Moderating Effect Of Bank Size On Nexus Between External Equity Capital And Financial Performance Of Lower-Tier Commercial Banks In Kenya

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ABSTRACT
The commercial banks in Kenya have been recording declining performance over the recent past, with the lower-tier banks being the hardest hit. As a result, several banks in the lower-tier, such as Chase Bank, Dubai Bank of Kenya, and Imperial Bank, have been put under receivership. The collapse of banks does not give a good reflection of the sustainability of the banking system. Thus, the signals of poor financial performance need to be addressed promptly as the collapse of the banking system could also have a ripple effect on other sectors. The Kenyan banking sector is categorized into tier I, II, and III. The categorization is dependent on the size of the bank. The decline in profitability of the banking sector has affected tier II and III most. Also to note is that Tier one is made up of six giant banks that control close to half (49.9 percent) of the market, which begs the question as to whether the size of the bank has any influence on the performance of the banks. Therefore, this study sought to determine whether external financing influences Tier II and III performance and whether the bank size moderates this influence. Descriptive and explanatory research designs were employed in the study. The study population was 37 commercial banks in Tier II and III of the Central Bank's Lower-tier classification. Secondary data were adapted in the study for the years 2016 to 2020. After data cleaning, 26 banks were retained (70%) for further analysis. Data collected was analyzed by use of both descriptive and inferential analysis. Descriptive statistics included means, standard deviations, skewness, and Kurtosis, while inferential analysis included Multilevel Mixed Model Analysis and Hierarchical Multiple Linear Regression. The model coefficients show that equity has a positive and statistically significant relationship with the performance of lower-tier banks in Kenya measured using net profit margin (β=.229, p-value=.036<0.05). Further, the study found that size moderates the relationship between external equity and performance as an introduction of size in the model change R2 by .035 (p-value = 0.001). The study thus concludes that external equity capital positively influences the performance of lower-tier banks in Kenya, while size moderates the same. The study recommends that a bank evaluate when to use external equity funding, although external equity funding may be costlier. As a recommendation, lower-tier banks are encouraged to use external equity as this will improve their performance. Lower-tier banks are also encouraged to increase their asset base as their size moderates the banks' performance.

KEYWORDS: External Equity Capital, Financial Performance, Lower-Tier Commercial Banks.

1. INTRODUCTION AND BACKGROUND

The banking sector is the most visible source of finance and the key to modern trade and global economic growth [1]. Hawkins and Mihaljek [2] posit that institutions play a notable role in building domestic and global economies by ensuring credit is available to finance businesses and households. Čihák *et al*. [3] observe that the financial wellness of the banking sector in a country plays a critical role in the health of economies. Idiab et al. [4] opined that an efficient banking sector contributes positively to the economy by encouraging capital accumulation as credit suppliers. The banking sector rallies and assigns savings, supports sound trade activities, aids diversification and hedging of risk, and makes credit available to the private sector, which plays a pivotal role in economic growth.

Globally, the banking sector has been viewed over the past two decades as a declining industry, with some players unsure about the direction of the all-important players in economies [5]. The banks now trend toward an uncertain future as shareholders' value is diluted by additional financial risks associated with the pandemic. The current situation represents a season of weak profits, shrinking dividends, and much lower, or no, bonuses at a time when most investors had already turned bearish. European banks have suffered far more than their US rivals. In particular, the current covid-19 era has caused an unprecedented disruption in profits [6].

The global banking industry has continued operating in an environment of significant stress, with bank stocks underperforming their domestic markets and other non-bank financial firms [7]. The effectiveness of policy interventions to cushion the banks' sustainability has been mixed in different economies. Notably, a common observation is that the banking

sector has been declining in most global economies. Industry growth has stagnated in the midst of the global covid-19 crisis. World Bank [8] reports that the growth rate of assets of the top 1000 banks has remained at 2.7 percent compared to the double-digit growth rates witnessed before the crisis. Profits have also significantly dipped as the banks adopted a more conservative approach to investment, especially small banks, as they lacked the resources required to adjust to instant market shocks.

The banking sector is governed by the Banking Act and supervised by the Central Bank of Kenya. The Central Bank of Kenya applies the Tier System of Classification that classifies commercial banks into three tiers, Tier I, Tier II, and Tier III [9]. Commercial banks in Tier 1 are large banks with hundreds of billions in cumulative assets and millions of depositors. Tier one is made up of six giant banks that control close to half (49.9 percent) of the market [10]. The second-tier banks comprise medium-sized lenders and control 41.7% of the market share. The third and last tier comprises small banks and controls 8.4% of the market [11]. The ability to fund bank operations will influence bank performance. The capital structure represents the specific mix of debt and equity utilized by a firm in financing its investments and operations. One of the methods to fund a bank's operations are external equity.

