

# Effect of Banks Specific Factors on the Liquidity Risk of Commercial Banks in Kenya

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**Abstract:** The General objective of this research was to assess the effect of bank specific factors on the liquidity risk of commercial banks in Kenya. The specific objective of this project was to establish the effect of capital adequacy, bank size, non-performing loans and profitability on liquidity risk of commercial banks in Kenya. The study adopted secondary data analysis research design. The observations used were date from January the year 2011 to December 2015 and included 60 monthly observations. The population was composed of all the 42 licensed commercial banks in Kenya. The data was obtained from Kenya National Bureau of statistics, the central bank and audited financial statements of individual banks. Multiple regression was employed as the analytical tool. The study was driven by the absence of laborious studies that address the dynamics of the liquidity risk in commercial banks in Kenya. The research was also motivated by the mixed results that various previous researchers got for the same types of the variables. The results revealed that there was a strong and statistically significant influence of the various bank specific factors on the liquidity risk of commercial banks in Kenya. Only Non-performing loans were found to have a positive effect on the liquidity risk. Other factors that is, Capital Adequacy, Profitability and Bank size were found to have an negative relationship with the liquidity risk.

**Keywords:** Capital Adequacy, Profitability, Bank Size, Non-performing loans and Liquidity risk.

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## 1. INTRODUCTION

Kiganda (2014), argue that commercial banks in Kenya play the critical roles of financial intermediation, liquidity risk transformation and risk transformation. The study concludes by noting that, in Kenya commercial banks dominate the financial sector and as such the process of financial intermediation in the country depends heavily on commercial banks.

According to RoK(2014), Kenyan commercial banks are licensed and regulated pursuant to the provisions of the Banking Act and the regulations and prudential guidelines issued by the Central Bank of Kenya. The Central bank of Kenya regulations requires commercial banks to maintain a liquidity risk buffer of twenty percent. The report note further that, as at December 2014 Kenya had 42 commercial banks. The report concludes by noting that, The banking sector is the largest sector by the number of listed companies at the Nairobi Securities exchange with eleven commercial banks being listed under the sector.

Licensing and regulation of banks in Kenya is the responsibility of the Central Bank of Kenya. Kenya. The Banking Supervision department carries out the function of supervising banks to ensure the following; liquidity risk, solvency, and proper functioning of a stable market based banking system. Further to this, audited performance of the banking sector is measured in terms of capital adequacy, asset quality, liquidity risk, and earnings based on the Central Bank internal rating system. Under section 19 of the Banking Act in Kenya, an institution is expected to maintain a minimum holding of liquid assets as the Central Bank may from time to time determine. Currently an institution is required to maintain a statutory minimum of 20% of its deposit liabilities with the Central Bank (ROK, 2014).

The banking industry has faced many challenges that have resulted to fluctuations in performance. The banking sector for example registered enhanced performance during the year ended December 2014. The sector recorded a 12.2 percent

growth in pretax profits during the year. Both the total net assets and total deposits held by commercial banks recorded growth rates of 18.4 percent. The sector also recorded strong capitalization levels as a result of retention of profits and additional capital injection. The lag effects of high interest regime in 2012/2013 and subdued economic activities witnessed in the period ended December 2014 impacted negatively on the quality of loans and advances. As per the CBK Prudential Guideline on Capital Adequacy, the minimum regulatory capital adequacy requirements that are measured by the ratio of Core Capital and Total Capital to Total Risk weighted assets were 8 per cent and 12 per cent respectively. These ratios decreased from 18 per cent and 21 percent in 2014. The decline was attributed to higher increase in total risk weighted assets, which grew by 31 per cent compared to the increase in the core capital and total capital. On the other hand, the banking sector average liquidity risk in 2014 was above the statutory minimum requirement of 20 per cent., with all the banks meeting the minimum requirement. The liquidity risk ratio stood at 37.7 per cent as at 31st December 2014 compared to 38.6 per cent registered in December 2013. The marginal decline in the liquidity risk ratio was attributed to the increased lending in 2014 as reflected in the increase in loans to deposits ratio from 81.6 per cent in 2013 to 83.1 per cent in 2014 (ROK, 2016).

