

Effects of Liquidity Risk on Performance of Commercial Banks in Meru Town, Kenya

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Abstract: Recently, banking sector in Kenya has been experiencing liquidity problems mainly funding liquidity and market liquidity risks. Most of the banks which exposed themselves to severe liquidity risks did not have the requisite framework to support the risks inherent in individual business lines or products, and, therefore, did not align the risks to the bank's own risk tolerance. Thus, the purpose of this study was to investigate the effects of liquidity risk on the performance of commercial banks in Meru Town and it was guided by the following specific objectives: to establish the effects of cash reserves on the performance of commercial banks in Kenya, to assess the effects of deposits on the performance of commercial banks in Kenya and to determine the effects of non-performing loans on the performance of commercial banks in Kenya. This study adopted descriptive research; the entire population of all commercial banks in Kenya is 44. The target population in this study comprised of the Branch Managers, Operations Managers and Credit Officers working in all the 24 commercial banks in Meru Town totaling to 72 respondents. Total population and purposive sampling were used to select the cases to be studied. The data was then summarized, coded, tabulated and analyzed using Statistical Package for Social Sciences (SPSS) version 24. The findings obtained show that cash reserves affected liquidity as well as the performance of commercial banks. This is evidenced by the correlation and regression results that reports such relationship. Cash reserves also enabled continuity of operations and this was vital in keeping the banks afloat in the market. Having deposits in banks was important since this affected liquidity and eventually performance in commercial banks. Indeed positive and significant relationships were found out between these deposits and performance in banks. The level of deposits could make or destroy the bank. When there were few deposits, performance in the banks could be imperiled due to liquidity problems. Such banks could be forced to content with borrowing from central bank or inter-banks market at high costs. It was also established that non-performing loans affect the performance of commercial banks. This can be evidenced by positive relationships obtained in regression and correlation analyses between the two variables. When banks were faced with a lot of non-performing loans, they faced liquidity challenges and this translated to loss of working capital, poor operation of routine tasks and less revenue. This goes on to put the banks at risk of liquidation. The fact that banks responded by putting in place stringent measures in the backdrop of non-performing loans means that banks could start losing revenue. This would reduce the profitability of the firm, face liquidity risks and record reduced performance. Informed by findings of the study, it is recommended that since cash reserves play a crucial role in enhancing liquidity and eventually the performance of commercial banks, it is important for banks officials to understand the legal and practical levels of liquidity required in their banks. Further, due to the fact that deposits enhanced liquidity in commercials, banks should put in place measures aimed at encouraging customers to keep on making deposits. The study recommends that there should be follow up studies in other counties for correlation purposes. Furthermore, each study variable could be studied singly using other research methods so as to understand them more. Since performance in banks could be as a result of other factors that are linked to liquidity issues, it is important to carry out studies that incorporate other variables that directly or indirectly affect the relationship that was studied in this current study such as government regulatory frameworks, changing interest regimes and, competition from unregulated financial institutions among others.

Keywords: Effects, Liquidity, Performance.

1. BACK GROUND OF THE STUDY

The strength of the banking system is an essential requirement to ensure the economic stability and growth, (Halling & Hayden, 2006). Banks are the main part of the financial sector in any economy, performing valuable activities on both sides of the balance sheet. On the asset side, they enhance the flow of funds by lending to the cash starved users of funds, whereas they provide liquidity to savers on the liability side (Diamond & Rajan, 2001). Banks also facilitate the payments and settlement systems and support the smooth transfer of goods and services. In addition, banks ensure productive investment of capital to stimulate economic growth and help to develop new industries, thereby increasing employment and facilitating growth.

Liquidity is a bank's capacity to fund increase in assets and meet both expected and unexpected cash and collateral obligations at reasonable cost and without incurring unacceptable losses (Pandey, 2010; Reserve Bank of India, 2012). Liquidity risk is the inability of a bank to meet such obligations as they become due, without adversely affecting the bank's financial condition (Pandey, 2010; Reserve Bank of India, 2012). Liquidity risk is a risk arising from a bank's inability to meet its obligations when they come due without incurring unacceptable losses" (Comptroller of the Currency, 2001). This risk can adversely affect both bank's earnings and the capital. Therefore, it becomes the top priority of a bank's management to ensure the availability of sufficient funds to meet future demands of providers and borrowers, at reasonable costs (Arif&Anees 2012). Padmalatha and Justin (2010) came up with a liquidity risk model which brings out the most significant impact of liquidity problems. They can have an adverse impact of the bank's earnings and capital and, in extreme circumstances, may even lead to the collapse of the bank itself, though the bank may otherwise be solvent.

Banking systems in Kenya are classified under financial sector and the sector plays a critical role in the development process. In Vision 2030, for example, the financial sector is expected to drive high levels of savings and finance Kenya's investment needs (Kenya National Bureau of Statistics, 2013). In 2012, the sector's growth slowed down to 6.5 per cent from 7.8 per cent in 2011. Similarly, the sector's contribution to GDP decreased from 6.3 per cent to 5.2 per cent in the same period (Kenya National Bureau of Statistics, 2013).

Despite the growth in the Kenyan banking sector, the sector still faces many challenges with respect to management of risks that banks are exposed to. According to CBK, operating efficiency was one of the most critical risks faced by financial institutions in Kenya and Kenyan banks are yet to adopt model-based approaches in assessing their operating efficiency (CBK, 2011).

Risk-taking is an inherent element of banking, and indeed, profits are in part the reward for successful risk taking in business. However, excessive or poorly managed risk can lead to losses and thus endanger the safety of a bank's deposits. The management of financial institutions should recognize, measure, monitor and control the overall levels of risks undertaken. Sound risk management systems enable managers to take risks knowingly, reduce risks where appropriate and strive to prepare for a future that cannot be predicted with absolute certainty. Liquidity risk not only affects the performance of a bank but also its reputation (Jenkinson, 2008)

A bank may lose the confidence of its depositors if funds are not timely provided to them. The bank's reputation may become at stake in this situation. In addition to this, a poor liquidity position may cause penalties from the regulator. Therefore, it becomes imperative for a bank to keep a sound liquidity arrangement. Liquidity risk has become a serious concern and challenge for the modern era banks (Comptroller of the Currency, 2001). High competition for consumer deposits, a wide array of funding products in wholesale and capital markets with technological advancements have changed the funding and risk management structure, (Akhtar, 2007). A bank having good asset quality, strong earnings and sufficient capital may fail if it is not maintaining adequate liquidity (Crowe, 2009)

According to Alton and Hazen (2001) non- performing loans are those loans which are ninety days or more past due date or no longer accruing interest. Hennie (2003) agrees arguing that non- performing loans are those loans which are not generating income. This is further supported by Caprio and Klingebiel (1996), who define non- performing loans as those loans which for a relatively long period of time do not generate income that is, the principal and or interest on these loans have been left unpaid for at least ninety days. According to Berger and De Young (1997), non- performing loans could be injurious to the financial performance of banking institutions. According to Waweru and Kalami (2009), non-performing loans are closely associated with banking crises. Greenidge and Grosvenor (2010), argue that the magnitude of non-performing loans is a key element in the initiation and progression of financial and banking crises. Guy (2011) agrees arguing that non-performing loans have been widely used as a measure of asset quality among lending institutions and are

often associated with failures and financial crises in both the developed and developing world. Reinhart and Rogoff (2010) as cited in Louzis et al (2011) point out that non-performing loans can be used to mark the onset of a banking crisis. Despite ongoing efforts to control bank lending activities, non-performing loans are still a major concern for both international and local regulators (Boudriga et al, 2009).