The external equity capital assesses the firm's market value from the investor's perspective relative to a share's book value [12]. The external equity capital is a market-based valuation ratio that has to do with banks timing the market to know when to issue more equity or repurchase equity and when to incur debt or not in their capital structure [13]. Banks with high market-to-book ratios tend to grow quickly. Share capital is commonly measured by the Book value, which compares the market of the shares to firm value as indicated in the financial reports. The book value of equity assesses the firm's market value from the investor's perspective relative to a share's book value [14]. The book value of equity is a major source from which the costly external financing theory draws inspiration to interpret capital structure decisions. The paper determines the influence of external equity capital on the financial performance of lower-tier commercial banks in Kenya.

The profitability of commercial banks in Kenya had declined over the past decade, representing a negative figure in 2017. Kenya Bankers Association [15] reports that the total income for the large banks, Tier I banks declined from 13.80 percent in 2014 to 13.68 percent in 2015, which improved to 14.11 percent in 2016, only to register the highest ever decline to stand at a negative figure (-0.66%) in 2017. However, the same would increase to 5.45 percent in 2018. For the second-tier banks, an improvement was recorded between 2014 and 2015 as total incomes stood at 17.64 percent and 20.17 respectively. For 2016 the total income stood at 11.84 percent, declining to losses of -11.02 percent in 2017 but improving later to 1.14 percent in 2018. For the third tier of banks, total income stood at 16.04 percent in 2014 and improved to 15.03 percent in 2015 [16]. The incomes improved further in 2016 to stand at 4.91 percent. In 2017, the income deteriorated to a -9.90 percent loss. The income would improve in 2017 to stand at 11.04 percent. Therefore, it can be observed from the results that lower-tier banks are grossly entangled in performance challenges.

There have been mixed trends in banking income growth, which has often registered a negative or declining trend. The aggregative banking sector incomes grew from 14.84 in 2014 to 15.42 percent in 2015 but declined to 12.54 percent in 2016. The aggregative incomes further deteriorated in 2017, when the banking sector made an aggregate loss of -4.79 percent, which would later improve to 3.30 percent in 2018 [15], and this highlights that the banking sector's financial performance challenges need to be addressed, given its relative significance in the economy. From the preceding, it is very clear that the volatile performance of the banking sector is affecting tier II and Tier III more than it affects tier I. As such, this situation gives weight to the focus of the current study. The focus on the banking sector, specifically the lower-tier commercial banks, validates the indispensable value of the study.

1.1 PROBLEM STATEMENT

The commercial banks in Kenya have been recording declining performance over the recent past, with the lower-tier banks being the hardest hit [17]. As a result, several banks in the lower-tier, such as Chase Bank, Dubai Bank of Kenya, and Imperial Bank, have been put under receivership. The collapse of banks does not give a good reflection of the sustainability of the banking system. Thus, the signals of poor financial performance need to be addressed promptly as the collapse of the banking system could also have a ripple effect on other sectors.

As Onuonga [18] reveals, between 2008-2013, commercial banks' growth in Profits before Tax (PBT) was less than 20 percent on average terms, which also signified a declining trend. For the financial year 2012/2013, for example, the PBT of the Kenyan commercial banks increased by 16.6 percent, which was a decline from the previous financial year 2011/2012's record of 20.60 percent. Similarly, the PBT for 2008/2009 increased by 12.90 percent, which represented a decline from the previous year's record of 13.40 percent PBT in 2007/2008. Further, Maingi [19] observes that the banking sector valuations have gone down significantly over the last four years. This effect was more on lower-tier banks as compared to tier I banks.

Despite a number of empirical research on the subject matter, many gaps remain unresolved, especially in conclusively seeking to relate equity capital, bank size, and profitability [20,21]. The performance challenges facing lower-tier banks have adversely affected shareholders and depositors. Notwithstanding the importance of the small banks to economic growth, the continued collapse of banks put millions of jobs at stake, which in addition to causing economic strain to citizens and a negative

impact on their livelihood. The current study will therefore assess the effect of external equity on the profitability of lower-tier commercial banks in Kenya and the influence of size on this relationship.

1.2 OBJECTIVE OF THE STUDY

To determine the moderating influence of firm size on external equity capital and financial performance of lower-tier commercial banks in Kenya.

2. THEORETICAL AND EMPIRICAL REVIEW OF THE STUDY

This section reviews the theoretical underpinning of the study and empirical study relating to the area of study.