## **2. STATEMENT OF THE PROBLEM**

Fola (2015), note that in order for commercial banks to undertake their operations properly and profitably they have to maintain their optimal liquidity level. The study note further that when banks are able to serve the demand of new borrowers and the withdrawal of cash by their depositors without affecting their day to day activities they are said to be liquid. The study concludes by noting that to meet their financial obligations these banks should have sufficient liquid assets on their balance sheets.

Karani (2014), argue that liquidity risk management and profitability are very important in the development, survival, sustainability, growth and performance. Karani note further that a company may be profitable without necessarily being liquid. The liquidity risk should be managed in order to obtain an optimal level, that is, a level that avoids excess liquidity risk which may translate to poverty of ideas by management. The author concludes by noting that the liquidity level should not fall below minimum requirement as it would lead to the inability of the organization to meet the short term obligations that are due.

Maaka (2013), argue that banks liquidity risk does not only affect the performance of banks but also its reputation and a banks may lose the confidence of its depositors if funds are not timely provided to them. The study note that, liquidity risk has become a serious concern and challenge for the modern era banks characterized by high competition for consumer deposits and capital markets with technological advancements and as a result, banks should be equipped to deal with the changing monetary policy that shapes the overall liquidity risk trends. The study conclude by noting that liquidity risk crisis may cause massive drowning in form of bankruptcies and bank failure leading to a drastic financial crisis.

RoK(2010), note that liquidity level which represents the ability of the institution to fund increases in assets and meets obligations as they fall due is critical to the continued viability of any banking institution. The report note further that the importance of liquidity risk goes beyond the individual banks as liquidity level shortfall at an individual bank can have systematic repercussions.

Though the banks in Kenya have been able to maintain the minimum statutory requirement of liquidity of 20%, the overall liquidity of commercial banks has experienced massive fluctuations which shows that liquidity level of commercial banks has been on a volatile trend. According to RoK (2012) for example the liquidity ratio stood at 37 percent as compared to 44.5% in 2010. This reduction in liquidity was attributed to increased loans and advances in 2011 as indicated by the increase in gross loans to deposits ratio from 74 percent in 2010 to 80 percent in 2011. In 2014 the liquidity ratio declined marginally which was attributed to the increased lending. However in 2015 the liquidity ratio increased which was attributed to a higher growth in total liquid assets compared to the growth in total short-term liabilities. According to RoK (2015), the imperial bank and bank of Dubai were placed under receivership over liquidity risk related problems. The report continue to note that necessary measures were taken by central bank of Kenya to protect the interests of depositors, creditors and public interests were also of core focus.

Thus in light of these fluctuations in liquidity level among commercial banks in Kenya, this paper was set to investigate the possible factors internal to the banks that could have a causal effect on liquidity. In particular this paper was set to assess whether there exist a relationship between; capital adequacy, bank size, non-performing loans and profitability on bank liquidity risk. These factors were also chosen because they have been used widely in an attempt to predict the causes

of liquidity risk problem in commercial banks else-where in the world but in the Kenya context there was a large deficiency of Knowledge as per the volume of literature reviewed by the author.

### 3. GENERAL OBJECTIVES

The general objective of this study was to evaluate the effect of bank specific factors on the liquidity risk of commercial banks in Kenya.

### 4. SPECIFIC OBJECTIVES

- i. To establish the effect of Banks Size on the liquidity risk of commercial banks in Kenya.
- ii. To determine the effect of Capital Adequacy on the liquidity risk of commercial banks in Kenya.
- iii. To examine the effect of Non-Performing Loans on the liquidity risk of commercial banks in Kenya.
- iv. To assess the effect of profitability on liquidity risk of commercial banks in Kenya.

