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EFFECT OF SHAREHOLDERS-CREDITORS ASYMMETRIC INFORMATION ON NON-PERFORMING LOANS IN COMMERCIAL BANKS IN KENYA

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ABSTRACT

This study investigated the effect of shareholders-creditors asymmetric information on non-performing loans in commercial banks in Kenya. The study also looked into the moderating effect of bank size on the relationship between shareholders-creditors asymmetric information and non-performing loans. A descriptive survey research design was adopted in the study. The population of the study was the 39 commercial banks. The study used dividend payouts as proxy for measuring shareholders-creditors asymmetries information. Proxy for measuring non-performing loans was taken as non performing loans to total loans and Bank size measured by logarithm of total assets was used as moderating variable in the study. Secondary data for analysis were obtained from financial statements of commercial banks and central bank of Kenya supervisory reports. Normality test was confirmed using skewness and Kurtosis tests. Time scope was 10 years from 2013 to 2022 as the period is recent and there was enough data available and reliable for the study. Geographical scope was the 39 Commercial banks licensed and operating in the republic of Kenya. The research established that shareholders-creditors asymmetric information does not have significant relationship with non-performing loans. The results however confirm that Bank size has moderating effect in the relationship between shareholders-creditors asymmetric information and non-performing loans.

Key Words: *Shareholders-Creditors 'Asymmetric Information, Bank Size*

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INTRODUCTION

Rising levels of non-performing loans (NPLs) on the financial statements of banks remained to be an important cause for concern for policy makers (Fell, Grodzicki, Martin and Brien, 2016). According to Assaf, Matousek and Tsionas (2013), non-performing loans is a by-product of the loaning process and is an unwanted output. The non-performing loan (NPL) ratio in the euro area increased from 3% to 8% during the global financial crisis, with lower interest rates and bank-specific factors affecting credit risk. Greece is seeking a systemic solution to bad loans. Chinese commercial banks' average NPL ratio reached 1.9% in 2018, a ten-year high, with "lending at risk of becoming non-performing" reaching 3.4 trillion yuan (Huljak, et, al., 2020, CBIRC. 2019)

Non-performing loans has been considered as the major cause of Financial crises witnessed in numerous countries. The latest financial crises were faced in the US subprime mortgages due to the financial credit crunch that occurred in 2007 and 2008, resulting in financial crises and financial market instability. According to Barbaroux (2014) information asymmetry cause both market failures and market opportunities. Mainstream economists regard information asymmetry as the main source of market failures since it affects how individuals assess the quality of goods and services obtainable in the marketplace (Akerlof, 1970) and how individuals anticipate on the intentions of others and agency (Spence 1976). After the global crises, NPLs are under the eyes of government, management of banks and researchers since it has been considered as main causes of bank the failure and crises of the banking system (Ghosh, 2015). The increasing level of NPLs affect the commercial banks in the long run then financial position of the economy in the country (Souza and Feij, 2011).

Determinants of Non-performing loans have been classified into macro and micro economic factors (Louzis, Vouldis and Metaxas, 2012). Backer et al. (2015) and Louzis et al. (2012) focused on external events such as the macroeconomic variables such as GDP growth, real interest rates, inflation rate, real exchange rate, unemployment rate and money supply conditions as key determinants of non-performing Loans. On the other hand Podpiera, (2012) focused on micro –economic factors also referred as bank-level factors (moral hazard, bad management, skimping or excess lending) bringing to fore studies in asymmetric information as part of micro economic and or bank specific factors. The 2007-09 global financial crisis has thus highlighted the role of asymmetric information and non-performing loans. After the said global financial crisis, incorporating asymmetric information into dynamic general equilibrium models is growing. Spina (2019), posit that to avoid future predicaments similar to financial crisis of 2008 regulators and supervisors of financial industry must monitor indicators beyond the traditional economic parameters such information asymmetry. A prime study on the information asymmetry was published by Akerlof(1970) in which the author discusses the externality caused by the divergent amount of private and social returns on various economic activities, and thus the need for intervention to redistribute welfare. According to Barbaroux (2014) information asymmetry is considered as a major source of market failures because it affects the quality of goods and services available on the market and disturbs the process of allocating resources efficiently and on the other hand, information asymmetry is presented as a major source of market opportunities.