2.1 THEORETICAL REVIEW

The study was guided by the Modigliani and Miller (MM) theory. Modigliani and Miller [22] advanced the capital structure irrelevance theory. The Modigliani-Miller theorem on the irrelevancy of capital structure implicitly assumes that the market possesses full information about the activities of firms and that the information asymmetry influences financial growth [23]. Modigliani and Miller [22] assert that when the market conditions are perfect, the value of the firm's stocks is not determined by capital structure decisions. The MM capital structure irrelevance theory presupposes that the capital mix is unrelated to the value of the firm [24]. The theory makes an assumption that both the investors and the individual firms have the same information regarding market conditions [25]. The model assumes that there is perfect information concerning the firm's performance, hence firm growth.

The Modigliani and Miller (MM) theory has not gone unchallenged on the proposition that financing structure is irrelevant in terms of the cost of capital. Conflicting evidence has been presented in support of a case for consideration of the cost of capital dimension as key to financial performance [26]. Thus, the Net Income approach brings a new, useful argument incorporating the cost of capital dimension. The net Income Approach was developed by Durand [27] with a proposition that firms can enhance the value of firm by controlling and reducing the overall cost of capital measured through the Weighted Average Cost of Capital. The Weighted Average Cost of Capital (WACC) represents the weighted average costs of equity and debts, where the weights are the amount of capital raised from each source. According to the theorists, debt is the source of financing, and as such, a higher proportion of debt would influence profitability better than external equity finance [28].

Modigliani and Miller's theory holds that a firm's market value is influenced by the operating income and associated business risks [29]. It is further held that financial leverage has no link whatsoever with either the business risks or operating income and therefore does not determine the profitability of the firm. Yapa [30] posits that financial leverage would only impact the share of income earned by debt holders and equity holders but would not determine the operating income. Therefore, a change in the debt-to-equity ratio cannot change the firm's value. Nonetheless, the theory has not gone unchallenged as Wambua [31] presents results that negate the arguments of the net income approach finding that debt financing has a weak negative relationship with profitability as a metric of financial performance. Methodologically, the study presents a gap in the need to split the debt component to reflect short-term, long term and total debts, which have been reported to affect profitability differently.

Baral [32] tests the net income approach using data from companies listed on the Nepal Stock Exchange Ltd for 2003. Others who have criticized the theory and presented contradicting evidence are Samuel [33], who indicated a positive effect of debt on performance, and Birru [34], who indicated a negative effect of debt on performance. The results support the theoretical foundations of the net income approach in suggesting that business risks, earning capacity, and income levels have an implication on the pattern of borrowing as well as the firm's financial performance. Therefore, the theory is relevant to the current analysis as it argues that debt may not significantly affect the profitability position of the firm.

2.2 EMPIRICAL LITERATURE

Using a panel research design, Muigai [35] studied the effect of equity structure on the financial soundness of non-financial companies listed in Kenya between 2004 and 2013. The findings indicated a positive and significant effect of internal equity on a firm's financial soundness. Conversely, results showed that external equity significantly negatively affects financial soundness. Contextual gaps are unveiled with regard to the time considered. The study gaps will be addressed by updating the study to cover up-to-date data for better applicability.

Focusing on 2010-2014, King'oo [36] studied the effect of selected internal factors on the financial performance of commercial banks listed in the Nairobi Securities Exchange and established that internal and external equity has a significant positive effect on financial performance. The size of the bank was also seen to be a positive determinant of financial performance. Conceptual gaps are established in that only a handful of studies have attempted a wholesome appraisal of all capital structure items, debt included. Methodologically, further gaps are clear in that studies have rarely considered analyzing, as the main

theme, the moderating effect of firm size on the capital structure-financial performance relationship. These two are the foundational gaps upon which the study will be constructed.

Capital structure has also been described as the make-up of a firm's capitalization. The Central Bank of Kenya licenses 43 commercial banks. Samuel [33] studied the effects of capital structure on the financial performance of commercial banks in Kenya. The study targeted the 43 commercial banks licensed by the Central Bank of Kenya. The secondary data collected covered ten years between 2005 and 2014. External equity represented by ordinary shareholding showed a negative effect on financial performance. The study presents a gap in the need to undertake an up-to-date study. The current study will consider up-to-date data to address the study gap.

Liaqat *et al*. [12] assessed the influence of capital structure on the profitability of fuel sector firms in Pakistan. The study collected secondary data from 2006 to 2014. Results showed that external equity significantly negatively impacts the profitability of firms in Pakistan's fuel and energy sector. The Earnings per Share was the least driven performance metric by external equity. Methodological gaps were unveiled in need of using a wide range of financial performance indicators to reflect listed firms, such as ROE and ROA, which will be addressed by using ROA, ROE, and Net Profit Margin as key metrics.