The cutback of loans impairs the corporate sector as they have difficulties in expanding their working capital, blocking their chances of resuming normal operation or growing. (Agung et al, 2001).

Therefore, many banks focus on the corporate or wholesale lending, which poses a challenge for the management to maintain the required liquidity position (Akhtar, 2007). This lending is mostly long-term, which may create liquidity problems for a bank (Kashyap et al., 2002). The loan retirement process slows down in the banks during periods of poor production of resources in the economy. This situation gives rise to non-performing loans (NPLs). When NPLs experience a rapid increase, liquidity crisis becomes inevitable.

STATEMENT OF THE PROBLEM:

The banking sector plays a critical role in the development process. In Vision 2030, for example, the sector is expected to drive high levels of savings and financing of Kenya's investment needs (Kenya National Bureau of Statistics, 2013). Despite its importance, in 2012, the sector's growth slowed down to 6.5 per cent from 7.8 per cent in 2011. Similarly, the sector's contribution to GDP decreased from 6.3 per cent to 5.2 per cent in the same period (Kenya National Bureau of Statistics, 2013). Even though the banking sector shows growth in assets, deposits and profitability, the trend in interest rates is off the Medium Term Plan target (CBK, 2011). The Plan envisioned achieving lower lending rates and higher deposit rates, thereby reducing the interest rate spread to 6 per cent, which currently stands at 11 per cent. The large spread is a serious impediment to expansion and development of financial intermediation because it may discourage potential savers with low returns on deposits, and potential investors with reduced feasible investment opportunities.

Also, the banking sector still faces many challenges with respect to management of risks that banks are exposed to such as operating efficiency, credit risk, liquidity risk and interest rate risk (CBK, 2011). For example, liquidity risk not only affects the performance of a bank but also its reputation and has become a serious concern and challenge for the modern era banks, (Jenkinson, 2008). A more dangerous consequence is that a liquidity crisis in a large bank could give rise to systemic consequences impacting other banks and the country's banking system as a whole. Liquidity problems can also affect the proper functioning of payment systems and other financial markets (Pandey, 2010; Reserve Bank of India, 2012).

Recently, banking sector in Kenya has been experiencing liquidity problems mainly funding liquidity and market liquidity risks (CBK, 2016). For example, in a period of nine months three banks have undergone liquidation. Most of the banks which exposed themselves to severe liquidity risks did not have the requisite framework to support the risks inherent in individual business lines or products, and, therefore, did not align the risks to the bank's own risk tolerance. To many banks, the kind of severity or duration of the liquidity crisis (as it materialized later) seemed a remote possibility. Hence, these banks did not conduct stress tests to factor market wide liquidity strain and disruptions (Basel Committee, 2008; CBK, 2016).

A study conducted by Maaka (2013), on the relationship between liquidity risk and financial performance of commercial banks in Kenya established that profitability of the commercial bank in Kenya is negatively affected due to increase in the liquidity gap and leverage. The level of customer deposit was also found to positively affect the bank's profitability. But this study used only financial variable to measure performance of commercial banks and yet there are many variables that can be used to measure performance of commercial banks. Thus the generalization of the findings of this study is limited because it focused only 14 commercial banks.

A study conducted by Odunga and Nyangweso (2014), on credit risk, liquidity and operating efficiency for low and high market shares commercial banks in Kenya. The study found out that operating efficiency and credit risk proxy by loan loss provision to total equity ratio was significant while liquidity proxy by interbank ratio was insignificant in explaining operating efficiency. The study recommended that banks should put in place mechanisms for improving on these variables in readiness to improve operating efficiency and remain competitive in the market. But the study failed to address in detail the effects of these variables on the market share. Hence this study sought to fulfill this gap by establishing effects of liquidity risk on the performance of commercial banks in Kenya.

2. LITERATURE REVIEW

The Shiftability Theory of Liquidity:

This theory was formally developed by Moulton in 1915; the shiftability theory held that banks could most effectively protect themselves against massive deposit withdrawals by holding, as a form of liquidity reserve, credit instruments for which there existed a ready secondary market. Included in this liquidity reserve were commercial paper, prime bankers' acceptances and, most importantly as it turned out, Treasury bills. Under normal conditions all these instruments met the tests of marketability and, because of their short terms to maturity, capital certainty.

A major defect in the Shiftability theory was discovered similar to the one that led to the abandonment of the commercial loan theory of credit, namely that in times of general crisis the effectiveness of secondary reserve assets as a source of liquidity vanishes for lack of a market (Casu et al, 2006; Maaka, 2013). The role of the central bank as lender of last resort gained new prominence, and ultimately liquidity was perceived to rest outside the banking system. Furthermore, the soundness of the banking system came to be identified more closely with the state of health of the rest of the economy, since business conditions had a direct influence on the cash flows, and thus the repayment capabilities, of bank borrowers, (Casu et al, 2006; Maaka, 2013). The shiftability theory survived these realizations under a modified form that included the idea of ultimate liquidity in bank loans resting with shiftability to the Federal Reserve Banks. Under this institutional scheme, the liquidity concerns of banks were partially returned to the loan portfolio, where maintenance of quality assets that could meet the test of intrinsic soundness was paramount, (Allen & Gale, 2004).

This theory is relevant to this study because commercial banks try to keep up sufficient funds to meet the unexpected demands from depositors (Majid, 2003) but maintaining the cash is extremely expensive (Holmstrom & Tirole, 2000). But the limitation to the commercial banks maintaining large cash reserve may not only lose a number of opportunities in the market but also have to bear the high cost associated with cash. Thus there is need of commercial banks balancing this act.

Asymmetry Theory:

The theory of asymmetric information tells us that it may be difficult to distinguish good from bad borrowers (Auronen, 2003 & Richard, 2011), which may result into adverse selection and moral hazards problems. The theory explains that in the market, the party that possesses more information on a specific item to be transacted is in a position to negotiate optimal term for the transaction than the other party, (Auronen, 2003). The party that knows less about the same specific item to be transacted is therefore in a position of making either right or wrong decision concerning the transaction. Adverse selection and moral hazards have led to significant accumulation of non-performing loans in banks, (Bester, 1994).

This theory is applicable in this study because adverse selection of borrowers may lead to accumulation of non-performing loans and in turn can cause liquidity risk problems in commercial banks. Hennie (2003) defines non-performing loans as those loans which are not generating income. This is further supported by Caprio and Klingebiel (1996), who define non-performing loans as those loans which for a relatively long period of time do not generate income that is, the principal and or interest on these loans have been left unpaid for at least ninety days. Thus, commercial banks should possess more information on specific item they transact with borrowers in order to negotiate optimal terms to avoid non-performing loans.

