Influence of Liquidity Management Regulatory Standards on the Financial Performance of Deposit Taking SACcos in Kenya

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Abstract
Savings and Credit Co-operative (SACCO) is a financial institution that is owned and controlled by its members and operated for the purposes of promoting thrift, providing credit at low interest rates and providing other financial services to its members. Over the years the SACCos have expanded financially and even started banking like services which were called Front Office Service Activities (FOSA) in attempt to increase efficiency in service delivery but instead led to illiquidity, capital inadequacy, poor credit management and low confidence among members. The rapid growth and such failures in the SACCO Sub-sector created the need for SACCO Specific legislation hence the enactment of the SACCO Societies Act (2008) to specifically regulate and supervise their operations. The purpose of this study was to establish the effects of liquidity ratio on Financial Performance of Deposit Taking SACCos (DTS) in Kenya. Relevant literature was reviewed to ascertain the knowledge gap left by previous scholars. The study targeted a total of the 175 DTS registered and operating in Kenya. Random sampling was used to select 30 DTS which formed the sample of this study which utilized Comparative research design. Secondary data was used and data analysis was done using both descriptive and inferential statistics with the aid of SPSS version 21. The study findings indicated that Liquidity ratio as recommended by SASRA had the highest effect on financial performance of DTS in Kenya in the period Post LMRS. The LMRS have a positive impact on the financial performance of deposit taking SACCos in Kenya. The study recommends further research in other areas relating to risk management framework because DTS like any other financial institution are affected by multiple risk factors, and there is need to expound on other measures of performance.

Background to the study
According to the International Cooperative Alliance (ICA, 2007), a cooperative is an autonomous association of people brought together on their own volition with the aim of meeting their common economic, social, and cultural needs and aspirations through a jointly owned and democratically controlled enterprise. ICA identifies seven principles that ought to guide the formation, organization and activities of cooperatives, namely: (a) Voluntary and open membership (b) Democratic member control (c) Member economic participation, (d) Autonomy and independence, (e) Education, training and information, (f) Cooperation among Cooperatives (g) Concern for Community. Marvin (2006) further found that the said co-operative values and principles have withstood the test of time.

According to Mudibo (2005), the importance of regulations is to hedge against the high risk attributed to imbalances in financial institutions balance sheets as they serve as prudential measures that mitigate the effects of economic crises on the stability of the financial institution system and subsequent accompanying macroeconomic results. Sound regulation means the institutions are able to achieve objective of giving cheap loans, as well as protecting member’s savings. Basically, there are three arguments for financial regulation. The first is that regulation is needed for prudential reasons, (Mudibo, 2005). The other argument is that financial regulation is needed to counter moral hazard problems created by the regulator themselves (Bhole, 2004). The final argument is that financial regulation is needed to protect small depositors (Kumar, 1997).

Theories on financial regulation emphasize the fact that markets do not always operate in the best interests of customers, so intervention in the form of regulation is necessary to protect consumer and industry. The study is underpinned by the agency theory founded by (Mitnick, 2006) which suggests that the stewards or the agents should make financial decisions for maximization of shareholders’ value. The theory explains the relationship between the principals, such as members and agents. In this theory, members who are the owners or principals of the Sacco, hire by electing the management board as their agent (Mitnick, 2006). The Principals the delegate the running of business to the management board which in turn hires and delegates authority to the managers (Nagash, 2011). SACCOs regulation and performance relate in that the regulations are meant to set specific requirements on the 6 tools used to measure performance (PEARLS) leading to a direct relationship (FSD, 2009). SACCO Societies like any other financial institutions need regulations that guides them in their operation and take care of the general stake holders interests.

Liquidity Management Regulatory Standards
According to (WB, 2004), regulation is a supervision which subjects institutions to certain requirements, restrictions and guidelines with the aim of maintaining integrity of the financial system. In this case the institutions need to adhere to the guidelines and provisions that are issued from time to time from various regulators in daily conduct of their affairs. Prudential regulatory standards are provided to an institution to
minimize risks and guarantee safety of member funds (GoK, 2010). The rapid growth of the SACCO Sub-sector created the need for SACCO Specific legislation hence the enactment of the SACCO Societies Act (2008) to specifically regulate and supervise their operations. The enactment of the SACCO Societies Act, made provisions for licensing, regulation, supervision, promotion of SACCO Societies and establishment the SACCO Societies Regulatory Authority (SASRA).