Share capital finance can influence the profitability of petroleum marketing firms in Kenya [37]. A sample of 35 petroleum firms was studied. The time of the study was the year 2007 to 2016. Results showed that share capital financing (external equity) negatively impacts profitability. Using a causal research design, Maina *et al*. [38] examined the nexus between capital structure and profitability of firms listed on the Nairobi Securities Exchange from 2002 to 2011. The results indicated that equity and debt finance are significant determinants of profitability.

Further, it was established that external equity (share capital finance) positively affects profitability. Contextual gaps arise as the study was done in a foreign setting, like most others on the subject matter. Further contextual gaps are with regard to the time in that data may not reflect the current situation as a considerable time has passed. The current study will consider up-to-date data and target the local banking sector to address this shortcoming.

2.3 CONCEPTUAL FRAMEWORK

The following is the conceptual framework of the study (Figure 1):

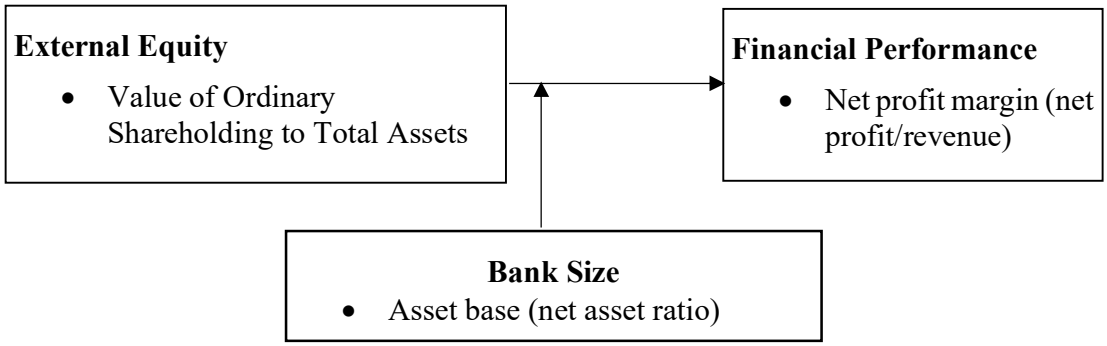

Figure 1: Conceptual Framework.

It is hypothesized that external equity measured through ordinary shares to total assets does not significantly determine the level of financial performance. External equity represents the use of share capital financing by issuing new shares (ordinary shares) and intra-firm borrowing arrangements [39]. The firm can also do the right issue to the existing shareholders. An organization that uses external equity has an added competitive advantage compared to its competitors. It is also hypothesized that bank size moderates the nexus between External Equity Capital and Financial Performance of Lower-tier Commercial Banks in Kenya. Firm size represents how large or small the firms are in terms of the capital base, market share, and customer deposits [40]. Large firms often have a stronger asset base and are able to keep expanding their investments as they have the necessary collateral for lending.

3. METHOD(S)

The study adopted pragmatism as the guiding research philosophy. The pragmatism approach seeks to provide a bridge between objectivist and subjectivist considerations. It further strikes a balance between facts and values and considers different contexts. A combination of a descriptive and explanatory research design was adopted in the study. A descriptive survey

research design seeks to establish the what, when, how, and how many of a research phenomenon [41], which justifies the use of explanatory research design to complement the descriptive approach. As Ott and Longnecker [42], an explanatory research design effectively explains why a problem occurs and the cause and effect relationships among the variables.

The study population was 37 commercial banks in Tier II and III of the Central Bank's Lower-tier classification. For the study, the banks in the two tiers were put in four categories depending on asset base. Secondary data were adapted in the study for the years 2016 to 2020. Data collected was analyzed by use of both descriptive and inferential analysis. Descriptive statistics included means, standard deviations, skewness, and Kurtosis. The inferential analysis entailed Multilevel Mixed Model Analysis and Hierarchical Multiple Linear Regression. The 5% level of significance was applied in the tests. For analytical purposes, the study was guided by two empirical model (s); the general and moderation models. The model illustrates the single effect of external equity on the financial performance of commercial banks in Kenya.

$Y= \beta_0 + \beta_1 X_1 + Ɛ$……3.1

β_0 = Intercept

X_1 = External Equity

β_1 = Regression Coefficient

$Ɛ$ = error term.