Deflation Theory:

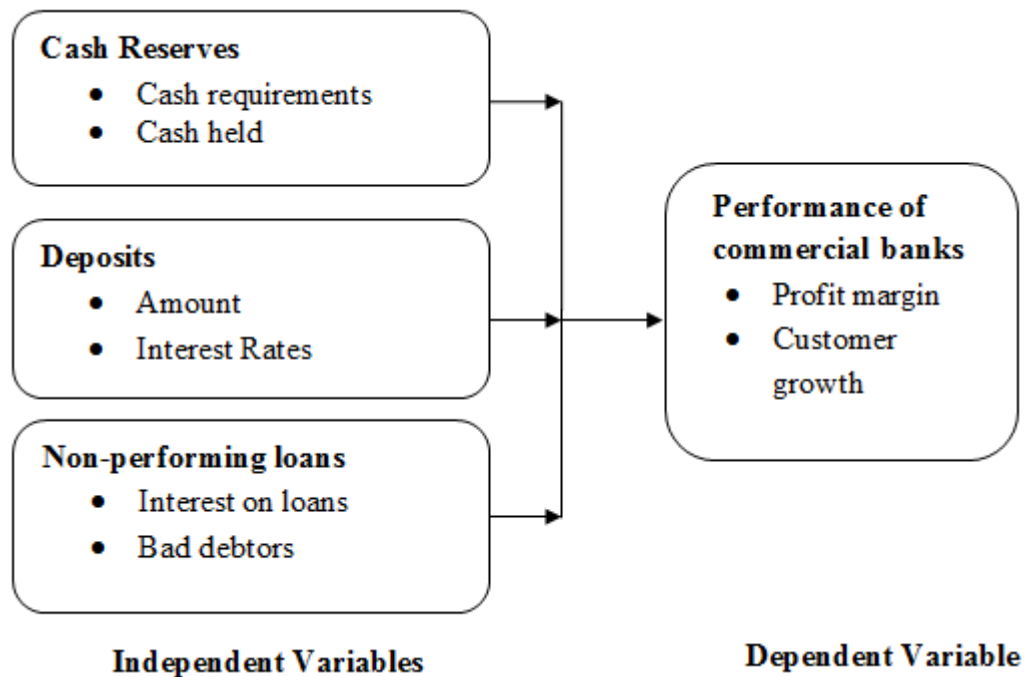
The deflation theory by Fisher (1933), suggests that when the debt bubble bursts the following sequence of events occurs; debt liquidation leading to distress selling and contraction of deposit currency, as bank loans are paid off. This contraction of deposits cause a fall in the level of prices, which leads to greater fall in the net worth of business, hence precipitating bankruptcies which leads the concerns running at a loss to make a reduction in output, in trade and in employment of labor. These cycles cause complicated disturbances in the rates of interest and a fall in the money value. The complicated disturbances described above can be summed as both external and internal forces (macro and micro factors) influencing state of over-indebtedness existing between, debtors or creditors or both which can compound to loan defaults.

This theory was important in this study because deposits are the lifeline of the commercial banking business. Most of the banking operations are run through deposits. If the depositors start withdrawing their deposits from the bank, it will create a liquidity trap for the bank (Jeanne & Svensson, 2007; Kumar, 2008) forcing the bank to borrow funds from the central

bank or the inter-bank market at higher costs (Diamond & Rajan, 2001). On the contrary, a bank having enough deposits in their accounts will not have the above-said problems. Therefore, to improve its profitability, it is imperative for a bank to increase its deposits.

Conceptual Framework:

A conceptual framework is a model of presentation where a researcher conceptualizes or represents the relationships between variables in the study and shows the relationship graphically or diagrammatically (Orodho, 2008). This study sought to investigate on how cash reserves, deposits and non-performing loans affect performance of commercial banks in Kenya. The variables in the conceptual framework were derived from the theories identified and literature from different scholars in this study.



3. RESEARCH METHODOLOGY

Research Design:

Research design is a plan outlining how information is to be gathered for an assessment or evaluation that includes identifying the data gathering method(s), the instruments to be used, how the instruments would be administered, and how the information would be organized and analyzed. This study adopted descriptive research design for it portrays an accurate profile of situations (Cooper & Schindler, 2011). This design describes the characteristics of a particular phenomenon in a situation. It is used to obtain information concerning the current status of the industry, to survey what exists with respect to the conditions in a situation.

Target Population:

According to Mugenda and Mugenda (2008), a population refers to the entire group of subjects that conform to a given specification that can be used as a data for research purposes. A population also refers to the total collection of elements about which the researcher wishes to make some inferences (Cooper & Schindler, 2011). The entire population of all commercial banks in Meru is 24 (CBK, 2011). The target population in this study comprised of the Branch Managers, Operations Managers and Credit Officers working in all the 24 commercial banks in Meru Town totaling to 72 respondents.

Sampling and Sampling Techniques:

Sampling is a process of selecting a number of individuals or objectives from a population such that the selected group contains elements that are representative of characteristics found in the entire group (Kothari, 2009). A sample is a

subgroup of the population that the researcher is interested in, (Kumar, 2005). In selecting the sample to be studied, purposive sampling and total population sampling were used to select the cases to be studied. Herein, all the Branch Managers, Operations Managers and Credit Officers working in all the 24 commercial banks in Meru Town totaling to 72 respondents were sampled.

Sampling Frame:

A sampling frame is a list of all items where a representative sample is drawn for the purpose of research (Mugenda & Mugenda, 2003). In this study, the sampling frame was the list of all 24 commercial banks in Meru Town (CBK, 2011).

Sampling Technique:

In this study purposive sampling was used. Purposive sampling is a sampling technique that allows a researcher to use cases that have the required information with respect to the objectives of his or her study (Mugenda & Mugenda, 2003). Furthermore, total population sampling was used. In this regard, all the individuals targeted by the study were sampled. The cases to be studied will be handpicked because they possess the required information.

Data Collection Instruments:

The study used primary data. Primary data was obtained through self-administered questionnaires with closed and open-ended questions. The researcher used the questionnaires since they are the most appropriate tool to gather information that can determine the effect of liquidity risk on the performance of commercial banks in Kenya. The questionnaires included structured and unstructured questions that were administered to the respondents who are bank managers, operations managers and credit officers. The closed ended questions enabled the researcher to collect quantitative data. The advantages of a questionnaire over other instruments include: information can be collected from large samples, no opportunity for bias since it is presented in paper form and confidentiality is upheld (Kothari, 2009).

Data Collection Procedure:

Data collection is the gathering of information to serve or prove some facts (Kombo & Tromp, 2009). The questionnaire was self-administered to the respondents and two research assistants were recruited and trained so that they can be able to get quality results. Secondary data was collected from published sources such as Nairobi Security Exchange and Capital Markets Authority. The target participants were branch managers, operations managers and credit officers who filled in the questionnaires. These target participants have adequate knowledge about liquidity risk, considering their crucial role in top management involvement.

Pilot Test:

Cooper and Schindler (2011) explain that pilot test is conducted to detect weaknesses in design, instrumentation and to provide proxy data for selection of probability sample. The procedures which were used in pre-testing the questionnaire were identical to those that were used during the actual study or data collection. The number in the pre-test was small, about 1% to 10% of the target population (Mugenda & Mugenda, 2003). In this study the questionnaire was tested on 10% of the entire sample size, which translated to seven respondents in Meru town.

