FIRM SIZE, LEVERAGE, LIQUIDITY AND FINANCIAL PERFORMANCE OF TIER ONE COMMERCIAL BANKS IN KENYA

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ABSTRACT

The objective of this research project was to evaluate the effect of firm size, liquidity, and leverage on the financial performance of tier one commercial banks in Kenya. The study was anchored on the postulations put forward in the Baumol-Tobin Theory, Pecking Order Theory, Trade-Off Theory, and Organisational Theory. The multiple regression equations were estimated in order to determine the effect of the independent variables on the dependent variable. The multiple regression equation was estimated using the fixed effects model. The study established that firm size and leverage have a positive and significant effect of the financial performance of tier one commercial banks in Kenya. The study determined that liquidity has a negative and significant effect on the financial performance of tier one commercial banks in Kenya. Based on the findings the study recommends that smaller banks be merged so that they can compete more effectively given the economies of scales that will arise. The study further recommends that commercial bank managers should increase their borrowing so as to enhance their performance. Further, the study recommends that the government should reduce the liquidity level requirements for commercial banks as liquidity levels were reducing the profitability of the banks.

Keywords: Firm Size, Leverage, Liquidity, Performance, Tier-One, Liabilities
INTRODUCTION

Various studies have linked the financial performance of firms to certain characteristics namely firm size, leverage, firm age, liquidity and board size (Dogan, 2013; Yazdanfar, 2013; Raza, 2013; Niresh & Velnampy 2014; Mwaura, 2015). In Europe, firm characteristics such as leverage, liquidity, size, location, and export investments have been suggested to be key determinates of the financial performance of firms particularly those in relatively small European economies (Audretsch & Dohse, 2007; Liargovas & Skandalis, 2008; Serrasquiero & Nunes, 2008; Liargovas & Skandalis, 2012). In Africa, firms are operating in rapidly changing environments. The corporate sector is coping with the liberalisation of the markets, widening and deepening of the financial sectors, and stiff competition from local and international companies. The profitability of the corporate sector particularly in West African economics like Ghana and Nigeria is determined by firm characteristics and flexibility (Abok, 2005; Abok 2007; Salawu & Agboola, 2008; Suleiman, 2013; Abdu, 2016). In Kenya, numerous researchers have shown that firm characteristics such as size, age, location, leverage, liquidity, capital structure, and size of the board affect the financial performance of the firm (Gwatidzo & Ojan, 2010; Banafa, 2016; Njoroge, 2016).

In Kenya, the commercial banking sector is classified into three categories namely tier one, tier two, and tier three banks. The classification is based on a weighted index developed by the CBK. An analysis of the performance of tier one commercial banks indicates that they control approximately 50%, 65.10%, 66.70%, 90.30%, and 94.30% of the market share, total assets, deposits, deposit accounts, and loan accounts in the commercial banking sector in Kenya respectively. Trend analysis indicates that although Kenya Commercial Bank, Equity, Diamond
Trust, Commercial Bank of Africa, Standard Chartered, Stanbic, Co-operative, and Barclays Bank are classified under one category they have different sizes (size being indicated by total assets, and total capital). However, despite their different sizes the individual banks manage to achieve market shares that are significant. In the recent past, a few commercial banks in Kenya have collapsed. The collapsed banks were mostly tier two and tier three. This collapses, lead to the question as to whether the classification system lead to financial stability. This suggests that there are factors that lead to the success and financial sustainability of the tier one commercial banks. The choice of tier one commercial banks as the study sample was motivated by their significant market share, customer base, and liquidity level and leverage exposure.

The findings of this study will enable regulatory authorities to determine what drives the performance of companies and formulate policies that enhance performance. The findings of the study enlighten the shareholders of the factors to consider when developing investment strategies. Similarly, the management of the firms will get knowledge on how various decisions affect the firms performance. This insight will be useful when formulating strategies.

The study focused on all the commercial banks classified as tier one by CBK in their annual report of 2016. The study focused on the period 2011-2016 as the performance registered by tier one commercial banks was significantly higher than that reported by other tier banks during this period.
LITERATURE REVIEW

Theoretical Framework

This section evaluates the theories that indicate the relationship between firm size, liquidity, leverage and financial performance.