According to CBK (2020), the stock of non-performing loans (NPLs) increased by 29.6 percent to Ksh.436.1 billion in December 2020 from Ksh.336.6 billion in December 2019 and Asset quality, which is measured by the ratio of gross NPLs to gross loans increased to 14.5 percent in December 2020 from 12.5 percent in December 2019. Study of (Rodoni & Yaman (2018), indicates that information asymmetry has significant effect on non-performing loans but only for a short run. According to (Islam and Nishiyama, 2017) information asymmetry of borrowers only cause deterioration of non-performing loans but did not establish if shareholders-creditors asymmetric information affect non-performing loans. The studies (Zhang, Cai, Dickinson and Kutan 2015; Podpiera and Weill (2008); Islam and Nishiyama 2017) did not consider other

types of asymmetric information such as shareholders-creditors asymmetric information and other factors that are known to affect information asymmetry and non performing loans such as bank size. Zhang et al. (2016) find the empirical evidences of moral hazard behavior among the banks with higher portion of problematic loans on the books, suggesting that its the level of non-performing loans that causes moral hazard behavior and not the vice versa.

In as much as researches have been done on the relationship between asymmetric information and non-performing loans the great bulk of the literature has been devoted to developed countries and the emerging economies of Asia and Latin America, very little scholarly focus have been oriented towards Africa continent despite growing rates of nonperforming loans (Triki & Gajigo, 2014). Studies have focused on information asymmetries on capital market stock tradings and not on credit markets (Martins and Paulo 2014). The studies too have focused on information asymmetries between borrowers and managers and failed to look at entire stake holders opportunism (Karlan and Zinman, 2009). In most tests bank size has not been used as moderating variable in the relationship between asymmetric information and non performing Loans (Mishkin,2011;Janda & Krasvtsov 2018).

With respect to increase in non-performing loans and increase in asymmetric information, commercial banks in Kenya are does trapped in gridlock and are likely to collapse and result in collapse of Kenyan economy. Empirically there is therefore no agreement on the effect of shareholders-creditors information asymmetry on non-performing loans in Commercial banks in Kenya. There is therefore need to establish the effect of shareholders-creditors asymmetric information on non-performing loans and be able to understand how shareholders-creditors asymmetric information affects non-performing loans in Commercial banks in Kenya. This study consider the effect of shareholders-creditors asymmetric information on non-performing loans in context of stakeholders opportunism, transaction cost economics and incomplete contract theory. The study used dividend payouts as a proxy of shareholders-creditors asymmetric information and used non performing loan to total loans to measure non-performing loans. This study thus established the effect of shareholders-creditors asymmetric information on non-performing loans in commercial banks in Kenya.

Objective of the study

The objective of the study was to determine the effect of shareholders-creditors asymmetric information on non-performing loans in commercial banks in Kenya. The study was guided by the following specific objectives:

- To evaluate effect of shareholders-creditors 'asymmetric information on non performing loans in commercial banks in Kenya.
- To establish the moderating effect of bank size in the relationship between shareholders-creditors asymmetric information and non-performing loans in commercial banks in Kenya.

The hypotheses were stated in a null context as follows:

- H_{01}: There is no significant relationship between shareholders-creditors' asymmetric information and non-performing loans in commercial banks in Kenya.
- H_{02}: There is no significant moderating effect of bank size in the relationship between shareholders-creditors asymmetric information and non-performing loans in commercial banks in Kenya.

LITERATURE REVIEW

Asymmetric Information Theory

The theory of asymmetric information suggests that, if a participant who has privilege of more information capitalizes on the same information it can result in market imperfection. This theory was postulated by Akerlof (1970) in his paper named "Lemons": Quality uncertainty and the market mechanisms. This is a

theory relevant for situations where there is imperfect knowledge and in particular occurs where one party has different information to another. According to Auronen (2003) the theory of asymmetric information make it clear that it may be hard to differentiate good from bad borrowers, which may result into adverse selection and moral hazards problems. Jensen and Meckling (1976) agency theory outline two kinds of moral hazard problems: managerial rent-seeking; which takes place when agents pursue their private gains by investing in projects with poor returns and conflict of interest between shareholders and creditors and further suggests that both of these moral hazard problems lead to a larger number of NPLs in the banking sector.

The theory proposes that an imbalance of information between two parties that can lead to inefficient outcomes in certain markets. Williams (2011) state that when the model includes a hidden state variable, an additional state variable is needed which gives a brief statement of "shadow value" of the state to capture history dependence in the contract. In the case of hidden information and actions, the dividend payout ratio for example could represent the shadow value of shareholders hidden information and actions. Tarchouna, Jarraya, and Bouri (2019) state that shadow pricing (costing) are used when undesirable outputs' prices are unavailable. Therefore from desirable output and the actual output one can assess the unobservable output (shadow value) of asymmetric information. In this study asymmetric information is assumed to exist where there are hidden actions (adverse selection) or hidden efforts and or actions (moral hazards) or both and this theory informs the use of shareholders-creditors asymmetric information as a variable and dividend payout ratio as a proxy for measurement.

