

Influence of Liquidity Risk Management on Financial Performance of Commercial Banks in Kenya

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ABSTRACT

The management of liquidity risk in commercial banks determines the banks' financial performance, which predominantly influences the quality of the loan portfolio and the nature of credit administration programs as a whole. By ensuring that liquidity risk is effectively managed, the primary objective of liquidity risk management is to generate a high-quality, stable, large, and growing flow of net interest income for banks. This objective is achieved by ensuring that banks can meet the needs of their customers. This study determined the effect of liquidity risk management on the financial performance of Kenyan commercial banks. The investigation was founded on the theory of liquidity management shiftability. The paradigm of Positivism served as the philosophical foundation for the investigation. The study incorporated both explanatory and longitudinal research designs into its methodology. The study's target population consisted of 32 Commercial Banks in Kenya. The study utilized panel data consisting of time series and cross-sectional data spanning a decade from 2010 to 2019. Using Eviews, descriptive and inferential statistics were used to analyze the collected data, which was then presented in tables and figures. The study found out that Liquidity risk management had an insignificant negative relationship with ROE ($F=0.583912$, $p<0.05$) and ROA ($F=2.770410$, $p<0.05$). Arising from the study findings, it is observed that liquidity risk management has a negative effect on financial performance measure either in ROA or ROE, it is recommended that commercial banks should keep this parameter as minimum as possible so as not involve in loss making undertakings.

Keywords: Liquidity Risk Management, Financial Performance, Commercial Banks, Kenya

1.0 Background information

Commercial banks have many different kinds of assets, both current and fixed. However, the bank loan and deposit account is the asset that generates the most revenue for a bank. According to Echeboka, Egbunike, and Ezu (2014), a bank's exposure to specific risks, trends in non-performing loans, and the financial health of bank customers all have an impact on the quality of a bank's assets. Risks resulting from mismatches between assets and obligations are what asset and liability management (also known as ALM) is all about, as defined by Crockford (1986). Charumathi (2008) describes ALM as a dynamic process that involves planning, ordering, organizing, and controlling assets and liabilities to make net interest income (NII). It involves balancing immediate and long-term obligations by managing yields and expenses. Liquidity mismatch, interest rate, and currency exchange rate risk management all fall under this umbrella.

Profitability is often used as a synonym for financial performance (Burkhardt & Wheeler, 2013). There is a growing need for a common understanding of what financial performance is and how it is measured in light of the prevalence of publications using financial performances in their analyses and research (Burckhardt & Wheeler, 2013). As a result, it is important to consider how well a given metric for evaluating financial performance serves its stated function. The European Central Bank (2010) defines financial performance as a bank's ability to create sustainable profits. Thus, we can define a bank's financial performance as its efficiency in maximizing shareholder value and profit through the use of available resources, with the intention of reinvesting those profits into the bank's capital structure to boost its long-term profitability.

Bank efficiency can be evaluated in a number of ways. According to a research published by the European Central Bank in 2010, they can be broken down into three broad types: conventional, economic, and market-based. Return on Assets (ROA) is a conventional metric for annual net income, whereas Return on Equity (ROE) is an internal performance metric for shareholder value. Objectively gauging the monetary impact of the bank's economic assets is the goal of the Economic performance indicators. Market-based metrics are determined by how the stock market prices a company's performance relative to its economic and monetary worth. Return on equity (ROE) is a performance statistic that compares the profitability of a bank to its total assets and other relevant variables.

Due to capital and liquidity shortages, Dubai Bank in Kenya was put under receivership in 2015. The bank was closed down shortly after that. In the same year, authorities investigated and eventually closed Imperial Bank for fraud. The Chase Bank experienced a bank run in April of 2016. The Central Bank of Kenya had to work out a plan to get things back on track. The interbank liquidity distribution was affected by the receivership of three smaller banks, which exacerbated segmentation and resulted in a significant decrease in interbank credit lines for small and middle tier banks (Central Bank of Kenya, 2016).

Stress testing is necessary for banks to withstand the future's dynamics, dangers, and possibilities. Since banks provide such a significant portion of the economy's funding, they are essential to modern trade and development everywhere (Ongore & Kusa, 2013). For financial institutions, profit is crucial. Experts, investors, and analysts from all over the world have been interested in the impact of financial performance on Commercial Banks for quite some time (Sufian & Chong, 2008).

