proceed to use the results to address our hypothesis of the study and the objectives of our study.

➢ *Hypothesis Testing*

- *Relationship between Ordinary Share Capital and Dividend Policy*

This study used ordinary share capital as its first objective to determine the effect of ordinary share capital as a component of financial structure on dividend policy of listed commercial banks in Kenya. Ordinary share capital to total asset ratio was used as a measure of equity capital. The random effect GLS regression model was used to assess if the relationship was significant and as a result the following null hypothesis was tested.

Ho_1: Ordinary Share capital has no significant effect on the dividend policy of listed commercial banks in Kenya.

From the random effect regression, the p value of the t-statistics is which is less than 0.05. The null hypothesis is rejected at 5% significant level and hence the conclusion that ordinary share capital has a positive significant influence and a unit increase in ordinary share capital translate to 2.6875 unit increase in dividend policy (dividend pay-out ratio) for listed commercial banks. The results coincide with the finding established by Okumu (2016) who investigated capital structure and dividend pay-outs of commercial banks in Kenya and depicted that internal equity and retained earnings positively and significantly influences dividend policy measured through dividend pay-out ratio. This study has established a significant positive relationship for listed commercial banks in Kenya. But according to the finding by Njagi, Kimani, and Kariuki, (2017) equity capital had a positive relationship to financial performance of saccos in Kenya. According to the study by Yegon , Cheruiyot and sang (2014) on capital structure and dividend pay-out in the banking sectors for the period 2004 to 2012, their finding show an inverse association with dividend policy their study relied on panel data hence the need to re-examine the effect of ordinary share capital level as a trade of theory suggest there is an optimal financial structure and dividend pay-out ratio, Their study relied on panel data to achieved this result.

- *Relationship between Short Term Debt and Dividend Policy*

This study second objective was to assess the effect of short-term debt capital as a component of financial structure on dividend policy of listed commercial banks in Kenya. current liabilities to total equity ratio was used as a measure of short-term debt financing. The study predicted a positive insignificant relationship between short term debt and dividend policy of listed commercial banks in Kenya as a result the following null hypothesis was tested.

Ho_2: Short Term debt financing has no significant effect on the dividend policy of listed commercial banks in Kenya.

From the random effect regression, the p value of the t-statistics is which is greater than 0.05. The null hypothesis is accepted at 5% significant level and hence the conclusion that short term debt has a positive insignificance influence and a unit increase in short-terms debt translate to 0.12024 increase in dividend policy measured by dividend pay-out ratio.

- *Relationship between Long Term Debt and Dividend Policy*

This study used long-term debt as a third objective to evaluate the effect of long-term debt as a component of financial structure on dividend policy of listed commercial banks in Kenya. Noncurrent liabilities to total equity ratio was used as a measure of long-term debt financing. Regarding listed commercial banks the study predicted a positive insignificant relationship between long term debt financing and dividend policy of listed commercial banks in Kenya. The random effect GLS regression model was used to assess if the relationship was significant and as a result the following null hypothesis was tested.

Ho_3: Long-term debt financing has no significant effect on the dividend policy of listed commercial banks in Kenya.

From the random effect regression, the p value of the t-statistics is which is greater than 0.05. The null hypothesis is accepted at 5% significant level and hence the conclusion that long term debt financing has a positive insignificance influence and a unit increase in long term debt translate to 0.6669 increase in dividend pay-out ratio for listed commercial banks. This finding contrast with Deovita *et.al* (2015) who found significant positive effect but total opposite with the study by Kajirwa (2015) who found insignificant negative effect of long-term debt on firm performance though in our case it was positive insignificant. Therefore, financial structure has a mixed effect hence the existence of optimal financial structure.

- *Relationship between Retained Earnings and Dividend Policy*

This study used retained earnings as its fourth objective to examine the effect of retained earnings as a component of financial structure on dividend policy of listed commercial banks in Kenya. Total accumulated retained earnings to total equity ratio was used as a measure of retained earnings. The random effect GLS regression model was used to assess if the relationship was significant and as a result the following null hypothesis was tested.

H_{O4}: Retained earnings financing has no significant effect on the dividend policy ratio of listed commercial banks in Kenya.

From the random effect regression, the p value of the t-statistics is which is less than 0.05. The null hypothesis is rejected at 5% significant level and hence the conclusion that retained earnings has a positive significance influence on dividend policy and a unit increase in retained earnings when other variables are held constant translate to 3.817 increase in dividend pay-out ratio. Similar results were established by Okumu (2016) who investigated capital structure and dividend pay-outs of commercial banks in Kenya and the finding showed that retained earnings positively and significantly influences dividend pay-out.

V. SUMMARY, CONCLUSION, AND RECOMMENDATIONS

➢ *Introduction*

This chapter presents a synopsis of the findings based on chapter four as per the study objectives. The key objective of the study was to establish the effect of financial structure on the dividend policy of public listed commercial banks in Kenya. The specific objectives entail: To determine the effect of Ordinary Share capital on the dividend policy of listed commercial banks in Kenya. To assess the effect of Short-term debt Financing on the dividend policy of listed commercial banks in Kenya. To Evaluate the Effect of Long-term debt financing on the Dividend Policy of listed commercial banks in Kenya. To find out the effect of Retained earnings on the dividend policy of listed commercial banks in Kenya. The chapter presents the conclusion and commendation to the study.