### 5. CONCEPTUAL FRAMEWORK

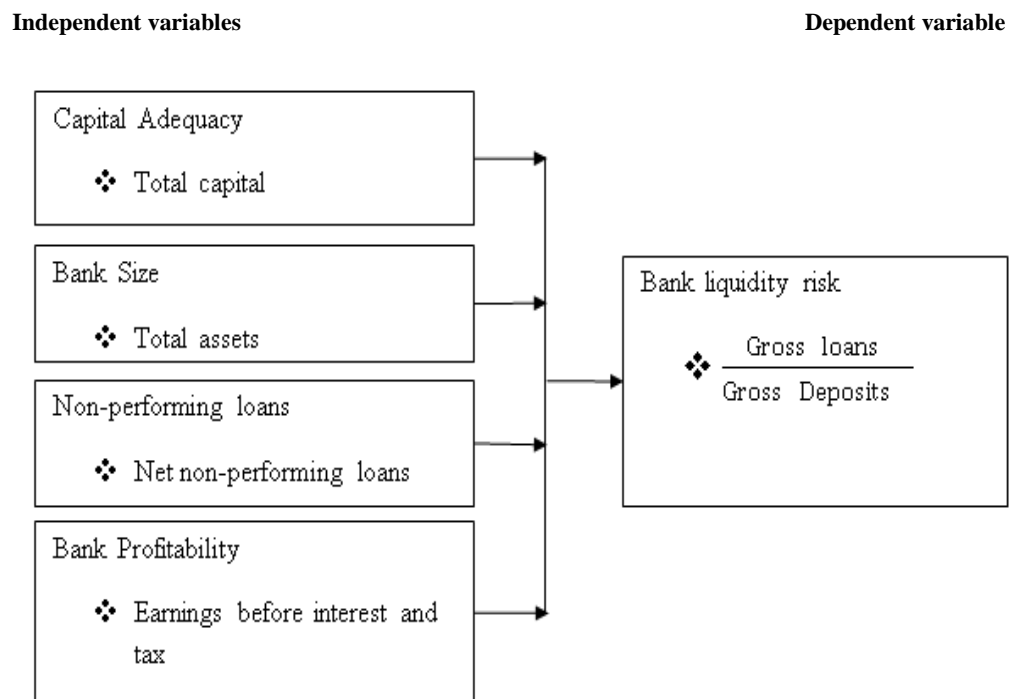


Figure 1. Conceptual Framework

### 6. REGRESSION ANALYSIS RESULTS

TABLE 1. REGRESSION RESULT TABLE

Variable	Coefficient	Standard error	t-statistic	p-value
Bank size	-0.1678	0.0413	-4.0630	0.000
Capital Adequacy	- 0.2011	0.0377	-5.3342	0.000
Non-performing loans	1.2071	0.2107	5.7290	0.000
Profitability	- 0.5523	0.1572	-3.5134	0.000
Constant	1.000	0.3010	3.3225	0.000
F-statistic = 73 Prob>F = 0.0000 Adjusted R-squared=0.87				Adjusted R-

The regression model is as follows:

$$\log Y = 1.00 \log \beta_0 - 0.1678 \log X_1 - 0.2011 \log X_2 + 1.2071 \log X_3 - 0.5523 \log X_4 + \varepsilon$$

The data was transformed into logarithm to stabilize the variance and allow the coefficients to be interpreted in percentage form.

Where: Y = Banks liquidity risk,  $\beta_0$  = Constant Term,  $\beta_1$  = Beta coefficients, X1 = Bank size, X2 = Capital adequacy, X3 = Non-performing loans, X4 = Profitability  $\varepsilon$  = Error Term

### 6.1 BANK SIZE:

From the regression results in table 1, the coefficient of bank size was found to be -0.1678. This value shows that holding other variables in the model constant, an increase in the size of the bank by one percent causes the liquidity risk to decrease by 0.1678 percent. The value of the coefficient is also negative. The negative effect shows that there is an inverse relationship between the size of the bank and liquidity risk arising.

The coefficient is not just negative but also statistically significant with a t-statistic value of -4.0630. In statistics, a t-statistic of 2 and above is normally accepted to be significant in statistical inference. The standard error was found 0.0413 and the p-value was found to be 0.000. The variable was also found to be the least influential variable on the banks liquidity risk. The interpretation was that the banks with a large number of assets are unlikely to face the liquidity risk problems that arise from extension of credit to customers as compared to banks with low asset base. These findings supports those of Melese (2015), Tesfaye, (2012), Mugenyah (2015) and Choon *et al.* (2010) who found that bank size had a significant effect on bank liquidity risk.