The banking industry is essential to the economy because of the role credit plays. That's why it's crucial that they consistently achieve financial success. The financial system is essential to the functioning of the economy. Commercial banks play an important role in the economy by ensuring a continuous flow of savings to investment opportunities (Ongore & Kusa, 2013).

The economy's lifeblood is the commercial banking system. They provide vital services like as accepting deposits, extending credit to consumers, and managing customers' liquidity needs (Handley-Schachler et al., 2007). Commercial banks also play an important role in the transmission of monetary policy decisions made by national central banks (Siddiqui & Shoaib, 2011). There is a direct correlation between a country's economic growth and the stability of its financial system (Sufian & Chong, 2008). Financial institutions and national economies are inextricably intertwined. Commercial banks' safety is heavily reliant on their financial results. It often reveals the commercial banking sector's strengths and weaknesses. Profitability is one metric used to assess the health of a financial institution (Makkar & Singh, 2013).

There are stringent ratio standards that financial organizations must meet. When retained in the firm, a bank's profits make for solid equity. Profit leads to financial stability, hence this should result in secure banking. Monopoly is indicated by excessive profits. The intermediary function could be harmed. Monopolistic banks may provide poorer returns on deposits while charging higher interest rates on loans. Too little profit could discourage private actors, depositors, and shareholders from banking, leaving banks short of the funds they need to function.

1.1 Objective

The specific objective of the study was to establish the influence of liquidity risk management on financial performance of Commercial Banks in Kenya.

II. LITERATURE REVIEW

2.1 Theoretical Framework

Based on the research's aims, the study was guided by the Shiftability theory of liquidity management

2.1.1 Shiftability Theory of Liquidity Management

According to Bhattacharyya's (2011) shiftability hypothesis, a bank's level of defense in managing its liquidity is determined by whether it possesses or invests in legal capital that can be shifted alone to other investments in getting liquid equipment. For instance, the loan moves to the secondary backup position, and the backup system moves to the primary backup position. According to the notion of transferability, banks should extend commercial paper pawn credits only after receiving advance notice. This theory proposes that in order for banks to keep their liquidity levels stable, they must have access to liquid assets. Such assets can be quickly transformed into cash in the event of a financial shortage. According to this idea (Deger & Adem, 2011), proper management of a bank's liquidity depends on the asset's fungibility, marketability, or transferability.

Pawn shops are a common way for financial institutions to get quick cash when they are strapped for cash. Collateral that is normally illiquid causes friction by becoming liquid. In addition, super common stock and other marketable securities are frequently offered for sale. Therefore, the shiftability theory is understood to describe and instill trust in the management of financial institutions up to the point where a certain quantity and quality of movable assets is required to meet liquidity management (De-Young & Rice, 2004). The study's aim was to examine the connection between liquidity risk management and the financial performance of Commercial banks in Kenya, and this theory provided the theoretical framework.

2.2 Liquidity Risk Management and Financial Performance

Numerous studies, both domestically and internationally, have been conducted to determine the relationship between liquidity and financial performance in various sectors of the economy. Commercial bank performance is negatively correlated with global liquidity management (Berríos, 2013). The Global Financial Crisis of 2007-08 was accompanied by a crisis in liquidity management (Bhattacharyya, 2011). This was the worst financial crisis ever, and it brought up some very basic issues with how liquidity is handled (Banks, 2005). Banks took the greatest blow as liquidity management demands eased dramatically after the crisis (CBK, 2016). A severe financial hit dealt many economies, leading to homelessness, foreclosures, and extended joblessness, this crisis highlighted the importance of commercial banks' liquidity management (Basel Committee for Banking Supervision, 2013).

Alshatti (2015) conducted a study to determine the extent to which commercial banks in Jordan may increase their profits through better liquidity management and to identify strategies for doing so. The study found that the investment and quick ratios positively affected ROE, and the capital ratio positively affected ROA, both indicating that liquidity management had an impact on profitability.

Working capital management has been shown to have an effect on a company's profitability and liquidity (Dong & Su, 2010). Data from 2006 to 2008 was pooled to form an overall impression of the companies listed on the Vietnam Stock Exchange. The cash conversion cycle was studied to determine how well working capital was managed. Strongly negative correlations were established between the variables, indicating that rising CCC had a detrimental effect on profits. Profitability was also observed to improve with shorter debtor collection and inventory conversion periods.