To test the moderating effect of bank size on the nexus between external equity on the financial performance of commercial banks in Kenya, the following hierarchical regression equation was employed;

$Y= \beta_0 + \beta_1 T_1 + Ɛ$……3.2

$Y= \beta_0 + \beta_1 T_1 + \beta_1 BG_2 + Ɛ$……3.3

$Y= \beta_0 + \beta_1 T_1 + \beta_1 BG_2 + \beta X_3 + Ɛ$……3.4

$Y= \beta_0 + \beta_1 T_1 + \beta_1 BG_2 + \beta X_3 + \beta BS_4 + Ɛ$……3.5

Where Y is the financial performance of commercial banks in Kenya, T is time, BC is the bank category, and BS is the bank size

3. RESULTS AND DISCUSSION

This section gives the results of the study and discusses the results.

a. FINANCIAL PERFORMANCE OF LOWER-TIER COMMERCIAL BANKS IN KENYA

The performance of the banks was assessed for five years, from 2016 to 2020. It was important to analyze the performance of the lower-tier commercial banks to depict any trend of whether the performance has been rising, declining, remaining constant, or just fluctuating. Analyzing the financial performance of a financial institution like a bank is critical in comprehending the bank's financial health and understanding its capability to remain operational and generate revenue for the bank's shareholders and members. Table 1 shows the descriptive results for net profit margin.

Table 1: Net Profit Margin Descriptive Results.

	N	Mean	Std. Deviation	Skewness		Kurtosis	
Net Profit Margin	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
2016	26	14.216	27.694	(1.107)	0.456	4.261	0.887
2017	26	16.891	28.271	0.662	0.456	0.394	0.887
2018	26	16.270	23.832	(0.188)	0.456	0.228	0.887
2019	26	12.947	54.735	(2.175)	0.456	10.839	0.887
2020	26	13.961	29.072	(1.728)	0.456	6.342	0.887

The descriptive results in Table 1 showed that the net profit margin for lower-tier commercial banks in 2016 was 14.22%. The net profit margin of the lower-tier commercial banks rose to 16.89% in 2017. However, there was a slight decline to 16.27% of the net profit margin in 2017. Further decline in the net profit margin of the lower-tier commercial banks followed in 2019

(12.94%). In 2020, the lower-tier commercial banks recorded a slight increase to 13.96% in the net profit margin. The profit margin was measured by mean with a small standard deviation showing less disparity in the overall rating, confirmed by the platykurtic distribution, whose value is less than three. In contrast, the negative skewness shows that the rating was higher on the scale.

The net profit margin is an important profitability ratio in comparing banks' profits to the total amount of revenue generated. The net profit margin also depicts the efficiency in which a bank operates. Though a good net profit margin varies from firm to firm, a 5% net profit margin is low, a 10-19% net profit margin is considered average, and a 20% net profit margin is considered good. According to Handayani and Winarningsih [43], studying the effect of net profit margin and return on equity toward profit growth, the higher the value of net profit margin, the higher the company's ability to generate net income from sales, which shows that the company is more effective and efficient. Similarly, Jayathilaka [44] indicated that operating profit and net profit above 20% are considered good for the efficient operational sustainability of a firm. Based on the descriptive results above, the average net profit of 14.856% for all the lower-tier commercial banks is considered average compared to tier 1 banks in Kenya, which have been recording a net profit margin of over 20% during the same study period. The results thus imply that lower-tier commercial banks in Kenya have been reaping average net profit margins.

b. EXTERNAL EQUITY CAPITAL DESCRIPTIVE RESULTS

The study presented the descriptive results for external equity capital for lower-tier commercial banks in Kenya. External equity finance involves using share capital financing by issuing new shares (ordinary shares) and intra-firm borrowing arrangements. External equity capital was measured as the ratio of the value of ordinary shareholding to total assets. The external equity capital descriptive results are shown in Table 2.

Table 2: External Equity Capital Descriptive Results.

External Equity Capital	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
2016	26	0.175	0.066	.681	.448	4.569	.872
2017	26	0.188	0.079	2.342	.448	7.432	.872
2018	26	0.171	0.060	1.421	.448	3.944	.872
2019	26	0.160	0.048	.338	.448	-.214	.872
2020	26	0.156	0.043	.363	.448	-.535	.872

The standard deviations for external equity capital during the study period showed low disparity from the mean, indicating that most lower-tier commercial banks' external equity capital was clustered around the mean. The year 2017 recorded the highest Kurtosis of 7.432>3, followed by 2016 (4.569>3) and 2018 (3.944>3), indicating a high disparity in external equity capital among the lower-tier commercial banks. In 2020, the Kurtosis was -.214<3; in 2020, the Kurtosis was -.535<3, an indication of lower disparity in external equity capital among the lower-tier commercial banks (platykurtic distribution). In terms of skewness, the values ranged between .338 and 2.342, indicating that the data are moderately skewed.