Stakeholders Opportunism

Werder (2011) propagated Stakeholders opportunism through his study on corporate governance and stakeholder opportunism. According to Werder (2011), the terrain has been broadened from its traditional narrow interest in the principal agent problem between shareholders and management to the more comprehensive stakeholder approach of corporate governance. According to Werder (2011), the classical principal agent problem emanates from likely opportunistic behavior of the management, which compromises the interests of the shareholders. However, as the notion of stakeholder opportunism points out, not only the management of a company can exercise opportunism; rather, all stakeholders of a company can (and will to some extent) have options to behave opportunistically and at the same time stand the possibility of being victims of other stakeholders's opportunism.

Rudolf (2019) explained that opportunistic attitudes may be presented not only by the management board of a company but also by its other stakeholders and may use incompleteness of agreements that have been entered into or asymmetry of information in order to increase their gain at the expense of others. Janda and Kravtsov (2018) test the evidences of moral hazard in the relationships between shareholders, bank managers and regulatory restraints, the results hold-up theoretical argument of Pecking order of risk preference of the agents propagated by Jeitschko and Jeung (2005) as follows; first order is bank manager, the second is shareholders and last regulators in support of stakeholders agency theory. In this study stakeholders' opportunism informs the use of shareholders-creditors asymmetric information as a variable and where there is a relationship between asymmetric information variable and non performing loans there is stakeholders opportunism.

Pecking Order Theory

Pecking order theory originates from Donaldson (1961) whose study suggests that firms favor internal financing over external financing. It was further developed and propagated by (Myers & Majluf, 1984). It states that companies prioritize their sources of financing (from internal financing to equity) according to the cost of financing, preferring to raise equity as a financing means of last resort. Hence, internal funds are used in first instance, and when that is exhausted, debt is issued, and when it is not reasonable to issue any additional debt, equity is issued.). Myers (1984) argues that adverse selection and information asymmetry cause firms to prefer internal financing over external financing

Myers and mazluf, 1984, argued that in the presence of incomplete information firms might suffer from underinvestment problems. Pecking order theory proposition is thus to minimize the firm's insiders-outsiders issues related to information asymmetry by following a particular financing hierarchy (Myers, 1984; Myers & Majluf, 1984). The theory gives a clear idea that the managers first prioritize the retained earnings to finance their activities and if they need more funds, they choose to issue debt, lastly when issuing more debt makes no sense, equity is issued. Pecking order theory, on one side, supports the assumption that high profitable firms would most likely finance their activities with internal funds and would tend to lower the level of debt ratio. The pecking order theory thus states that firms prefer to finance with internal funds. Ideally, a firm would have a debt ratio equal to zero. However, only firms that have enough internal funds can reach this long run equilibrium. In this study shareholders-creditors asymmetric information as measured by dividend payout is used to measure preference of debt over retained earnings through risk shifting and or asset substitution which is considered to exist in situation where retained earnings are distributed as dividend payouts instead of being used to finance operations and investments in favor of debts and in process result in increase in non-performing loans and decline in assets quality

Transaction Cost Economics (TCE) Theory

The Transaction Cost Economics (TCE) was originated by Coase (1937) who developed the theory from the works of Chester Barnard, and Herbert Simon (Williamson, 2005b). Coase and Williamson then were awarded a Nobel Prize based on their contribution of so called "Transaction Cost Economics (TCE)" in 1991 and 2009 (Williamson, 2010) respectively. Transaction Cost Economics (TCE) seek to explain the existence and boundaries of the firm (Williamson, 2008). Drawing from the theory of TCE, there is always transaction cost in any supply chain interaction (Grover and Malhotra, 2003). This is because of the assumptions of bounded rationality (Simon, 1957) and opportunistic behaviour (Williamson, 2008). Based on the classical economics theory, it is assumed that humans have perfect rationality of their behaviours (Coase, 1937).