Baumol – Tobin Model

This model is attributed to the work of William Baumol (1952) and James Tobin (1956). This model suggests that there is a trade-off between liquidity provided by holding money and the interest forgone by holding assets in the form of non-interest bearing money (Baumol & Tobin 1989). The main determinant of the demand for money is the nominal interest rate (i), the level of real income (Y), and the fixed transaction costs of converting wealth from interest bearing instruments to liquid assets (C). The average price (p) is introduced to the model to transform the model into the demand for liquidity (L) function. The model is given in equation as follows

\[ L(Y, i) = \frac{M}{P} = \left( \frac{CY}{2i} \right)^{\frac{1}{2}} \]

The implications of the model are that the firm requires maintaining a given amount of liquid cash to meet certain obligations; this has a negative impact on the profitability of the firm.

Pecking Order Theory

The postulation of the possibility of a preference for financing firm activity was first put forward by Donaldson in 1961 and later refined Myers and Majluf in 1984 (Kishore, 2009). According to Myers and Majluf (1984), the firm first makes use of internal funds before seeking
external funds. This order is dictated by the asymmetries of information. Myers and Majluf (1984) argue that the only way to solve the problem of asymmetry of information is through the use of internal funds. Issuing of equity is normally more expensive due to the informational asymmetries. Thus the when considering external financing the firm would choose debt before equity (Siro, 2013). The use of internal financing results in no additional costs to the firm and does not require disclosures that could possibly lead to the loss of competitive advantage.

Castro, Tascon, and Tapia (2011) postulate that the hierarchy of financing is necessary so as to minimise adverse selection costs of security issuance as a result of the existence of asymmetric information. Myers and Majluf (1984) argue that investors rationally discount the firm’s stock price when managers issue equity instead of riskless debt; this indicates that the firm’s shares are overvalued. In order to avoid the discounting, the managers use internal funds and debt. In situations where the firm has excess funds, the firm invests the funds, retains profits, and accumulates financial stock with the view of avoiding external funds in the future. Frank and Goyal (2007) concurred with the postulations of Myers and Majluf (1986) indicating that the pecking order theory is found amongst larger firms since they have the least risk and are most likely to issue public bonds than smaller firms.

Organisational Theories

The organizational theory links the financial performance to the size through the organization’s transaction costs, and agency costs (Williamson, 1985; Jensen & Meckling, 1976; Kaen & Bauman, 2003). The transaction costs include the costs of planning, adapting and monitoring task to ensure completion, developing and negotiating agreements that deal with disputes and managing unintended outcomes. The agency costs arise out of conflicts between
the owners of the firm and the employees. The conflict arises when the firm’s managers and employees seek to expand the operations of the organisation irrespective of the cost of capital because they are more focused on perquisites, salaries, employment security, bonuses, and advancements. The benefits are related to the firm size. The process of expanding and growing the firm increases the layers of management and administrative staff which slow down the process of responding to dynamic situations, particularly competitive conditions.

The technological theory argues that physical capital, economies of scale, and scope determine the size of the firm and have consequences on the firm’s profitability (Williamson, 1985; Dhawan, 2001; Kaen & Bauman, 2003). The production process and the investment in physical capital that enables production are important considerations. Increasing the level of production allows the firm to benefit from economies of scale as the fixed costs are distributed over a larger volume of output. This reduces the average cost of production, increases the return on capital invested; these advantages are associated with the firm size. In situations whereby the economies of scale do not exit, a larger firm is not advantageous. These postulations are relevant to the study as they explain how large firms are able to gain advantages from their size.

**RESEARCH METHODOLOGY**

**Research Design**

The study adopted a causal research design. Brains, Willnet, Manheim, and Rich (2011) advocate the use of this research design as it provides a link between variables by indicating the existing phenomena and then evaluating the available data to identify the plausible cause/effect
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relationship. Kulati (2014) found that the causal research design helped in identifying the cause and effect relationship between the dependent and independent variables.