The external equity capital for lower-tier commercial banks in Kenya was 0.175 in 2016. There was a slight increase in the external equity capital in 2017 to 0.188, indicating that the banks issued more ordinary shares to finance their operations. However, in 2018, 2019, and 2020, the ratio of external equity capital for lower-tier commercial banks dropped, which may have been attributed to intra-firm borrowing arrangements. The drop signifies a decline in the issuance of ordinary shares by the lower-tier commercial banks to finance their operations. Similarly, during the study period, one lower-tier commercial bank recorded the highest external equity capital ratio of 0.486, indicating more reliance on external equity to finance its operations.

External equity finance involves the use of share capital financing by way of issuing ordinary shares) and intra-firm borrowing arrangements. Proponents of equity financing cite freedom from debt obligations and an increase in business experience and contacts as diverse shareholders jointly own the firm. Equity capital represents funds paid into the enterprise by investors in return for common or preferred stock. It epitomizes the core funding of most businesses, to which debt funding may

be added. A study by King'oo [36] and Jayathilaka [44] both established that internal and external equity significantly affects financial performance. In contrast, Samuel's [33] study on the effect of capital structure on financial performance of commercial banks in Kenya established that external equity represented by ordinary shareholding had a negative effect on financial performance.

c. RELATIONSHIP BETWEEN EXTERNAL EQUITY CAPITAL AND FINANCIAL PERFORMANCE OF LOWER-TIER COMMERCIAL BANKS IN KENYA

This section gives the test results of the study and discussion.

i. DIAGNOSTIC TESTS

Since the data involves both cross-section and time-series, it raises the suspicion of the existence of serial correlation. Serial correlation is a common problem experienced in panel data analysis and must be accounted for in order to achieve the correct model specification. Failure to identify and account for serial correlation in a panel model's idiosyncratic error term would result in biased standard errors and inefficient parameter estimates. Autocorrelation was tested by use of Durbin-Watson. The autocorrelation results are shown in Table 3.

Table 3: Autocorrelation Results.

Profitability of lower-tier commercial banks
Durbin-Watson d-statistic (1, 126) =2.096
Prob > F = .661

The hypotheses tested while undertaking the autocorrelation were that;

H_0: There is no serial correlation in the data.

H_1: There is serial correlation in the data

When Serial Correlation was conducted, the test statistic reported an F-test of 2.096. When measuring serial correlation using the Durbin Watson test, the Durbin-Watson d-statistic should be between 0-4. A value of 0-2 indicates positive autocorrelation, while a value of 2 to 4 implies negative autocorrelation. The d-statistic of 2.096 implies that data did not seriously suffer from serial autocorrelation.

NORMALITY TEST

The normality test of the data was conducted using a PP plot (Figure 2). The null hypotheses were that

H_0: The data are not normally distributed

H_1: The data are not normally distributed

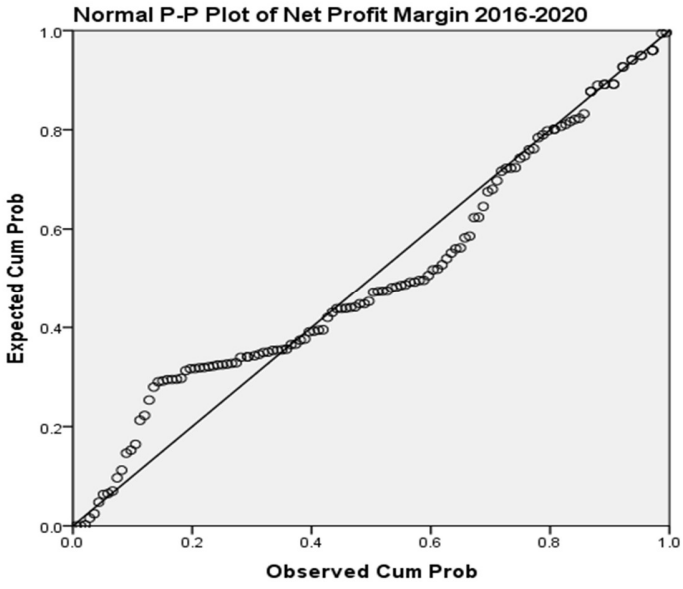

Figure 2: Normality test pp plot.

Based on the pp-plot above, the data exhibited normal distribution. It was thus concluded that the data is normally distributed. Thus, the data can be considered as not violating the normality assumption and is appropriate for linear regression. Since the study involved the use of panel data, the study thus tested for fixed effects. The results are indicated in Table 4.

Table 4: Type III Tests of Fixed Effects[a] (Profit versus time, bank, BVETA, Bank size).

Source	Numerator df	Denominator df	F	Sig.
Intercept	1	30.557	6.350	.017
Time	4	120.343	.134	.970
Bank Category	3	69.185	1.626	.191
External Equity	1	120.739	15.289	.000

a. Dependent Variable: Net Profit Margin 2016-2020.