Ehiedu (2014) examined the impact of liquidity on profitability at a cross-section of Nigerian businesses and found that 75% of the respondents observed a favorable relationship between current ratio and profitability. Profitability is thought to increase in tandem with the current ratio since a company can earn interest on its idle capital (especially if the capital was borrowed). Both companies' acid test ratio and ROA were negatively correlated with one another. The results above imply that the current ratio is inversely related to profitability for half of the enterprises in our sample.

Nyamao et al. (2012) studied how two contrasting approaches to managing a company's working capital—aggressive and conservative—affected the profitability and market value of enterprises trading on the Tehran Stock Exchange. The research analyzed panel data to determine whether conservative or aggressive working capital management policies were more effective. The results suggest that conservative investment policies and aggressive financing policies hurt a company's profitability and worth.

Apuoyo (2010) found that strong working capital scores boost banking and investment industry company profitability. Mathuva (2009) analyzed the impact of working capital management on the profitability of 30 NSE-listed companies. In this research, we used the cash collection cycle as a stand-in for working capital.

Mathuva (2009) employed statistical techniques such as correlations, Least Squares, and regression. The research concluded that the longer it takes businesses to collect payment from their clients, the worse their profitability. The time it takes for inventories to be turned into sales and for businesses to make payments was also found to have a highly substantial positive association with profitability.

Maina (2011) looked at the financial health and profitability of Kenya's oil companies from 2007 to 2010. The companies' financial statements were used to supplement primary research. The firms' profitability was used as the dependent variable, while the firms' liquidity was used as an independent variable, in a regression model. Current ratio, quick ratio, and cash conversion cycle were utilized as independent variables in the model, while leverage and firm age were employed as control variables. The research showed that liquidity management was not a major factor in the company's success and that other factors do affect ROA. Firms need to take conscious actions to optimize their liquidity level, but first they must comprehend the impact that each liquidity component has on the firm's profitability.

Omesa (2015) looked into how liquidity affected the bottom lines of Kenyan banks that traded on the Nairobi Securities Exchange (NSE). Secondary information was culled from relevant parts of the NSE's financial filings for this study. The study included the years 2011-2015. The research showed that a fall in liquidity will negatively affect the financial performance of NSE-listed financial institutions because of the negative correlation between ROA and liquidity.

Rahaman's (2001) research in Canada suggests a nonlinear relationship, whereby banks' profitability increases as they accumulate certain liquid assets, but then declines after a certain threshold is reached (everything else being equal). Simultaneously, estimation results demonstrated some evidence that the relationship between liquid assets and profitability is affected by a bank's business style and the risk of financing market issues. Banks can maximize profitability with less liquid assets if they return to more conventional business models (those centered on deposits and loans). Olongo (2013) looked into how NSE-listed Kenyan companies' liquidity affected their profitability. The study found that the liquidity measures of cash conversion period and current ratio had a negative effect on the profitability of NSE-listed firms over the 5-year period, while the liquidity measure of quick ratio had no significant effect.

III. RESEARCH METHODOLOGY

This investigation employed a positivist approach to research. Measurement of observable social realities is central to the positivist perspective, in which hypotheses derived from established theory are put to the test. The positivist research philosophy was used for this study so that the researcher could collect reliable panel data from the NSE-listed financial companies. According to Hazzi and Maldaon (2015), positivists believe that the study's hypotheses should be testable so that they may be confirmed or disproved. Positivist philosophy will be the most appropriate research philosophy to utilize given that the study involves testing of hypotheses. Simon (2011) stated that positivist research tends to be of a deductive sort, while Johnson and Christensen (2012) argued that positivists rely on previous research when making predictions.