Population and Sampling

The population of interest of this study comprises of all the commercial banks in Kenya that are classified as tier one using the weighted index developed by the CBK during the period 2016. They include Kenya Commercial Bank, Equity Bank, Cooperative Bank of Kenya, Barclays Bank of Kenya Ltd, Standard Chartered Bank, Diamond Trust Bank, Commercial Bank of Africa, and Stanbic Bank Kenya Ltd (CBK, 2017b). Due to the small size the study used census sampling.

Data Type and Collection Method.

The secondary data was collected from the annual reports of the individual banks that are published on their websites. The data was collected for the period 2009 – 2016. The study data was analysed using multiple regression equation using panel data.
DATA ANALYSIS, PRESENTATION, AND DISCUSSIONS

Descriptive Statistics

Table 1 provides the descriptive statistics of the quantitative data used in the study.

Table 1: Descriptive Statistics of Study Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
<th>Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return on Assets</td>
<td>0.03224</td>
<td>0.0108</td>
<td>0.00028</td>
<td>0.06147</td>
<td>64</td>
</tr>
<tr>
<td>Firm Size</td>
<td>9.93584</td>
<td>0.63656</td>
<td>8.3255</td>
<td>11.1488</td>
<td>64</td>
</tr>
<tr>
<td>Leverage</td>
<td>0.42975</td>
<td>0.40646</td>
<td>0.00675</td>
<td>2.61611</td>
<td>64</td>
</tr>
<tr>
<td>Liquidity</td>
<td>8.01999</td>
<td>57.9279</td>
<td>0.2109</td>
<td>464.191</td>
<td>64</td>
</tr>
</tbody>
</table>

Source: Study Data (2018)

The results presented in Table 1 indicate that the return on assets has a minimum of 0.00028 and a maximum of 0.06147 this implies that for one bank the net profits were 0.28% of the total assets while for another bank the net profits were 6.14% of the total assets. The standard deviation value of 0.0108 indicates that there is significant variance in the profit levels of the banks. A positive mean indicates that the banks were making profits during the period of the study. The minimum and maximum value of firm size presented in Table 1 was 8.325548 and 11.14875 respectively. The standard deviation of 0.6356 indicates that there are differences in
the sizes of the tier one commercial banks in Kenya. This is confirmed by minimum of 8.3255 and maximum value of 11.1488.

The computed maximum and minimum values of the ratio of debt to equity was 2.6161 and 0.0067 respectively which implies that for one bank the level of debt was 2.6161 times the level of equity while for another bank the level of debt was only 0.0067 times the level of equity. The mean value was 0.4297 which implies that on average 42.97\% of the capital structure of tier one commercial banks is composed of debt. The standard deviation of 0.4064 indicates that the variance in the ratio of debt to equity for tier one banks varies significantly. The results presented in Table 1 indicate the mean value for liquidity is 8.0119 which implies that the tier one commercial banks maintain a high level of liquidity. The standard deviation of 57.9279 implies that there is a great variation in the level of liquidity maintained by the tier one commercial banks as evidenced by the fact that the maximum value was 464.1906 and minimum value was 0.2109.

**Inferential Analysis**

The study used the FGLS method to estimate the effect of firm size, leverage, and liquidity on the financial performance which was measured by ROA of tier one commercial banks in Kenya. The results of the estimation are presented in Table 2.
Table 2: Results of the Feasible General Least Square

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coef.</th>
<th>Std. Err.</th>
<th>Z</th>
<th>P&gt;z</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1.FirmSize</td>
<td>0.009757</td>
<td>0.0020677</td>
<td>4.72</td>
<td>0.000</td>
</tr>
<tr>
<td>Leverage</td>
<td>0.0055905</td>
<td>0.0027388</td>
<td>2.04</td>
<td>0.041</td>
</tr>
<tr>
<td>D1.Liquidity</td>
<td>-0.0202235</td>
<td>0.0000196</td>
<td>1.03</td>
<td>0.003</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.0676931</td>
<td>0.0197074</td>
<td>-3.43</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Panels: Homoskedastic
Correlation: No autocorrelation
Estimated autocorrelations = 0
Estimated coefficients = 10
Log likelihood = 203.3747
Wald chi2(9) = 33.09
Prob > chi2 = 0.000