Reliability of Data Collection Instruments:

This study adopted the internal consistency method. Reliability is consistency of measurement or stability of measurement over a variety of conditions in which basically the same results should be obtained. The internal consistency method was adopted because it is more stable than the other methods (Bryman, 2012; Cooper & Schindler, 2011). Internal consistency is tested using the Cronbach's alpha statistic. For a test to be internally consistent, Drost (2011) suggests that estimates of reliability should be based on the average inter correlations among all the single items within a test. Pallant (2010) advises that where Cronbach's Alpha coefficient is used for reliability test, the value should be above 0.7. Cronbach's alpha (α) will be computed as follows:

$$\alpha = K / (K - 1) [1 - (\sum \sigma_k^2 / \sigma_{total}^2)] \text{-----Equation (1)}$$

Where K is the number of items, $\sum \sigma_k^2$ is the sum of the k item score variances, and σ_{total}^2 is the variance of scores on the total measurement (Cronbach, 2004). After piloting, the Cronbach's alpha (α) was calculated and found to be above 70% which made the data instrument to be regarded as being reliable.

Validity of Data Collection Instruments:

This study adopted construct validity. Mugenda and Mugenda (2003) define validity as the degree to which results obtained from the analysis of the data actually represent the phenomenon under study. Validity also refers to the degree to which an instrument measures what it purports to measure (Mugenda, 2008; Bryman, 2012). Validity therefore, is concerned with the meaningfulness of research components. Construct validity refers to how well you translated or transformed a concept, idea, or behavior (a construct) into a functioning and operating reality, the operationalization (Trochim, 2006).

This study adopted content validity. Content validity is a qualitative type of validity where the domain of the concept is made clear and the analyst judges opine whether the measures fully represent the domain. Drost (2012) posits that there are basically two ways of assessing content validity, that is, ask a number of questions about the instrument or test and/or ask the opinion of expert judges in the field. Thus, in this study content validity was measured by subjecting questionnaire to supervisor and financial practitioners or experts to seek their opinion

DATA ANALYSIS AND PRESENTATION:

Data Analysis:

Zikmund *et al* (2012) posit that data analysis is the application of reasoning to understand the data that have been gathered with the aim of determining consistent patterns and summarizing the relevant details revealed in the investigation. Data processing entails editing, classification and tabulation of data collected so that they are amenable to analysis (Kothari, 2009). Data entry converts information gathered by secondary or primary methods to a medium for viewing and manipulation. In this study, the quantitative data was collected and analyzed by calculating response rate with descriptive statistics such as mean, median, standard deviation and proportions using Statistical Package for Social Sciences (SPSS) version 24 and Microsoft Excel. Inferential data analysis was carried out by the use of factor analysis and correlation analysis to determine the strength and the direction of the relationship between the dependent variable and the independent variables. Regression models were used to test the relationship between variables.

According to Mugenda and Mugenda (2003), linear regression analysis attempts to determine whether a group of variables together predict a given dependent variable and in this way, attempt to increase the accuracy of the estimate. The general linear regression model for this study was:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon;$$

Where; Y=Performance of commercial banks

β_0 =constant

β_i is the coefficient for X_i ($i=1, 2,3,4,5$)

X_1 =cash reserves

X_2 =deposits

X_3 =non-performing loans

ε = error term

Data Presentation:

Quantitative data was presented by use of graphs and frequency distribution tables. These methods were used because they are clear, easy to compute, understand and interpret the findings, (Saunders, 2007).

4. RESEARCH FINDINGS AND DISCUSSION

Response Rate:

Questionnaires were issued to the 72 respondents targeted. From these, only 69 responded. This makes the response rate for the questionnaires 96%. This was considered sufficient to represent the study.

Results of the Pilot Study:

The questionnaire was pretested through a pilot study to establish its validity and reliability. A total of 7 respondents drawn from commercial banks in Meru town participated in the pilot study. This was based on Kasomo (2007) who points out that 10% of the target population is sufficient for *pre-testing* of questionnaires in descriptive studies.

As far as validity was concerned, the ability of the respondents to answer the research questions was assessed. In this regard, it was found out that there were no ambiguous questions and that the respondents could easily understand and respond to the questions in the questionnaire. Furthermore, the input of the university supervisors was used to improve and fine tune the questionnaire.

Regarding the reliability of the research instruments, Cronbach's alpha was used. The Cronbach's alpha is a reliability coefficient which ranges from a value of 0 to 1. It is used in measuring the degree of internal consistency between variables measuring one construct. In this measure, a value of 0.6 or less indicates unsatisfactory internal consistency reliability whereas the acceptable level of reliability starts from 0.7 (Malhotra, 2004). In this study, the pilot study obtained an average Cronbach's alpha of 0.85. This meant that the questionnaire was reliable for use in data collection for the study. The findings are presented in Table 4.1. Table 4.1: Reliability Statistics

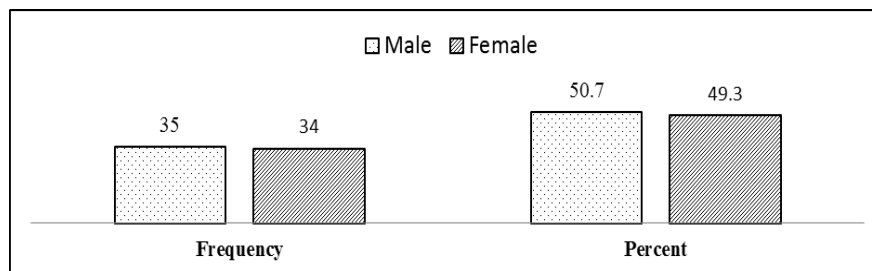
Variable	Cronbach's Alpha	No of Items
Cash Reserves	0.92	6
Deposits	0.88	6
Non-Performing Loans	0.76	8
Performance of Commercial Banks	0.85	6
Average	0.85	7

General Information of the Respondents:

The research sought information regarding the respondents' sex, age, academic background, and duration of work in a commercial bank, department of work and, attendance of on the job training. The findings obtained are presented in the following sections

Distribution by Sex:

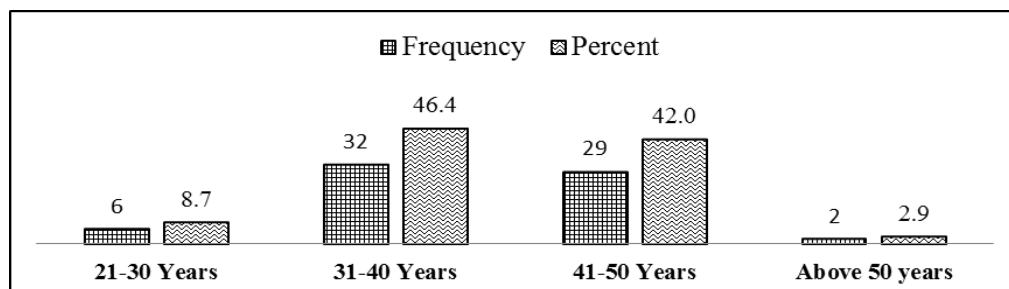
The researcher sought to establish the sex of respondents. The findings obtained show, 50.7% were male while 49.3% were female. This shows that both sexes were well represented in the study and that gender bias could be avoided. The findings are shown in Figure 4.1.