The study adopted a regression model to establish the relationship between liquidity risk management and financial performance of Commercial Banks in Kenya. The study predicted a positive relationship between liquidity risk management and financial performance of Commercial Banks in Kenya. The study panel data models were written as:

$$Y_{it} = \beta_0 + \beta_2 LRM_{it} + e$$

Where;

Y_{it} = Financial Performance (ROA or ROE), LRM_{it} = Liquidity Risk Management, Adequacy and i -an index for cross section (Banks), t -an index for time series-(2010-2019, $i=1, \dots, n_1, t=1, \dots, n_1$, and e =error term

IV. FINDINGS AND DISCUSSIONS

This section presents descriptive output of the study. They include; mean, maximum, minimum, standard deviation and number of observations. Data from all the 32 commercial banks in Kenya out of a possible 42 commercial banks were collected giving 76.2% participation rate. 32 Commercial Banks were purposively selected since they meet all the necessary criteria. Some of the Commercial Banks left out have been put under receivership, some under statutory management and others merged or acquired. The descriptive statistics show the distributions across the periods of study from 2010-2019. The mean shows an average over the period while standard deviation illustrates an extent of variations in the study period.

4.1 Liquidity Risk Management and Financial Performance

The study sought to determine the influence of liquidity risk management on financial performance of Commercial Banks in Kenya. Financial performance was measured using either ROE or ROA shown in Tables 1 and 2.

**Table 1***Regression for Liquidity Risk Management and Financial Performance (ROE)*

Dependent Variable: ROE				
Method: Panel Least Squares				
Date: 04/28/23 Time: 16:52				
Sample: 2010 2019				
Periods included: 10				
Cross-sections included: 32				
Total panel (balanced) observations: 320				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LRM	-0.017644	0.023090	-0.764142	0.4453
C	0.159259	0.021607	7.370830	0.0000
R-squared	0.171833	Mean dependent var		0.144566
Adjusted R-squared	-0.001306	S.D. dependent var		0.176179
S.E. of regression	0.176294	Akaike info criterion		-0.627101
Sum squared resid	9.883269	Schwarz criterion		-0.603549
Log likelihood	102.3361	Hannan-Quinn criter.		-0.617696
F-statistic	0.583912	Durbin-Watson stat		1.516621
Prob(F-statistic)	0.045350			

From the study findings, liquidity risk management has an insignificant negative effect on ROE at 5% level of significance ($\beta=-0.0176$, $p\text{-value}=0.44$). This implies that liquidity risk management results to insignificant decrease in ROE in Commercial Banks.

The study results also show that the regression model used was fit for data analysis at 95% confidence level due to the significant F-statistic value (F-statistic=0.583, $p\text{-value}=0.045$).

The negative relationship mirrors a study by Omesa (2015) who noted that liquidity has a negative effect on financial performance of financial institutions listed in NSE.

Table 2*Regression for Liquidity Risk Management and Financial Performance (ROA)*

Dependent Variable: ROA				
Method: Panel Least Squares				
Date: 04/28/23 Time: 16:53				
Sample: 2010 2019				
Periods included: 10				
Cross-sections included: 32				
Total panel (balanced) observations: 320				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LRM	-0.006568	0.003946	-1.664455	0.0970
C	0.028571	0.003692	7.737947	0.0000
R-squared	0.108637	Mean dependent var		0.023102
Adjusted R-squared	0.005519	S.D. dependent var		0.030210
S.E. of regression	0.030127	Akaike info criterion		-4.160559
Sum squared resid	0.288628	Schwarz criterion		-4.137007
Log likelihood	667.6895	Hannan-Quinn criter.		-4.151155
F-statistic	2.770410	Durbin-Watson stat		1.610728
Prob(F-statistic)	0.037007			

From the study findings in Table 4.16, liquidity risk management has an insignificant negative effect on ROA at 5% level of significance ($\beta=-0.0066$, $p\text{-value}=0.097$).

The study results also show that the regression model used was fit for data analysis at 95% confidence level due to the significant F-statistic value (F-statistic=2.770, $p\text{-value}=0.037$).

This implies that liquidity risk management results to insignificant increase in ROA in Commercial Banks in Kenya. This study aligns with the study by Omesa (2015) who noted that liquidity has a negative effect on financial performance of financial institutions listed in NSE.

V. CONCLUSIONS & RECOMMENDATIONS

5.1 Conclusion

The study found out that liquidity risk management had a negative but insignificant effect on financial performance of commercial banks both for ROE and ROA. Arising from the study findings, it is observed that liquidity risk management has a negative effect on financial performance measured either in ROA or ROE.

5.2 Recommendation

Commercial banks should manage liquidity risk by keeping it as minimum as possible so as not to involve in loss making undertakings.

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