The government of Kenya established “The SACCOs Societies Regulatory Authority” (SASRA) under the Ministry of Cooperative Development and Marketing in an effort to reform SACCOs and ensure that there is confidence in the public towards the SACCOs sector and for spurring Kenya's economic growth through the mobilization of domestic savings (MCM, 2008). SASRA emphasizes that in accordance with vision 2030, the policy objective of establishing prudential regulation of deposit taking SACCOs societies is to enhance transparency and accountability in the SACCO subsector. The SASRA regulatory framework spells out the minimum operational regulations and prudential regulatory standards required of a Deposit taking SACCO society.

Chumo (2013) in his study on effects of regulatory compliance on financial performance of DTS pointed out that share capital a component of core capital; liquidity management systems and enhanced credit policies are the major and critical provisions that DTS need to comply with if they were to succeed under new regulation. For the purpose of the study the researcher has focused on liquidity ratio, which is one of the key considerations of the prudential regulatory standards. On liquidity desirable level (GoK, 2010) SACCO Societies Act advocates for 15% Liquidity ratio which is computed as total cash and cash equivalent divided by the summation of short term deposits and short term liabilities. The ratio encourages SACCOs to be liquid always to enable them meet daily cash requirements for the members and a similar view was shared by Kariuki (2012). To enhance liquidity monitoring SASRA requires SACCOs to submit liquidity position on monthly basis referred to as form 2 in SACCO societies deposit Taking regulations.

Deposit Taking SACCOs in Kenya
GoK (2010) defines Deposit taking SACCOs as SACCOs that conduct business of savings and credit and in addition does business of accepting or withdrawing money on daily basis across the counter. Non-Deposit taking SACCOs are SACCOs that operate back office only and are not licensed by SASRA to operate a front office. FOSAs have proved to be one of the key profit centers for SACCOs and members have appreciated the services offered by these FOSAs (Kilonzi, 2012). The introduction of FOSAs has contributed positively to the performance of SACCOs through improved profitability which has led to the declaration of a high dividend rates to the members (IFSB, 2005). There are two broad categories of co-operatives: Financial co-operatives (Savings & Credit Co-operative Societies - SACCOs) and Non-financial co-operatives (includes farm produce and other commodities marketing co-operatives, housing, transport and investment co-operatives). Kenya has over 10,000 registered co-operatives and 5,000 active SACCOs representing the most developed co-operative movement in Africa (SASRA, 2012). According to Mudibo (2005), Deposit taking Savings and Credit Co-operatives (SACCOs) have impact on the Kenyan economy in a great way. They contribute 45% of the gross domestic product (GDP) in Kenya (Mudibo, 2005). This is despite the fact that they were not previously incorporated in the formal financial system. Since enactment of SACCO Societies Act no.14 of 2008 in 2010 the Deposit taking SACCOs have grown tremendously. According to the SASRA (2016) at the close of the year 2016 the number of DTS stood at 175 against 110 DTS in 2011 this translates to a growth 59%. The total value of assets controlled by DTS in 2016 was over 393 billion compared to 167 billion in 2011 an increase of 135% within a period of six years.

Financial Performance in Deposit Taking SACCOs
Ngui (2010) defines performance measurement as a way of ensuring that resources available are used in the most efficient and effective way. The essence is to provide for the organization the maximum return on the capital employed in the business. Nagash (2011) defines financial performance as a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues. Financial performance of institutions is critical in that managers need to make prudent decisions on going concern of such institutions. According to SASRA (2016) members of SACCOs are interested in minimizing the cost of funds for loans while at the same time seeking safe and profitable avenues for their savings and this makes their objective rather intricate. Thus SACCOs would be more efficient by minimizing the operating expenses and raising non retail funds cheaply while earning high returns on non-retail investment.

Performance of DTS like any other financial firm can be measured using cash flow statements; industry set standards and financial ratios. Kerwer (2005) classifies ratios into six fundamental types; Liquidity ratios which measure ability to meet maturing short term obligations, Leverage ratios which measure the extent to which a firm has been financed by debt, Activity ratios which gauge effectiveness in use of resources, Profitability which measure management effectiveness indicated by returns on investments, growth ratios which indicate the firm's
economic position in industry and valuation ratios which measure management ability to create market values in excess of investment outlay. Institutions are rated using a combination of specific financial ratios and examiner qualitative judgments (Cornett, 2007). According to World Credit Council of Credit Union’s standards of measuring performance, the factors which determine the performance of SACCOs include; asset base, Liabilities, Performance of the loan book, corporate governance and the quality of staff and Regulations in the industry. Financial performance is as a result of mixture of many activities that transpire through an organization with the aim of creating value. According to Kilonzi (2012) there are common examples of measuring financial performance including operating income, earnings before interest and taxes, and net asset value. For the purpose of this study the researcher measured financial performance of DT-SACCOs in terms of Net income before taxes and donations.