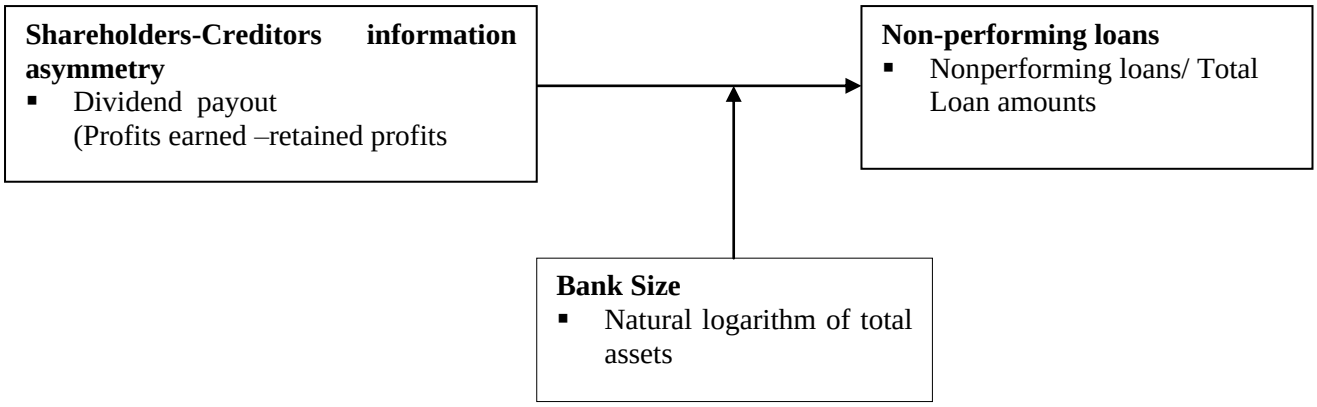
The particular version of Transaction Cost Economics (TCE) developed by Williamson (1975, 1985) explains the latent conflict by the possibility of opportunistic behavior on behalf of the different parties to a transaction. Opportunistic behavior leads to the cost of monitoring the outsourced production processes and the quality of delivered products (Vieira et al., 2011). Although the firm may not discover any opportunistic behavior of its suppliers, quality checking may still be necessary as long as the expectation of opportunistic behaviour still exists (Lui & Ngo, 2012). Transaction cost economics thus suggests that economic actors select governance modes that best mitigate the transaction costs associated with opportunism. This theory informs use of the variable such as bank size with assumption that economies of scale emanating from bank size can improve cost efficiencies and reduce information asymmetry.

The efficient market hypothesis

The Efficient Markets Hypothesis (EMH) is an investment theory primarily derived from concepts attributed to (Fama, 1970). Market efficiency refers to the degree to which market prices reflect all available and relevant information in an unbiased manner. The efficient market hypothesis (EMH) is a well-defined theoretical body that has been discussed in numerous studies since its first introduction by Eugene Fama in 1970 (Titan, 2015). Since its conception, the EMH has become the cornerstone of neoclassical financial theory. The modern portfolio theory (MPT; Markowitz, 1952), the capital asset pricing model (CAPM; Sharpe, 1964), the option pricing model (OPM; Merton, 1973), and the arbitrage pricing theory (APT; Ross, 1976) were all established based on the EMH. The theory states that markets prices are 'efficiently' reflecting available information, and that, as such, price is a fair depiction of value. Because of the unpredictable nature of news, neither technical analysis (which is a study of past prices to predict future prices), nor fundamental analysis (which is he study of financial and economic data) can be accurate methods to forecast prices. The principle of the Efficient Market Hypothesis (EMH) claims that beating the market is difficult because stock market performance allows all relevant knowledge to both be incorporated and expressed in current share prices.

In incomplete capital markets, there are severe adverse selection or moral hazard problems (Stiglitz & Wiess, 1981, Stiglitz 1990), which have unintended consequences. For example, in equity markets with adverse selection, there can be average pricing which may deter the good or safer firms from remaining in the market since the effective cost of capital for safer firms in such a scenario is too high and, ultimately, such markets can be occupied only with high risk or bad firms, which may even lead to complete market failure (Akerlof, 1970).

Conceptual Framework



Independent Variables **Moderating Variable** **Dependent Variable**

Figure 1: Conceptual Framework

Shareholders-Creditors Information Asymmetry

The risk-shifting (asset substitution) problem introduced by Jensen and Meckling (1976) suggests that shareholders can transfer wealth from bondholders by engaging in risky projects. It is perceived that share-holders using management can shift risk assets from shareholders to creditors by paying themselves dividends and in process shifting risks to creditors. Acharya et al. (2012) affirm that the high dividends paid by banks during the turmoil revealed some risk shifting (or, asset substitution) on creditors. Onali (2014) examined the role of dividends as a risk-shifting mechanism that can exacerbate moral hazard and the findings show that banks that are close to depleting their capital pay more dividends to their shareholders, suggesting that dividends are used to shift risk. The assumption in this study is that; in situations of no risk shifting, equity shareholders should reinvest all profits and thus plowback ratio /retention ratio ought to be 100% until there is no debt and thus dividend payouts ought to be zero. This is supported by Pecking Order Theory. The portions of profits paid in form of dividends in presence of debt holders can thus be considered as shadow value of risk-shifting to depositors. In this study shareholders-creditors asymmetric information and shareholders moral hazard is measured using shadow value of risk-shifting (asset substitutions) inform of dividend payout to shareholders.

Bank Size

Firm size as a moderator has gained the attention of various management researchers (Vij and Farooq, 2017). Mahmood et.al (2019) investigated Moderating Effects of Firm Size and Leverage on the Working Capital Finance–Profitability Relationship: Evidence from China. Obaje and Abdullahi (2021) study Moderating effect of firm size on the relationship between board structure and firm financial performance in Nigeria. Hassan & Aliyu, (2023) established Moderating effect of bank size on the relationship between interest rate, liquidity, and profitability of commercial banks in Nigeria. Hassa & Usman (2020) study Determinants of bank profitability with bank size as moderating variable in Indonesian banks.