Distribution by Sex

Distribution by Age:

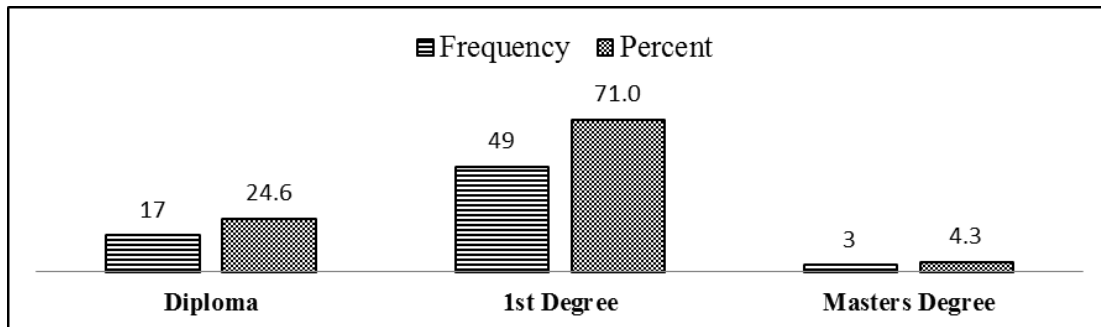
The researcher sought to determine the distribution of the respondents according to age. The majority of the respondents (46.4%) were 31 to 40 years old. These were followed by those aged 41 to 50 years (42%). Six of the respondents (8.7%) were aged 21 to 30 years old while only 2 (2.9%) were more than 50 years old. It is thus evident that various age groups were well represented in the study and that diversity of responses could be anticipated.



Distribution by Age

Distribution by Highest Academic Qualification:

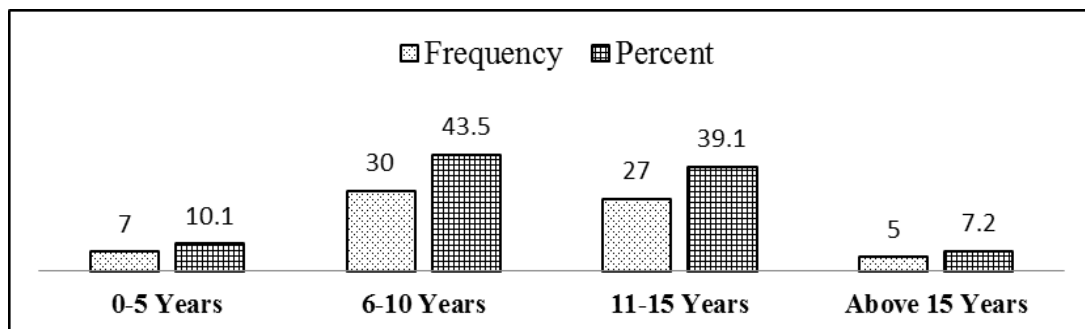
Regarding the highest academic qualification of respondents, the findings obtained show that most of the respondents had First Degrees (71%). These were followed by diploma holders (24.6%). The least were Masters Degree holders (4.3%). It can be deduced that the respondents had sufficient academic qualification to significantly contribute to the study. These findings are shown in Figure 4.3.



Distribution by Academic Qualification

Distribution by Duration of Work in Bank:

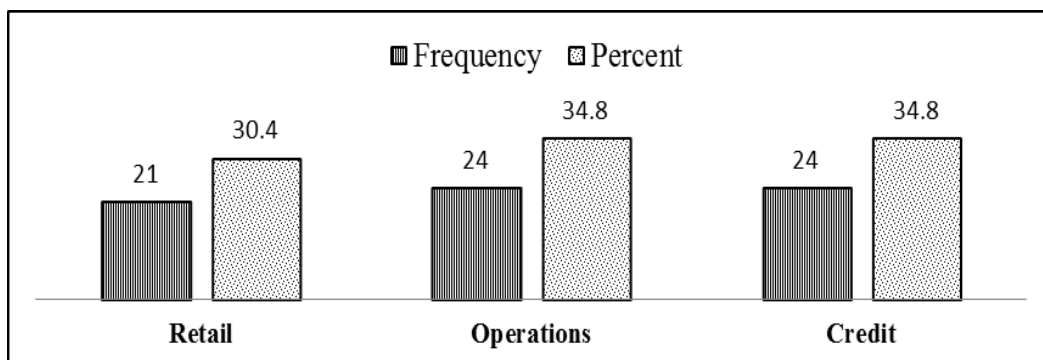
The study sought to find out the number of years the respondents had worked in the various banks. The findings obtained show that the majority of the respondents had worked for 6 to 10 years (43.5%). These were followed by those who had worked for 11 to 15 years (39.1%) and those who had worked for more than 15 years (7.2%). Those who had worked for less than 5 year were the least (10.1%). It is thus evident that the respondents had worked in their banks for durations that could give them the ability to sufficiently respond to the subject under investigation.



Distribution by Duration of Work in Bank

Distribution by Department:

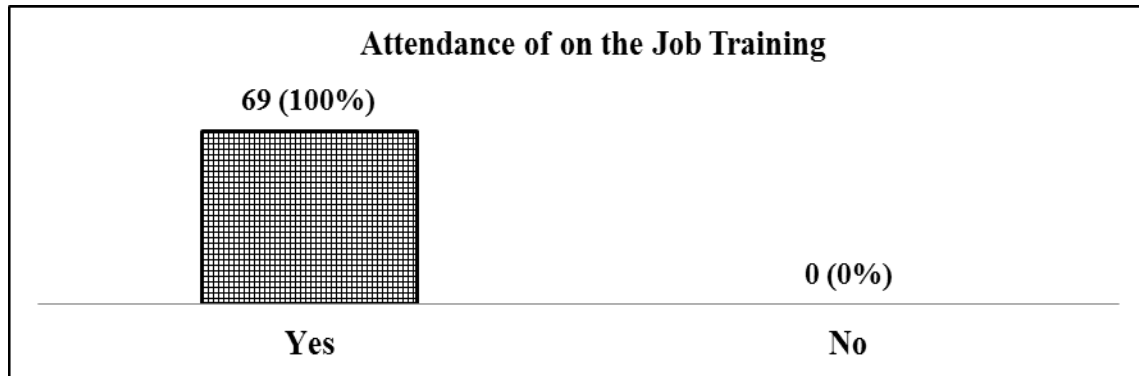
The study sought to find out the departments in which the respondents were working. As shown in Figure 4.5, the majority of the respondents were in operations and credit departments each at 34.8%. The least were those who worked in the retail department (30.4%). Evidently, all the three departments targeted by the study were well represented.



Distribution by Department

Attendance of On the Job Training:

Lastly, the study sought to find out if the respondents had attended on the job training. This is important since such attendance could enhance the knowledge of the respondents on the study subject. All the respondents (100%) indicated that they had attended such training. This means that they were well equipped to adequately respond to the study subject.



Attendance of On the Job Training

Descriptive Statistics:

In this section, descriptive statistics of the study findings are presented. The presentation is done in accordance with the study variables. In this regard, the mean derived from responses to a number of statements regarding cash reserves, deposits, non-performing loans and performance of commercial banks are presented. The responses were captured on Likert-scale type statements. In this regard, means that can be rounded up to 1 signify Strongly Disagree, 2 signify Disagree, 3 signify Neutral, 4 signify Agree and, 5 signify Strongly Agree. The significance of the findings of the study and their relation to literature reviewed is also presented.

Cash Reserves:

The researcher sought to determine the effects of cash reserves on the performance of commercial banks in Meru Town, Kenya. Data was collected using questionnaires.

Range of Required Cash Reserve Ratio:

The researcher sought to find out whether respondents understood the required cash reserve ratio by the Central Bank of Kenya (CBK) for commercial banks.