### 6.2 CAPITAL ADEQUACY:

From the regression results in table 1, the coefficient of capital adequacy was found to be -0.2011. This value shows that holding other variables in the model constant, an increase in capital adequacy by one percent causes the liquidity risk to decrease by 0.2011 percent. The value of the coefficient is also negative. The negative effect shows that there is an inverse relationship between the capital adequacy and liquidity risk.

The coefficient is not just negative but also statistically significant with a t-statistic value of -5.3342. In statistics, a t-statistic of 2 and above is normally accepted to be significant in statistical inference. The standard error was found 0.0377 and the p-value was found to be 0.000. The variable was also found to be the third most influential variable on the banks liquidity risk. The interpretation was that the banks with large capital base are unlikely to face the liquidity risk problems that arise from extension of credit to customers as compared to banks with low capital level base. These findings supports those of Melese (2015), Tesfaye, (2012), Mugenyah (2015), Choon *et al.* (2010) and Fola (2015), who found that capital adequacy had a significant effect on bank liquidity risk.

### 6.3 NON-PERFORMING LOANS:

From the regression results in table 1, the coefficient of Non-performing loans was found to be 1.2071. This value shows that holding other variables in the model constant, an increase in the level of non-performing loans by one percent causes the liquidity risk to increase by 1.2071 percent. The value of the coefficient is also positive. The positive effect shows that there is direct positive relationship between the level of non-performing loans and liquidity risk arising from extending credit.

The coefficient is not just positive but also statistically significant with a t-statistic value of 5.7290. In statistics, a t-statistic of 2 and above is normally accepted to be significant in statistical inference. The standard error was found to be 0.2107 and the p-value was found to be 0.000. The variable was also found to be the most influential variable on the banks liquidity risk. The interpretation was that the banks with a large volumes of non-performing loans are more likely to face the liquidity risk problems that arise from extension of credit to customers as compared to banks with low non-performing loans. These findings supports those of Melese (2015), Tesfaye, (2012), Choon *et al.* (2010) and Fola (2015), who found that non-performing loans had a significant effect on bank liquidity risk.

#### **6.4 PROFITABILITY:**

From the regression results in table 1, the coefficient of profitability was found to be -0.5523. This value shows that holding other variables in the model constant, an increase in the profitability of commercial banks by one percent causes the liquidity risk to decrease by 0.5523 percent. The value of the coefficient is also negative. The negative effect shows that there is an inverse relationship between the bank profitability and liquidity risk.

The coefficient is not just negative but also statistically significant with a t-statistic value of 3.5134. In statistics, a t-statistic of 2 and above is normally accepted to be significant in statistical inference. The standard error was found 0.1572 and the p-value was found to be 0.000. The variable was also found to be the second influential variable on the banks liquidity risk. The interpretation was that the banks with a large level of profit are unlikely to face the liquidity risk problems that arise from extension of credit to customers as compared to banks with low profitability. These findings supports those of Choon *et al.* (2013), Fola (2015), Melese (2015) who found that profitability had a significant effect on bank liquidity risk.

#### **6.5 GOOD-OF-FIT STATISTICS:**

From Table 1, the value of F-statistic is 73 and it was also statistically significant. The value of adjusted R-squared was found to be 0.87. This implied that the estimated model explains approximately 87% of the variation in bank liquidity risk and that the remaining 13% was accounted for by other factors that were not included in the model. The future researchers are therefore urged to try and improve the model by including other relevant variables in the model.

### **7. CONCLUSION**

The study concluded that bank size, capital adequacy, non-performing loans and profitability are the key determinants of liquidity risk among commercial banks in Kenya. The results from the regression model revealed that the factors' that influenced liquidity risk were also statistically significant. non-performing loans was found to be the most influential, profitability was found to be the second most influential variable, capital adequacy was the third most influential and finally bank size was the least influential variable on the liquidity risk of commercial banks in Kenya.

On the overall the study concludes that there is a strong and statistically significant relationship between the bank specific factors and the liquidity risk of commercial banks in Kenya. The commercial banks are encouraged to explore the different financial factors internal to the firm that affects the liquidity risk of commercial banks. The study note that all the measures used for the variables were adequate for this study. The study also notes that the regression model a well specified model since the variables included were able to explain up to 87% of commercial bank liquidity. The study also recommends the inclusion of economic factors such as inflation rate, interest rates, money supply economic growth.

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