According to Akkaya and Uzar (2011), large firms are more diversified; therefore they face less possibility of default than smaller firms. On the other side, there is however growing argument that big banks worldwide continue to be more inefficient than their smaller counterparts, which is a paradox (Karray and Chichti 2013; Asongu et al. 2018a; Asongu and Biekpe 2018).

Non-Performing Loans

Ozili (2019) in his study on the determinants of the asset quality as measured by NPL ratio in banks indicates that more profitable banks show a higher level of non-performing loans. According to Ghosh (2015) the size of the bank (measured by the value of its assets) is a factor that influences the quality of the loan portfolio and Large banks using financial leverage may excessively increase their lending activity which is usually associated with a lowering of credit standards and thus expose themselves to the risk of losses on granted loans. According to Barus, Muturi, and Kibati (2017) and Nazir (2010), non performing loans is measured using non-performing loans to total loans . This study, therefore, used non-performing loans to total loans as a measure of non-performing loans. This study aims to contribute to the Non-performing loans literature by examining the effect of shareholders-creditors asymmetric information asymmetry on non-performing loans. The study also study moderating effect of bank size in the relationship between asymmetric information and non-performing loans in commercial banks in Kenya.

Effect of Shareholders-Creditors' Asymmetric Information on Non-performing Loans

Jensen and Meckling (1976) agency theory outline two kinds of moral hazard problems: managerial rent-seeking; which takes place when agents pursue their private gains by investing in projects with poor returns and conflict of interest between shareholders and creditors and further suggests that both of these moral hazard problems lead to a larger number of NPLs in the banking sector. According to Orina (2011), the dividend decision is important to the company mainly because it provides the solution to the dividend puzzle which is concerned about whether payment of dividend increases or reduces the value of the firm and it is part of the company's financing strategy, in that payment of high dividend means low retained earnings and hence the need for more debt capital in the company's capital structure. Dividend signaling has been explained from various perspectives or theories, mainly, signaling theory (Miler & Rocks, 1985), pecking order theory (Myers & Mazluf, 1984, Myers, 1984) and dividend life cycle theory (Deangelo et, al, 2006, 2008)6. These theories often predict nearly opposite hypotheses. Later theoretical models (Leary and Roberts, 2011) have shown that dividends are not paid randomly; rather, there is generally a partial adjustment of dividends towards a target level, which is determined by firm-specific factors (so to say, endogenised); hence, relative to the stochastic earnings, the dividends are rigid, with varying speeds of adjustments.

Bank Size and Non-performing loans

According to Karray and Chichti (2013) size brings economies of scale and accompanying cost reductions and big banks are thus expected to have lower interest rates margins because they have more opportunities to leverage their size to achieve economies of scale resulting in decrease in asymmetric information and non performing loans. Stimpert, and Laux (2011) however argue that while costs decline as bank size increases, these relationships do not hold indefinitely and diseconomies of scale are experienced by larger banks. Barrell, Davis, Fic, and Karim (2010) did study to establish if there is a link between bank size and non performing loans ratio by doing a microeconomic analysis of performance using a data set that contains 713 banks over 16 years in 14 countries: Belgium, Canada, Denmark, Finland, France, Germany, Japan, Netherlands, Norway, Spain, Sweden, UK and US. The study found a strong relationship between bank size and non performing loans ratio and attributed the outcome with the existence of implicit too big to fail insurance which induces moral hazard. This support the case that large banks hold more poor quality capital as compared with small banks because of inducements of bailouts as suggested by Alessandri and Haldane (2009) and Kay (2009). The study suggest that too big to fail problem is relevant in today's financial markets and informs the use of bank size as a moderating variable in this study. Natural logarithm of the total assets ratio of bank is

used to measure bank size as such measure indicates the banks' capital strength for a particular year (Durguti, 2020

METHODOLOGY

The study was of a descriptive survey design nature. The design was used to investigate the effect of shareholders-creditors asymmetric information on non-performing loans of commercial banks in Kenya. The population consisted of 39 commercial banks licensed by the Central bank of Kenya and operational in Kenya in the period between 2013 to 2022 and the data was collected from the financial statements of each commercial bank and annual reports from CBK database. Out of the licensed 44 commercial banks in Kenya, only 39 commercial banks were fully operational and financial results were available for the years 2013-2022, the period of the study. Charterhouse Bank, under statutory management, Fidelity Commercial Bank, undergoing acquisition, Chase Bank and Imperial Bank Ltd in receivership during the period of the study have been excluded.