Range of Required Cash Reserve Ratio

Ratio	Frequency	Percent
3-4%	6	8.7
5-6%	61	88.4
7-8%	2	2.9
Total	69	100.0

Most of the respondents (88.4%) pointed out that the required cash reserve ratio was 5 to 6%. This shows that the respondents were aware of the statutory requirement of the 5.25% by CBK (2016). It can thus be deduced that most of the respondents understood liquidity issues and could adequately contribute information on liquidity risk in commercial banks.

Cash Reserves According to Likert-Type Statements:

The researcher assessed the level to which the respondents agreed to a number to selected statement on the regarding the effects of holding cash reserves on the performance of commercial banks. The data was captured in a Likert-type scale of 1 to 5 (1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree). The closer the mean was to 5 the higher the agreeability and vice versa. The findings are presented in Table 4.3

Cash Reserves According to Likert-Type Statements

Descriptive Statistics					
Statement	N	Min	Max	Mean	Std. Dev
a) Cash reserves mitigates the liquidity risk	69	3	5	4.45	.63
b) Cash reserves facilitates the continuity of operations	69	4	5	4.87	.34
c) Cash reserves can improve the maturity transformation by holding highly liquid assets which can be sold or pledge to meet funding risks	69	3	5	4.83	.42
d) Cash reserves reduces lending capacity of commercial banks	69	3	5	4.45	.72
e) Cash reserves can make bank loose a number of opportunities in the market	69	3	5	4.45	.70
f) Cash reserves can make banks to bear high cost associated with cash	69	4	5	4.86	.35
Average Mean				4.65	

An average mean of 4.65 was obtained. This shows that the respondents highly agreed with the statements presented to them. This means that holding cash reserves affected the performance of commercial banks. These findings agree with Jenkinson (2008) who opines that banks hold minimum cash balance so as to avoid liquidity problems.

The respondents agreed that cash reserves mitigate the liquidity risk (mean of 4.45). The respondents went on to strongly agree that cash reserves facilitated the continuity of operations (mean of 4.87) and that cash reserves could improve the maturity transformation by holding highly liquid assets which can be sold or pledged to meet funding risks (mean of 4.83). This buttresses the findings of Goodhart (2008) who also pointed out that a bank may improve the maturity transformation by holding highly liquid assets as these assets can be sold or pledged to meet the funding risks in a short time.

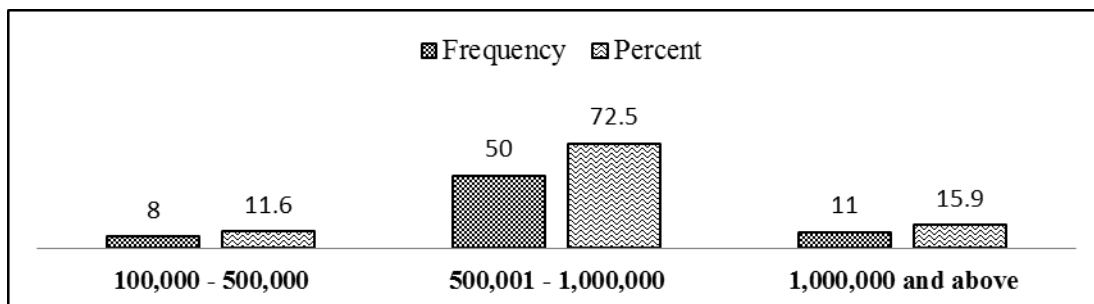
With means of 4.45 respectively, the respondents agreed that cash reserves reduced lending capacity of commercial banks and that cash reserves can make bank loose a number of opportunities in the market. Lastly, the respondents strongly agreed that cash reserves can make banks to bear high cost associated with cash (mean of 4.86)

Deposits:

The researcher sought to investigate the effects of deposits on the performance of commercial banks.

Average Amount of Deposits Received Per Working Day:

The researcher sought to find out the average amount of deposits received per working day. The findings obtained are presented in Figure 4.7.

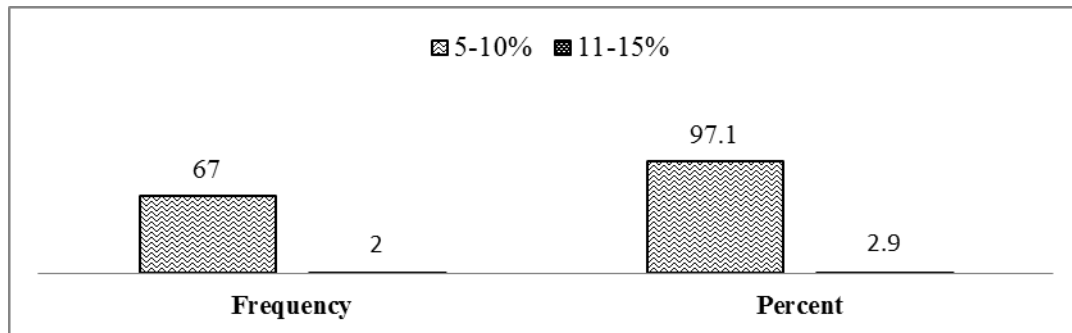


Average Amount of Deposits Received Per Working Day

The findings obtained show that most daily deposits in banks ranged between 500,001 and 1 million shillings (72.5%). These were followed by deposits of more than 1 million at 15.9%. The least of the deposits reported per day were those ranging between 100 and 500 thousand shillings. This shows that banks were receiving various amounts of deposits and this could enhance liquidity in the banks as argued by Jeanne and Svensson (2007) as well as Kumar (2008) who point out that most of the banking operations are run through deposits.

Rate of Interest Offered by Bank for Fixed Deposits Accounts Per Annum:

The researcher went on to establish the interest rate offered by banks for fixed deposits per annum. The findings obtained are presented in Figure 4.8.



Rate of Interest Offered by Bank for Fixed Deposits Accounts Per Annum

Most of the respondents pointed out that most of the interests offered for fixed deposit accounts ranged between 5 and 10%. This was in tandem with the prevailing market rates in Kenya such as the 7.35% p.a. offered by Kenya Commercial Bank (KCB, 2017). As such, more clients could be attracted to make fixed deposits since the rates offered were competitive in regard to existing rates in Kenya.

Likert-Scale Statements Regarding the Effects of Deposits on Banks:

The researcher posed a number of statements to the respondents on the effect of deposits on the performance of commercial banks. The findings obtained are presented in Table 4.4.

Likert-Scale Statements Regarding the Effects of Deposits on Banks

Descriptive Statistics					
Statement	N	Min	Max	Mean	Std. Dev
a) Deposits improves profitability of banks through the interest earned on loaned money	69	4.00	5.00	4.90	.30
b) Deposits helps to run operations of the banks	69	4.00	5.00	4.90	.30
c) Deposits provides a natural hedge to the banks against liquidity risks	69	4.00	5.00	4.91	.28
d) Lack of deposits leads to liquidity problems	69	3.00	5.00	4.77	.46
e) Lack of deposits can force banks to borrow from central bank or inter-banks market at high costs	69	3.00	5.00	4.81	.43
f) Banks encourage their members to grow their deposits	69	4.00	5.00	4.94	.24
Average Mean				4.87	

Regarding the effect of deposits on banks, 6 Likert-type statements were presented to the respondents. Herein, a mean of 4.87 (strongly agree) was obtained. The respondents strongly agree with all the statements presented to them. As such, they opined that deposits improves profitability of banks through the interest earned on loaned money (mean of 4.90) and that deposits helps to run operations of the banks (mean of 4.90). These findings agree with Kumar (2008) who posits that banks are usually run through deposits.