The results indicated that the influence of time and bank category did not have statistical significance on the bank's performance. On the other hand, external equity was noted to have a significant statistical effect on the bank's performance.

ii. HIERARCHICAL MULTIPLE LINEAR

Hierarchical Multiple Linear was employed to determine the influence of External Equity on the banks' performance. Hierarchical linear regression is a special form of a multiple linear regression analysis in which more variables are added to the model in separate steps, which is often done to statistically "control" for certain variables to see whether adding variables significantly improves a model's ability to predict the outcome variable. In this case, Time, Category of the Bank, and External Equity were introduced step by step. The results are as shown in Table 5.

Table 5: Model Summary[d].

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.044[a]	.002	-.030	27.86339173	.002	.059	4	125	.993	
2	.836[b]	.699	.611	17.12027967	.697	9.244	25	100	.000	
3	.836[c]	.714	.608	17.18969030	.012	.194	1	99	.036	2.096

a. Predictors: (Constant), Time
b. Predictors: (Constant), Time, Bank Group
c. Predictors: (Constant), Time, Bank Group, External Debt
d. Dependent Variable: Net Profit Margin

Table 6: ANOVA[a].

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	184.610	4	46.153	.059	.993[b]
	Residual	97046.075	125	776.369		
	Total	97230.685	129			
2	Regression	67920.288	29	2342.079	7.991	.000[c]
	Residual	29310.398	100	293.104		
	Total	97230.685	129			
3	Regression	67977.625	30	2265.921	7.668	.000[d]
	Residual	29253.060	99	295.485		
	Total	97230.685	129			

a. Predictors: (Constant), Time
b. Predictors: (Constant), Time, Bank Group
c. Predictors: (Constant), Time, Bank Group, External Debt
d. Dependent Variable: Net Profit Margin

The model results in Table 5 show that R Square Change of .012 was reported upon external equity introduction. The reported R Square Change .012 shows that external equity explained a certain portion of the financial performance of lower-tier banks in Kenya as measured in net profit margins. The reported p-value is .036<0.05, indicating that external equity has a statistical significance on the profitability of lower-tier banks in Kenya. The model summary also indicates that $R^2 = 0.608$, which

indicates that 60.8% of a bank's performance is determined by external equity and was statistically significant. High external equity makes banks relatively safer in the event of liquidation, reducing dependence on external funding and increasing profits. Table 6 shows the ANOVA result for profit versus time, bank category, and external equity.

The ANOVA results in Table 6 show an F value of 7.668 and a p-value of .000. The calculated p-value of .000<0.05 is an indication that external equity is a significant predictor of bank profits among the lower-tier commercial banks in Kenya. The ANOVA table results confirm that external equity influences the performance of lower-tier banks in Kenya as measured using net profit margin. Table 7 shows the coefficient model results between time, bank category, external equity, and net profit margin of lower-tier commercial banks in Kenya.

Table 7: Coefficients[a].

		Unstandardized Coefficients		Standardized Coefficients			Correlations			Collinearity Statistics	
	Model	B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part	Tolerance	VIF
3	(Constant)	1.759	12.476		-.141	.888					
	External equity	.229	.521	.042	.441	.036	.217	.044	.024	.341	2.030

a. Dependent Variable: Net Profit Margin 2016-2020

Model

Y = 1.759+0.229 external equity

Where Y is the performance of lower-tier banks in Kenya measured using net profit margin and external equity, and a book value of equity to total assets. The model coefficients show that the book value of equity to total assets has a positive and statistically significant relationship with the performance of lower-tier banks in Kenya measured using net profit margin (β=.229, p-value=.036<0.05). The results imply that one unit change in external equity results in a .229 unit increase in the performance of lower-tier banks in Kenya measured using net profit margin. The null hypothesis of the study was that; there is no significant effect of external equity capital on the financial performance of lower-tier commercial banks in Kenya. Thus, the hypothesis was rejected and concluded that external equity statistically influences the profitability of tier II and III banks. The book value of equity is a major source from which the costly external financing theory draws inspiration to interpret capital structure decisions. Banks with high market-to-book ratios tend to grow quickly. Share capital is commonly measured by the Book value, which compares the market of the shares to firm value as indicated in the financial reports. In addition, bank firms with a higher book value of equity are more likely to issue equity because a higher market-to-book ratio signals a lower cost of external equity financing.