The data collected was put in data collection sheets and then analyzed in SPSS and results obtained. The Statistical Package for Social Science (SPSS) was used to analyze the data. Descriptive statistics was used to describe the variables Shareholders-creditors asymmetric information was taken as independent variable(s) and non-performing loans for each year taken as dependent variable, whereas bank size was taken as moderating variable. The study used an OLS regression model as used per (Micco & Panizza, 2006; Berrospide & Edge, 2010; Carlson et al., 2013). Before carrying out the analyses, the correlation between the independent, dependent and moderating variable was checked. This analysis tested the hypothesis that the independent variable has its own specific asymmetric information value in its ability to explain the relationship between asymmetric information and assets quality. The significance of the coefficients was calculated at 95% confidence level. Further inferential statistics were used to show the effect of shareholders-creditors asymmetric information on non-performing loans, to determine the validity and reliability of the secondary data, data was confirmed to be Suitable, met the objective, is current, accurate, credible and from authoritative source which is Central bank of Kenya supervision annual reports and verification was done with financial statements of the commercial banks in Kenya.

FINDINGS AND DISCUSSION

Descriptive statistics

Descriptive statistics were employed to provide: means, maximum, minimum, standard deviation of data collected on asymmetric information and non-performing loans in commercial banks in Kenya. Mean is total sum of data of variable divide by the number of data collected. A standard deviation (or σ) is a measure of how dispersed the data is in relation to the mean.

Table 1: Descriptive statistics

	N	Minimum	Maximum	Mean		Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
Shareholders_ Creditors_ Asymmetric_Information	390	15.43	35.42	24.9170	1.77915	5.62615
Bank_Size	390	14.79	15.69	15.2530	.09137	.28895
Non_performing_Loans	390	6.80	14.13	10.5220	.91861	2.90490
Valid N (listwise)	390					

Table 1 summarizes the dispersion part of descriptive statistics of the variables. The descriptive statistics considered were minimum, maximum, mean , standard deviation , skewness and kurtosis. N The number of cases (observations or records) is indicated as 390 which is interpreted as 10 years observations for each of the

39 commercial banks resulting in 390 observations or records. This is consistent with the findings of Muriithi and Waweru (2017) in analyzing Performance of Commercial Banks in Kenya using 39 commercial banks licensed and operating in Kenya. This is also consistent with Kirimi,Kariuki and Ocharo, K. N. (2022) who analyze Financial soundness and performance as evident from commercial banks in Kenya using 39 commercial banks licensed and operating in Kenya.

The descriptive analysis results for shareholders- creditors asymmetric information indicates mean of 24.92 % with a maximum of 35.42 % and a minimum of 15.43 % with standard deviation of 5.62% on both sides of the mean. The standard deviation of 5.62 % indicated a relatively high disparity in shareholders-creditors asymmetric information as measured by dividend payout ratio. The descriptive results thus indicate relatively high disparity in dividend payout ratio and consequently positive growth in shareholders-creditors asymmetric information in commercial banks in Kenya over the period of the study. This is consistent with the findings established by Bwire, (2022) in the study of Information Asymmetry and fragility among Banks in Kenya.

Bank size results indicates mean value of 15.25, with a maximum of 15.61 and a minimum of 14.79 with standard deviation of 0.288 on both sides of the mean. The results indicates that commercial banks in Kenya had an average bank size of 4.2 trillion (antilog. of 15.25), a maximum of 6.6 trillion (antilog. of 15.69) and a minimum of 2.7 trillion (antilog. of 14.79) that deviated by 1.34 (antilog. of .0289) on both sides of the mean, which indicates general growth in bank sizes of commercial banks in Kenya during the period of study. This is in agreement with central bank of Kenya reports, (CBK 2013, 2015, 2017, 2021 and 2022). This is also in agreement with the findings of Ngungu and Abdul (2020) in the study of firm Characteristics and Non-Performing Loans of Commercial Banks in Kenya.

Non-Performing loans as measured by non- Performing Loans to total loans on commercial bank has a positive mean of (10.522), which shows that commercial banks registered a high level of non-performing loans ratio and consequently declining non-performing loansover the period of study. The results indicate that commercial banks in Kenya reported an average non performing loans ratio of 10.522 % with the maximum of 14.13 % and minimum of -6.80 % that deviated by 2.90 % on both sides of the mean. The standard deviation of non-performing loans was relatively low 2.90% which indicates data for non-performing loans are clustered around the mean with minimum and maximum values of 6.8 and 14.13 respectively indicating little dispersion of non-performing loansfrom mean. The study also shows increase in non-performing loans with positive growth of bank size and shareholders-creditors asymmetric information which is consistent with the findings of Acharya, et, al; (2016) who established positive relationship between shareholders-creditors asymmetric information and non performing loans in banks characterized by asset substitution moral hazard and managerial under provision of effort in loan monitoring. The results are also in agreement with (CBK,2022) banking supervision report that registered increase in non-performing loans (NPLs) , total bank assets and divideds paid by commercial banks as at December 2022.