Source: Study Data (2018)

According to the results presented in Table 2, the Wald Chi-square is 33.09 and has a p-value of 0.000 which is less than the 5% critical value. This implies that jointly all the independent variables used in the study determine the return on assets. The results further indicate that the level of homoscedastic and autocorrelation level equivalent to 0. This indicates that the regression results are robust and reliable. The first objective of the study was to determine the effect of firm size on the financial performance of tier one commercial banks in Kenya. The results summarised in Table 2 indicate that the coefficient of firm size was 0.009757 and statistically significant given the p-value of 0.000. These findings confirm the postulations put forward in the Technological theory which suggests that firm size has consequences on the profitability of the firm. The study results confirm the findings of Vinasithanby (2015).
The results in Table 2 indicate that the coefficient of leverage was 0.0055905 and statistically significant with p-value of 0.041. The results imply that there is a significant positive relationship between leverage and return on assets of tier one commercial banks in Kenya. These findings indicate that an increase in leverage will result in an increase in profitability which contradicts the postulations of the trade-off theory which indicate that the marginal benefits of increasing the amount of leverage declines as the level of debt increases. The regression results presented in Table 2 indicate the coefficient for liquidity is -0.0202 with a p-value of 0.003. This implies that a one unit increase in the level of liquidity will result in a 0.0202 decline in the ROA.

CONCLUSIONS, AND RECOMMENDATIONS

Conclusions of the Study
The study established that firm size has a positive and statistically significant effect on the financial performance of tier one commercial banks in Kenya. The study concluded that total capital, economies of scale, and scope of determination which are associated with firm size significantly increase the profitability of tier one commercial banks in Kenya. The study further concluded that the organisational theories apply to tier one commercial banks in Kenya.

The study findings suggest that as the level of leverage increases, then the level of profitability show concomitant increases. Based on the findings, the study concludes that the postulations of put forward in the trade-off theory do not apply to tier one commercial banks in Kenya. The findings suggest that the marginal benefits of leverage increase as the level of debt increases which is contrary to the postulations put forward in the trade-off theory.
The study established that liquidity has a negative and statistically significant effect on the financial performance of tier one commercial banks in Kenya. The study concluded that holding large amounts of assets in liquid form reduces the ability of the banks to generate profits. Further, the study concluded that the Baumol-Tobin model is applicable to tier one commercial banks in Kenya.

**Policy Implications and Recommendations**

The results of this study have policy implications for the banking sector in Kenya. The study established that firm size has a positive and significant effect on financial performance. The study, therefore, recommends that the smaller banks should merge in order to reap the benefits of economies of scale and scope of determination. The study further recommends that the government should facilitate the merging of the smaller banks. This is in view of the fact that there are 42 commercial banks serving 43 million Kenya which is too high as compared to 18 banks serving 100 million Nigerians.

The results of the study indicated that leverage has a positive and statistically significant effect on the financial performance of tier one commercial banks in Kenya. The study recommends that corporate managers should increase the level of leverage in order to enhance the return on assets. The study further recommends that the Central Bank of Kenya should review the regulations on the level of debt permissible in the capital structure of commercial banks in Kenya. The Central Bank should allow banks to hold higher levels of debt which enhances their profitability levels.

The study provides evidence that liquidity has a negative and statistically significant effect on the financial performance of tier one commercial banks in Kenya. The study, therefore,
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recommends that the banks should modify their financing policies in order to reduce the level of liquidity held at a given time. The financial managers should introduce aggressive working capital management policies that reduce the holdings of current assets needed to meet current liabilities.

Suggestions for Further Research

A study should be undertaken to compare the effect of firm size, leverage, and liquidity on the financial performance of tier two and tier three commercial banks in Kenya. Further, future studies should be expanded to analyse the extent of firm size, leverage, and liquidity on the financial performance of commercial banks in the East African Community.
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**References**


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