Share capital is commonly measured by the Book value, which compares the market of the shares to firm value as indicated in the financial reports. The book value of equity assesses the firm's market value from the investor's perspective relative to a share's book value. The book value of equity is a major source from which the costly external financing theory draws inspiration to interpret capital structure decisions. Banks firms with a higher book value of equity are more likely to issue equity because a higher market-to-book ratio signals a lower cost of external equity financing. The net book value is a critical component in measuring investor share in the firm. Mostly a consideration is made on the number of shares to portray the net value in terms of investment per share. The results of the study concur with Maina and Ishmail [45], who examined the capital structure and profitability of firms listed on the Nairobi Securities Exchange and established that share capital finance has a positive effect on profitability. Nonetheless, the results, the results disagree with the findings by Samuel [33] and Omai *et al*. [37] that showed that share capital financing (external equity) negatively impacts the profitability of firms.

To test whether the size of the bank was statistically significant in determining the performance, size was introduced in the model. Upon the introduction of the size, the results are as indicated in Table 8.

The results from Table 8 indicate that, with the introduction of size, R Square Change = 0.035 (p-value = 0.001), which indicates that the moderator positively influenced the banks' performance by 3.5%, and this was statistically significant. The null hypothesis was that there is no significant moderating effect of firm size on the relationship between external equity and financial performance of lower-tier commercial banks in Kenya. The null hypothesis was thus rejected, resulting in the conclusion that firm size moderates the nexus between external equity and the financial performance of lower-tier commercial banks in Kenya. Increasing bank size can increase bank profitability by allowing banks to realize economies of scale. For example, the increasing size allows banks to spread fixed costs over a greater asset base, thereby reducing their average costs. Increasing banks' asset size can also reduce risk by diversifying operations across product lines, sectors, and regions.

Table 8: Model Summary[e] (Profit, time, bank, BVETA, and Bank size as a moderator).

					Change Statistics					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.044[a]	.002	-.030	27.863	.002	.059	4	125	.993	
2	.836[b]	.699	.611	17.120	.697	9.244	25	100	.000	
3	.836[c]	.711	.608	17.190	.012	.194	1	99	.661	
4	.857[d]	.746	.650	16.253	.035	12.736	1	98	.001	2.236

a. Predictors: (Constant), Time
b. Predictors: (Constant), Time, Bank Group
c. Predictors: (Constant), Time, Bank Group, External Debt
d. Predictors: (Constant), Time, Bank Group, External Debt, Bank size
e. Dependent Variable: Net Profit Margin

Banks' efficiency, derived from economies of scale, is associated with bank size, implying that larger banks may experience higher profits. Larger banks are associated with more diversification capabilities, the ability to exploit economies of scale and scope, and is highly formalized in terms of procedures. Large banks can seize a profitable opportunity that comes their way since they have bigger capital resources than smaller-sized firms. However, it is also argued that due to organizational rigidity brought about by bigger large size and a lot of unnecessary bureaucracies, profitable opportunities that may want urgent attention will easily pass the firm and thus making them less profitable in relative terms and thus negatively impact on firm performance. The results are in tandem with Ngware *et al*. [46] that bank size had a significant moderating effect on the relationship between banks' capital structure and the financial performance of banks in Kenya.

4. CONCLUSION AND RECOMMENDATION

It was established that external equity capital positively and significantly affects the financial performance of lower-tier commercial banks. Banks with high market-to-book ratios tend to grow quickly. Share capital is commonly measured by the Book value, which compares the market of the shares to firm value as indicated in the financial reports. In addition, bank firms with a higher book value of equity are more likely to issue equity because a higher market-to-book ratio signals a lower cost of external equity financing. The results align with the arguments of Modigliani and Miller's theory that financing structure is irrelevant in terms of the cost of capital. Modigliani and Miller's theory was developed by Durand [27] with a proposition that firms can enhance their value of the firm by controlling and reducing the overall cost of capital. Thus, the Modigliani and Miller theory brings a new, much more useful argument that incorporates the cost of capital dimension. According to Merriman [28], debt is a prudent source of financing, and as such, a higher proportion of debt would influence profitability better than external equity finance.

External financing sources include borrowing loans from banks, venture capital within the host country, and borrowing from international banks. The study recommends that a bank evaluate when to use external equity funding, although external equity funding may be costlier. The lower-tier commercial banks can issue preference shares in order to raise external equity funding. As a recommendation, lower-tier banks are encouraged to use external equity as this will improve their performance. Lower-tier banks are also encouraged to increase their asset base as their size moderates the banks' performance. In terms of bank size having a significant effect on the nexus between external equity and performance, the study recommends that lower-tier commercial banks engage in the diversification of products and services with the aim of expanding their net worth while increasing the value of their share prices.

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AUTHOR CONTRIBUTIONS

All others contributed equally to this study.

CONFLICT OF INTEREST

There is no conflict of interest whatsoever.

DISCLAIMER

The views and opinions expressed in this paper are those of the authors and do not necessarily reflect the official policy or position of any affiliated agency of the authors.

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