➢ *Summary*

Erstwhile studies undertaken in other countries regarding the relationship between financial structure and dividend pay-out ratio but not attempt to establish the reaction has revealed that there exists a relationship between the capital structure and dividend pay-out ratio. The most important objective of this study was to establish the effect of financial structure on the dividend policy of listed commercial banks in Kenya. Below is a summary per each specific objective.

- *Ordinary Share Capital and Dividend Policy*

Ordinary share capital was the first objective, which was measured by Ordinary share capital to total asset ratio. Based on the findings of our study at 95% degrees of freedom showed a medium positive relationship between ordinary share capital and dividend policy of listed commercial banks in Kenya.

- *Short Term Debt and Dividend Policy*

Based on the study finding the connection between short term debt and the dividend policy is positive insignificant for listed commercial banks listed at NSE. This can be explained by the varying nature of the industry since the banking industry is highly levered compared to other industries and commercial banks rely on short term debt to facilitate lending and to generate revenue.

- *Long Term Debt Ratio and Dividend Pay-out Ratio*

Based on the study finding the connection between long term debt and the dividend policy is positively insignificant that means if all the other variables are held constant an increase in long term debt will results to an increase in dividend pay-out ratio. This can be attributed to the higher cost of interest attributed to long term debt and the benefit of tax shield up to a given point, hence banks will try to retain more for investment purposes and take some long-term debts, since debts are backed security which signify higher value and provide more cash for investment purposes and to adhere to Basel 111 accord requirements. That means that few listed high value bank will source on long term debt to finance their activities and some banks will borrow to pay dividends not to disappoint investors rather than for investment purposes.

- *Retained Earnings and Dividend Pay-out Ratio*

About objective four to examine the effect of retained earnings as a component of financial structure on dividend policy of listed commercial banks in Kenya. Total accumulated retained earnings to total equity ratio was used as a measure of retained earnings. The random effect GLS regression model result show that banks had a positive significant relationship. This means that listed commercial banks will depend on retained earning which has a positive significant effect to ascertain dividend policy. Hence, we can summarize that retained earnings has a significant effect on dividend policy for listed commercial banks. Also, banks should retain more to meet the requirement of Basel 111 Accord which was implemented in the year 2019.

➢ *Conclusion of the Study*

The objective of the study was to examine the effect of financial structure and a dividend policy of listed commercial banks in Kenya by bringing into play the 10 listed commercial banks for examination for the period of 10 years. The finding from the random effect GLS regression results showed that financial structure has a significant effect on dividend policy. This means that banks should maintain a standard number of investors or ordinary shares so that not to dilute since an increase in ordinary shares will have significant positive effect on dividend policy. Since issuing out of shares dilutes the shareholding at the same time its more expensive and time consuming as compared to other ways of financing the firm.

Regarding the second objective, short-term debt compared to other variables has the lowest score even though it has an insignificant effect independently as a variable on dividend policy. But based on the correlation results it has a negative weak correlation effect This means that since short term debt are easy source of financing they are not considered much when paying dividend but the managers and the investors should be aware that there is an optimal level that satisfies their interest with minimal conflict it's important to consider that current assets are usually financed by Short term debt hence affect short term decision in the organisation that is why we see an insignificant effect in the study finding.

For the third objective, long term debt depicted a positive insignificant effect of long-term debt on dividend policy. We can there for conclude that tier 1 listed banks due to their stability they don't need funding in form of long-term debt to satisfy the interest of the shareholders, but tier 11 listed banks have no option but to borrow to finance their investment activities so that they can earn higher returns to pay higher dividend. Long term debt involves strict contractual covenants between the firm and issuers of debt which is usually associated with increased cost of agency and financial distress. A high long-term debt level is unfavourable for the effective operations of the firm since it increases the risk of bankruptcy.

Regarding the last objective, retained earning has a positive significant effect on dividend policy for listed commercial banks. The correlation results for the listed banks showed a medium positive correlation between retained earnings and dividend policy. Retained earnings as an internal source of financing is cheaper as compared to external equity and also they do not cause ownership dilution and has a positive connotation in the perspective of the shareholders and its associated with potential for investment opportunities. Hence level of Retained earnings conveys information to stakeholders on the future growth prospect of the firm. Retained earnings is what most investors use to evaluate the success of the management to bring change in the market value of the firm. Retained earnings is important because it has a significant impact on firm' stock prices. In making their choices, shareholders mostly consider firms with high return on retained earnings that is reinvested regularly.

The study supports the pecking order theory which states that firms should prioritise their source of financing form retained earnings to equity cascaded as Retained Earnings, debt and lastly equity Financing as the last resort. The study also supports the trade-off theory of capital structure, Agency Theory, pecking order theory and didn't support the dividend irrelevance theory by Modigliani and Miller proposition.

- *Recommendations*

The study advocates that Commercial banks must uphold an optimal financial structure to satisfy the interest of both shareholders and management. Thus, each bank should have its own benchmark on financial structure ratios with a buffer beyond the minimum requirement as specified by the regulatory requirement and the Basel 111 accord based on the safety level. Therefore, banks should pay a dividend based on the optimal dividend policy. Banks in Kenya should strive to attain the minimum requirement under BASEL 3 accord recently implemented to cushion themselves against any risk of insolvency in case of a financial crisis.

- *Suggestion for Further Studies*

The results and analysis of the study have raised additional questions to be addressed in future studies. The study did not use moderating variable therefore, further studies to be conducted using bank size, ownership structure and regulatory compliance as moderating variables to validate the findings and establish the effect in the banking sector.

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