Statement of the Problem
Before 2008 regulatory reforms which became operational in 2011, there were minimum conscious efforts made to regulate the SACCO subsector prudently because the organizations were not thought to pose any significant risk to the country’s financial system. However, the organizations expanded financially and later exposed to illiquidity, capital inadequacy, poor credit management and low confidence among members. In lieu of these problems, in 2008 the government and the SACCO stakeholders formulated and legislated SACCO Societies Act 2008 and subsidiary deposit taking SACCO regulations of 2010 in a move to regulate and supervise DTS (SASRA, 2012).

According to Meagher (2002) the major problems facing SACCOs financial growth and protection of members’ deposits were liquidity challenge; capital inadequacy; credit management and membership growth. Despite the critical role played by SASRA on improving management of DTS, there have been very few studies that have focused on establishing the effects of SASRA prudential regulatory standards on financial performance of deposit taking SACCOs in Kenya. Most of the previous studies have focused on credit risk management and SACCO financial performances; Essendi (2013) undertook a study on the relationship between credit risk management practices and financial performance of SACCOs in Kenya. Essendi (2013) carried out a study on survey of credit risk management practices adopted by SACCOs in Nairobi. Ngaira (2011) studies the impact of SACCO regulatory authority guidelines on SACCO operations in Kenya specifically examining the level of knowledge and understanding that SACCOs have in respect to the SASRA proposed regulations and supervision and any improvement in the performance of the FOSA's as a result of the new SASRA regulations.

Kilonzi (2012) conducted a study that sought to establish the impact of SASRA regulations on the financial performance of SACCOs in Kenya. The study found a general increase in the financial performance of Deposit Taking SACCOs as depicted by income levels with respect to equity. From the above it is clear that there is need to determine the effects of prudential regulatory standards on financial performance of deposit taking SACCOs in Kenya, and this study will seek to address that and contribute further to the existing body of knowledge on the same subject.

Research Objectives
The general objective of the study was to determine the effects of liquidity management regulatory standards on the financial performance of Deposit Taking SACCOs in Kenya. The study was limited to only one measure of financial performance: liquidity ratio and it targeted the 175 DTS registered in Kenya.

Theoretical Framework
This study was guided by only one theory; agency theory which was developed by Meckling (1976). The researcher noted that the theory provided a comprehensive explanation of a firm under agency arrangements. The theory is a contractual model between two or more parties whereby one party called the agent and the other party called the principal (Mitnick, 2006). Agency theory states that the company’s performance is affected by a conflict of interest between the principal and agent and it arises when each party try to reach the desired level of prosperity. According to Abdullah. H. & Valentine (2009), agency theory explains the relationship between the principals, such as members and agents. In this theory, members who are the owners or principals of the Sacco, hires by electing the management board as their agent (Mitnick, 2006). Principals delegate the running of business to the management board which in turn hire and delegate authority to the managers (Clarke, 2004a).

In relation to this study “effect of liquidity management regulatory standards on Financial Performance of DTS in Kenya” there arises various agency relationship in SACCO sub sector; Members who are principals and Managers who are agents; Creditors who are principals and Managers who are agents and government through various agencies now the principals and Managers who are agents among others. Agency theory explains how best the
relationship between agents and principals can be tapped for purposes of governing a corporation to realize its goals. Since the owners of capital (principals) have neither the requisite expertise nor time to effectively run their enterprises, they hand them over to agents (managers) for control and day-to-day operations, hence, the separation of ownership from control, and the attendant agency problems.

According to the perceived wisdom the main objective of a company is to maximize its stock market value. Managers of the company are responsible for achieving that objective. The theory relates to the study in that depositors of SACCO institutions who are the principals bring money to the SACCO in form of cash deposits expecting high return in form of dividends which will be put in operation by Managers, the depositors always come for such deposits sometimes without notice and therefore this theory was relevant to this study because the liquidity ratio and liquidity management concepts encourages SACCOs to have sufficient and enough cash to enable them meet daily cash requirements for the members. It was also important because member, principals contribute such funds as deposits which are used by managers, agents to grant loans to the members.