Pearson Product Moment Correlation

To find out the relationship between shareholders-creditors asymmetric information, bank size and non-performing loans, Pearson Product Moment Correlation analysis was done and results were indicated in Table 2.

Table 2: Pearson Correlations

		Shareholders-Creditors Asymmetric Information	Bank Size	Assets Quality
Shareholders_Creditors_Asymmetric_Information	Pearson Correlation	1	.768**	.538
	Sig. (2-tailed)		.010	.109
	N	390	390	390
Bank_Size	Pearson Correlation	.768**	1	.850**
	Sig. (2-tailed)	.010		.003
	N	390	390	390
Non_performing_loan	Pearson Correlation	.538	.850**	1
	Sig. (2-tailed)	.109	.002	
	N	390	390	390

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

The results in table 2 show Pearson correlations of variables. The results indicate positive correlation between shareholders-creditors asymmetric information and non-performing loans but relationship is not significant ((r) = 0.538, P=0.109>0.05). The results further indicates positive relationship between bank size and non-performing loans((r) = 0.850 P=0.003<0.05).

Effect of shareholders-creditors asymmetric information on non-performing loans

The effect of Shareholders-creditors asymmetric information on non performing loans was determined through analysis of variance and the results was shown in table 3.

Table 3 : ANOVA Of X_1 And NPL

Model	R	R Square	Std. Error of the Estimate	Change Statistics	
				F Change	Sig. F Change
1	.538[a]	.289	.02823	3.251	.109

a. Predictors: (Constant), Shareholders_Creditors_Asymmetric_Information

The table 3 shows Analysis of Variance (ANOVA) of independent variable X_4 and of dependent variable NPL. The F test of 3.253 shows that data used to test the variables is appropriate for the test. R Square is 0.289 which means that variable X_1 of shareholders-creditors asymmetric information can only explains for 53.8 % of variance in asset quality and Adjusted R square of positive 20.0 % when other known variables' explanation of relationship are considered. The correlation indicates that there is relationship of 53.8 % between shareholders-creditors asymmetric information (X_1) and non-performing loans (NPL) and at significance of 0.109. The significance is greater than 0.05 and thus indicates the test is not statistically significant at 95 % confidence level. The results confirms that that there was enough evidence to accept the null hypothesis **$H_0$1** confirm that there is no significant effect of shareholders-creditors asymmetric information on non-performing loans in commercial banks in Kenya. The results validated existence of moral hazard problem of asset substitution even though the study confirms that the effect of asset substitution on non-performing loans is not statistically significant in commercial banks in Kenya. The study does not s corroborate with the findings of Onali (2014) who suggested that dividends are used to shift risk from bank owners to creditors and taxpayers and is also not consistent with studies of (Acharya, Mehran, and Thakor, 2015)

The Moderating effect of Bank Size

The test for moderating effect of bank size in the relationship between shareholders-creditors asymmetric information and non-performing loans in commercial banks in Kenya was based on the approach by Whisman

and McClelland (2015) and also used by (Ngungu and Abdul, 2020). The approach is based on two steps. The first step introduces the moderating variable as an explanatory variable. This is for purposes of ascertaining whether Bank size is an explanatory variable.

Table 4: ANOVA of Bank Size And Non-performing loans

			Change Statistics	
Model	R	R Square	F Change	Sig. F Change
1	.828[a]	.686	17.443	.003

a. Predictors: (Constant), Bank_Size

The table 4 shows Analysis of Variance (ANOVA) of independent variable moderating variable M_1 and of dependent variable NPL. The F test of 17.443 shows that data used to test the variables is appropriate for the test. R Square is 0.686 which means that variable M_1 of Moderating variable bank size can only explains for 82.8% of variance in non-performing loans. The correlation indicates that there is relationship of 68.6% between Bank size (M_1) and non-performing loans (NPL) and at significance of 0.03. The significance is less than 0.05 and thus indicates the test is statistically significant at 95 % confidence level. The results in step one thus indicate that with all other variables held constant, bank size has significant effect on non-performing loans of commercial banks in Kenya and passed the first step of moderation test by indicating that it significantly affect non-performing loans. This is consistent with Hue (2015) that disclosed that bank size has positive effect on non-performing loans. The results however is not in agreement with the findings of Karray and Chichti (2013) who postulate that size brings economies of scale and accompanying cost reductions.

The second step of the moderation test was then utilized to further confirm whether Bank Size was simply an explanatory variable or whether it had a moderating effect on the relationship between asymmetric information and non-performing loans.