The respondents also strongly agreed that deposits provide a natural hedge to the banks against liquidity risks (mean of 4.91). This agrees with Gatev and Strahan (2003) who also opine that deposits provide a natural hedge to banks against the liquidity risk.

The findings also strongly agree that lack of deposits leads to liquidity problems (mean of 4.77) and; that lack of deposits can force banks to borrow from central bank or inter-banks market at high costs (mean of 4.81). This corroborates the premise of Jeanne and Svensson (2007) who points out that a bank always tries to avoid the capital injection from the government because this may place a given bank at the government's mercy. As such, banks try their best to avoid

liquidity problems. Lastly, the respondents strongly agree that banks encourage their members to grow their deposits (mean of 4.94).

Non-Performing Loans:

The study went on to establish the effects of non-performing loans on performance of commercial banks. To this a number of Likert-type questions were posed to the respondents and the findings obtained represented in Table 4.5.

Likert-Scale Statements Regarding the Non-Performing Loans

Descriptive Statistics					
Statement	N	Min	Max	Mean	Std. Dev
a) Non-performing loans makes the bank to raise interest rate against loans advanced by the bank	69	4.00	5.00	4.87	.34
b) Non-performing loans makes a bank to be reluctant in providing credit facilities to the customers	69	2.00	5.00	4.23	.83
c) Non-performing loans reduces working capital of the bank hence blocking it from performing routine operations	69	3.00	5.00	4.51	.61
d) Non-performing loans reduces revenue of the bank	69	4.00	5.00	4.97	.17
e) Non-performing loans puts the bank into risk of liquidation	69	3.00	5.00	4.84	.47
f) Non-performing loans makes banks' regulators to instill stringent measures on operations.	69	4.00	5.00	4.97	.17
g) Banks carries out due diligence before issuance of loans	69	4.00	5.00	4.94	.24
h) Repayment period highly contributes to non-repayment of loans	69	4.00	5.00	4.91	.28
Average Mean				4.78	

The respondents rated the statements presented to them very highly (average mean of 4.78 (strongly agree)). As such, these findings generally agree with Louzis et al (2011) who elicit that non-performing loans can be used to mark the onset of a banking crisis. The respondents agree to the statement that non-performing loans makes a bank to be reluctant in providing credit facilities to the customers (mean of 4.23) and went on to strongly agree with all the other statements with means ranging between 4.51 and 4.97.

As such, the respondents strongly agreed that: non-performing loans makes the bank to raise interest rate against loans advanced by the bank and that; non-performing loans reduce working capital of the bank hence blocking it from performing routine operations. This is in line with Agung et al. (2001) who points out that the cutback of loans impairs the corporate sector as they have difficulties in expanding their working capital and, blocking their chances of resuming normal operation or growing.

The respondents also highly agreed that non-performing loans reduces revenue of the bank. This corroborates the findings of Hennie (2003) who also argues that non-performing loans are those loans which are not generating income. Furthermore, the respondents opined that non-performing loans puts the bank into risk of liquidation. This agrees with Kashyap et al. (2002) who says that when non-performing loans experience a rapid increase, liquidity crisis becomes inevitable.

The respondents also strongly agreed that non-performing loans makes banks' regulators to instill stringent measures on operations; banks carries out due diligence before issuance of loans and that; repayment period highly contributes to non-repayment of loans. These findings also agree with Kashyap et al. (2002) who says that lending is mostly long-term and that this may create liquidity problems for a bank.

Performance of Commercial Banks:

The dependent variable for this study was performance of commercial banks in Kenya. In this light, the researcher posed a number of Likert-type statements regarding such performance banks. The findings obtained are presented in Table 4.6.

Performance of Commercial Banks

Descriptive Statistics					
	N	Min	Max	Mean	Std. Dev
a) High market share value of a bank gives it a competitive advantage over other players in the industry	69	3.00	5.00	4.97	.24
b) Effective handling of customer complaints enhance performance of a commercial bank	69	4.00	5.00	4.97	.17
c) A huge customer base usually translates to a huge capital base	69	5.00	5.00	5.00	.00
d) The profit margin has increased steadily over the years	69	3.00	5.00	4.67	.59
e) Our customers numbers have been growing steadily over time	69	4.00	5.00	4.88	.32
f) There is an existing feedback mechanism to address customers concerns	69	4.00	5.00	4.99	.12
Average Mean				4.91	

With an average mean of 4.91, the respondents strongly agreed with all the statements presented to them regarding the performance of commercial banks. As such, and as shown by means ranging between 4.67 and 5.00, the respondents strongly agreed that: high market share value of a bank gives it a competitive advantage over other players in the industry (in agreement with Bozec, 2005); effective handling of customer complaints enhance performance of a commercial bank and that; a huge customer base usually translates to a huge capital base.

By agreeing that the profit margin has increased steadily over the years, the findings obtained in this study agree with Hadlock and James (2002) who shows that profitability as a measure of performance in businesses. The findings also agree with Bozec (2005) who elicits that market share was a measure of performance in business institutions. To this, the respondents strongly agreed that the number of customers had been growing steadily over time. Lastly, the respondents pointed out that there is an existing feedback mechanism to address customers concerns.

Correlation:

Correlation analysis was undertaken to find out whether there was linear relationship between the independent variables and the dependent variable in this study. The findings obtained are presented in

The findings obtained show positive and significant relationships between all the independent variables and the dependent variable. This is evidenced by the positive Pearson correlation (r) value which have corresponding significance values of <0.05 (cash reserves, r=0.138; deposits, r=0.194 and; non-performing loans, r=0.076). This findings show that there is evident linear relationship between the study variables. As such, regression analysis could be undertaken.

Regression Analysis:

The purpose of the study was to determine the effect of liquidity risk on the performance of commercial banks in Meru Town, Kenya. The independent variables (IV) in the study were: cash reserves, deposits and, non-performing loans. The dependent variable (DV) was performance in commercial banks. Multiple regression analysis was undertaken to test the relationship between the variables. The findings obtained are presented in Table 4.8.

Regression Analysis

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
1	.264 ^a	.070	.027	1.270	
a. Predictors: (Constant), Non-Performing loans, Deposits, Cash Reserves					
ANOVA^b					
Model	Sum of Squares	df	Mean Square	F	Sig.

1	Regression	7.834	3	2.611	1.621	.000 ^a
	Residual	104.717	65	1.611		
	Total	112.551	68			
a. Predictors: (Constant), Non -Performing loans, Deposits, Cash Reserves						
b. Dependent Variable: Performance of Commercial Banks						
Coefficients^a						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.172	1.478		.793	.000
	Cash Reserves	.179	.133	.162	1.343	.003
	Deposits	.261	.149	.211	1.752	.001
	Non-Performing loans	.178	.253	.084	.703	.000
a. Dependent Variable: Performance of Commercial Banks						

The regression model as shown Table 4.8 can explain 7% of the variability in the data as shown. This is indicated by the R Square value of 0.07.

As shown by a significant F value under the section on Analysis of Variance (ANOVA), it can be deduced that there was overall significant relationship between the IVs and the DV under investigation in the study.

Under the section on coefficients, the significant t-test values (P<0.05) for each of the independent variables show that all the variables can be fitted in the regression model adopted by this study.

The general linear regression model for this study was:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$$

The fitted model using the unstandardized coefficients was: *performance of Commercial Banks* = 1.172 + (0.179 * *Cash Reserves*) + (0.261 * *Deposits*) + (0.178 * *Non-Performing Loans*) + 1.478.

The significant Standardized Beta Coefficients show increase of cash reserves by 0.162 would lead to increase in the performance of commercial banks by 1 unit and so on.

5. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary of Major Findings:

In this section, a summary of the major findings emerging from the study is presented. This is done in line with the objectives of the study.

Cash Reserves:

The researcher sought to determine the effects of cash reserves on the performance of commercial banks in Meru Town, Kenya. Regarding the required cash reserve ratio by the Central Bank of Kenya (CBK) for commercial banks. Most of the respondents pointed out that the required cash reserve ratio was 5 to 6%. This shows that the respondents were aware of the statutory requirement of the 5.25% by CBK (2016). It can thus be deduced that most of the respondents understood liquidity issues and could adequately contribute information on liquidity risk in commercial banks. The findings go on to show that cash reserves mitigate the liquidity risk and that such reserves facilitated the continuity of operations. Evidently, cash reserves could improve the maturity transformation by holding highly liquid assets which can be sold or pledged to meet funding risks. In addition, it was pointed out that cash reserves reduced lending capacity of commercial banks and that this could make bank loose a number of opportunities in the market. It also came out clearly that cash reserves can make banks to bear high cost associated with cash.

Deposits:

The researcher sought to investigate the effects of deposits on the performance of commercial banks. Regarding the average amount of deposits received per working day. The findings obtained show that most daily deposits in banks ranged between 500,001 and 1 million shillings (72.5%). These were followed by deposits of more than 1 million at 15.9%. The least of the deposits reported per day were those ranging between 100 and 500 thousand shillings. This shows

that banks were receiving various amounts of deposits and this could enhance liquidity in the banks. Regarding the interest rate offered by banks for fixed deposits per annum, the findings obtained show that most of the interests offered for fixed deposit accounts ranged between 5 and 10%. This was in tandem with the prevailing market rates in Kenya such as the 7.35% p.a. offered by Kenya Commercial Bank (KCB, 2017). As such, more clients could be attracted to make fixed deposits since the rates offered were competitive in regard to existing rates in Kenya. Regarding the effect of deposits on banks, the respondents opined that deposits improve profitability of banks through the interest earned on loaned money and that deposits helps to run operations of the banks. It was also made clear that deposits provide a natural hedge to the banks against liquidity risks. The findings also show that lack of deposits leads to liquidity problems (mean of 4.77) and; that lack of deposits can force banks to borrow from central bank or inter-banks market at high costs. Lastly, it was made clear that banks encourage their members to grow their deposits.

Non-Performing Loans:

The study went on to establish the effects of non-performing loans on performance of commercial banks. The findings obtained show that all in all, non-performing loans can be used to mark the onset of a banking crisis. The findings show that non-performing loans makes a bank to be reluctant in providing credit facilities to the customers and that non-performing loans makes the bank to raise interest rate against loans advanced by the bank. In addition, non-performing loans reduce working capital of the bank hence blocking it from performing routine operations. It was also established that non-performing loans reduce revenue of the bank and that these loans puts the bank into risk of liquidation. It was also made manifest that non-performing loans make banks' regulators to instill stringent measures on operations. As such, banks carries out due diligence before issuance of loans. Evidently, the repayment period highly contributes to non-repayment of loans.

Performance in Commercial Banks:

The dependent variable for this study was performance of commercial banks in Kenya. The findings show that high market share value of a bank gives it a competitive advantage over other players in the industry and that; effective handling of customer complaints enhance performance of a commercial bank and that; a huge customer base usually translates to a huge capital base. The findings also show that profit margin had increased steadily over the years and that, customers numbers had been growing steadily over time. Lastly, it was argued that there is an existing feedback mechanism to address customers concerns.

Conclusions:

On the basis of the study findings, a number of conclusions can be made. It can be concluded that cash reserves affected the performance of commercial banks. This is evidenced by the correlation and regression results that reports such as relationship. Cash reserves affected the liquidity of banks and this had effect on the performance of banks. Cash reserves also enabled continuity of operations and this was vital in keeping the banks afloat in the market.

Having deposits in banks was important since this affected liquidity and eventually performance in commercial banks. Indeed positive and significant relationships were found out between these deposits and performance in banks. The level of deposits could make or destroy the bank. When there were few deposits, performance in the banks could be imperiled due to liquidity problems. Such banks could be forced to content with borrowing from central bank or inter-banks market at high costs

It was also established that non-performing loans affect the performance of commercial banks. This can be evidenced by positive relationships obtained in regression and correlation analysis between the two variables. When banks were faced with a lot of non-performing loans, they faced liquidity challenges and this translated to loss of working capital, poor operation of routine tasks and less revenue. This goes on to put the banks at risk of liquidation. The fact that banks responded by putting in place stringent measures in the backdrop of non-performing loans means that banks could starting losing revenue. This would reduce the profitability of the firm, face liquidity risks and record reduced performance.

Recommendations:

Informed by findings of the study, the following recommendations are made. The recommendations are made based on the study variables.

Cash Reserves:

Seeing that cash reserves play a crucial role in enhancing liquidity and eventually the performance of commercial banks, it is important for banks officials to understand the legal and practical levels of liquidity required in their banks. Effort

should be made to ensure that as banks offer services, pay labour and offer financial products, enough cash reserves were left in the bank. There should efforts for ensuring that banks had access to affordable capital and that balance was struck between having cash reserves and offering financial services to clients.

Deposits:

Since the deposits enhanced liquidity in commercials, banks should put in place measures aimed at encouraging businesses to keep on making deposits. In this regards, banks should ensure that they offered competitive and attract interest rates for fixed accounts so as to encourage people to keep their money in the bank. In addition, banks should come up with attractive financial products so as to encourage more people and businesses to open accounts and make deposits in the banks. This could go a long way in enhancing liquidity and financial performance in the banks.

Non-Performing Loans:

Banks should be diligent in offering loans. Loan repayment durations should be reviewed regularly so as to avoid possible non repayment. Loans should be backed with collateral and securities that can be easily liquidated. This is vital since non-payment could be followed up with effective recovery of the principal amount loaned. Banks should also diversify their financial products and offer loans to corporate institutions as well as clients with good payment reputation so as to reduce the level of non-performing loans. Banks should also device other ways of investing their capital and making money without necessarily giving loans to risky markets.

Recommendations for Further Study:

This study aimed at determining the effect of liquidity risk on the performance of commercial banks in Meru Town, Kenya. There should be follow up studies in other counties for correlation purposes. Furthermore, each study variable could be studied singly using other research designs such as exploratory survey designs so as to understand them more. Since performance in banks could be as a result of other factors that are linked to liquidity issues, it is important to carry out studies that incorporate other variables that directly or indirectly affect the relationship that was studied in this current study such as government regulatory frameworks, changing interest regimes and, competition from unregulated financial institutions among others.

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