Table 5: MANOVA Of NPL AND (X_1) +(M_1)

			Change Statistics	
Model	R	R Square	F Change	Sig. F Change
1	.828[a]	.686	7.655	.017

a. Predictors: (Constant), Shareholders_Creditors_Asymmetric_Information, Bank_Size

Table 5 shows second step of the moderating effect of bank size in the relationship between shareholders-creditors asymmetric information and non-performing loans utilized to further confirm whether bank size was simply an explanatory variable or whether it has a moderating effect on the relationship between shareholders-creditors asymmetric information and non-performing loans of commercial banks in Kenya. The results in table 5 show that variable X_1 of shareholders-creditors asymmetric information can explains for 82.8 % of asset quality at significance 0.017 and thus indicates the test is statistically significant at 95 % confidence level.

The results in table 5 as compared with results in table 5 show that when moderating variable bank size is incorporated in the effect of shareholders-creditors information asymmetry on non-performing loans of commercial banks, there is change of direction in the effect of shareholders-creditors asymmetric information on non-performing loans indicating that there is significant moderating effect of bank size in the relationship between shareholders-creditors asymmetric information and non-performing loans.

CONCLUSIONS AND RECOMMENDATIONS

The study result rejects the null hypothesis **$H_0$2** in favor of the alternative and affirms that there is significant moderating effect of bank size in the relationship between shareholders-creditors asymmetric information and

non-performing loans in commercial banks in Kenya. The results is also consistent with the findings of Barrell nand Karim (2010) who found a strong positive relationship between bank size and non performing loans and attributed the outcome with the existence of implicit too big to fail assurance which induces moral hazard and is also consistent with the findings by Akhter(2023) who established that large banks hold more poor quality assets as compared with small banks because of inducements of bailouts.

The results established enough evidence to accept the null hypothesis **$H_0$1** confirmed that there is no significant effect of shareholders-creditors asymmetric information on non-performing loans in commercial banks in Kenya. The study validated existence of moral hazard problem of asset substitution even though the study confirms that the relationship between asset substitution and non-performing loans is not statistically significant in commercial banks in Kenya.

The study established that there is significant positive relationship between bank size and non-performing loans in commercial banks in Kenya indicating that the bigger the bank size the lower the non-performing loans and vice versa. The study established enough evidence to reject the null hypothesis **$H_0$2** in favor of the alternative and confirm that there is significant moderating effect of bank size on the relationship between shareholders-creditors asymmetric information and non-performing loans.

The study confirms that dividends payout exacerbate asymmetric conflict between shareholders and creditors. The study supports the existence of stakeholder's opportunism driven by asymmetric information between shareholders and creditors. The study further suggests that incomplete contracts contracts are cause of \of asymmetric information. and transaction costs economics mitigate against asymmetric information The study confirms that commercial banks in Kenya generally observe pecking order theory and there is no significant indication of assets substitutions from shareholders to debt holders or creditors but there are possibilities of violation of pecking order theory by big banks resulting increase in shareholders-creditors asymmetric information and non performing loans bank size increases. Information asymmetry is a major source of market imperfection in finance and efficient market hypothesis is only an ideal situation but does not really exist in financial and credit markets where there is information asymmetry.

The contribution of this thesis hinges on the ability of the regulatory authorities, managers, investors and researchers to appreciate the effect of shareholders-creditors asymmetric information on non-performing loans of commercial banks and the moderating effect of bank size in the relationship between shareholders-creditors asymmetric information and non-performing loans. Policy recommendations and recommendations for further research were made.

The first policy recommendation is that the regulatory authorities should review asymmetric information's detection and mitigation mechanism with a view to establishing level at which they would intervene in commercial bank's operations as far as asymmetric information is concern. The central bank of Kenya should come up with more robust method of sharing information across the stake-holders spectrum. At the moment central bank policy has focused much on regulations on sharing of credit information for borrowers and it should also come up with policy of sharing information of other stake holders such as managers, shareholders and creditors who play central role in the management and monitoring of banks. The second policy is that central bank should also come up with policy of managing big banks due to too big to fail hypothesis and as well as come up with ways of managing dividend payment policy to guide against risk shifting and assets substitutions by shareholders to creditor specially in big banks.

The study was on the effect of shareholders-creditors asymmetric information and non-performing loans in commercial banks in Kenya and in recognition of the limitations and constraints in relation to the scope, further studies are recommended in the following areas: The researcher recommends that future research should be directed towards validating the results of this study by conducting a similar research in a different country and/or by collecting data from different sources. Further research can also be done on the relationship

between shareholders-creditors asymmetric information and non-performing loans on other institutions such as in microfinance institutions and cooperative societies in Kenya . There is need to model more appropriate loan market proxy measures of information asymmetry and non-performing loans since measurements for asymmetric information still remain a challenge. That even though size is associated with economies of scales and efficiency, there are also evidence of in-efficiencies related with bank size that includes too big to fail hypotheses and there is need for research on use of bank size as a proxy measure of information asymmetry between bank and regulators. It is suggested that future research analyze the effectiveness of information asymmetric management mechanism in improving non-performing loans by loaning institutions.

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