### Empirical Review

#### Liquidity Management Regulatory Standards and Financial Performance of DTS

Mutinda (2016) carried out a study in Kenya on the impact of prudential regulatory framework on financial performance of deposit taking SACCOs. The study used a regression model to access the relationship between the minimum liquidity requirement and financial performance of DTS and found that the liquidity requirement had the least impact in influencing financial performance of SACCOs in Kenya. A descriptive survey design found that the application of prudential regulatory requirement was even among all the SACCOs in Kenya. The study concluded that though liquidity though was a requirement had little impact on financial performance.

Wanyoike (2013) carried out a study; effects of compliance to SASRA regulations on financial performance of SACCOs in Kenya. A multiple regression model was used to show the relationship of several compliance guidelines against financial performance of SACCOs and found that compliance liquidity requirement had a positive relationship with performance. Survey research design and a sample of 34 SACCOs were used. In view of the above previous studies, the findings of these studies concurred with the findings of this study that liquidity requirement is a key factor that determines the financial performance of DTS. However, the previous studies were carried out in different areas and different research designs as well as models were employed.

### METHODOLOGY

#### Research Design, Sampling and Data Collection

This study used both descriptive and comparative research designs because the study needed to compare performance of the DTS in the period prior to and after the enactment of Liquidity Management Regulatory Standards; 2008. The target population of the study consisted of all 175 DTS registered under SACCO Societies Act in Kenya (SASRA, 2016). This study adopted a stratified random sampling method because the DTS were split into three categories (tier-I-III). The study sampled 17% of the DTS from each tier as shown in table 1.

<table>
<thead>
<tr>
<th>SACCO Category</th>
<th>Number of SACCOs</th>
<th>17% Distribution</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier I</td>
<td>18</td>
<td>17% @ 18 =3.06</td>
<td>3</td>
</tr>
<tr>
<td>Tier II</td>
<td>59</td>
<td>17% @ 59 =10.03</td>
<td>10</td>
</tr>
<tr>
<td>Tier III</td>
<td>98</td>
<td>17% @ 98 = 16.66</td>
<td>17</td>
</tr>
<tr>
<td>Total</td>
<td>175</td>
<td></td>
<td>30</td>
</tr>
</tbody>
</table>

Table 1 shows how a sample size of 30 SACCOs was arrived at. The Tiers were established based on the DTS’ asset base as follows; Tier I: SACCOs with asset base of 5Billion; Tier II: those with 1.5 to 5Billion and Tier III those with less than 1.5 Billion asset base.

The study made use of secondary data (monthly, quarterly and yearly financial reports) mainly from audited financial statements of the DTS in the sampling frame from the SASRAs' website. Data collection template as per appendix “A” was used to record and compile the data. All the collected data was cleaned, coded, and entered in to computer for fast and accurate analysis. Tabulation of data was done to summarize raw data and display the same in compact form for further analysis.

#### Data Analysis

The summarized data was analyzed using descriptive and inferential statistics (Correlations and Multiple regression analysis) using the statistical package for social sciences (SPSS) version 21. To measure the relationship between the dependent and the independent variables correlation and regression analysis were used. Linear regression models were applied to analyze the effect of liquidity management regulatory standards on the financial performance of DTS in Kenya. The model was used by previous researchers in the area of CBK on the impact of prudential regulatory framework on financial performance of deposit taking SACCOs. The study used a regression model to access the relationship between the minimum liquidity requirement and financial performance of DTS and found that the liquidity requirement had the least impact in influencing financial performance of SACCOs in Kenya. A descriptive survey design found that the application of prudential regulatory requirement was even among all the SACCOs in Kenya. The study concluded that though liquidity though was a requirement had little impact on financial performance.

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<td>3</td>
</tr>
<tr>
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<td>59</td>
<td>17% @ 59 =10.03</td>
<td>10</td>
</tr>
<tr>
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regulatory requirement and financial performance (Ngumi, 2013); (Kariuki, 2012); (Ngige, 2011; Ogilo, 2012). The following regression model was used

\[ Y = C + \beta_1 X_1 + \epsilon \]

Where:

- \( Y \) = Financial performance (Net income before interest and Donations)
- \( C \) = Regression constant
- \( \beta_1 \) = coefficient for the variable on \( X_1 \)
- \( X_1 \) = Liquidity Management Regulatory Standards
- \( \epsilon \) = Stochastic error term whose value was taken as 0

ANOVA was used to test the significance of the model in measuring the relationship prudential regulatory standards and financial performance of DTS in Kenya at 95% confidence level and 5% significant level. If the significance number was found to be less than the critical value (\( p \)) set, then the conclusion was that the model was significant in explaining the relationship.

Ethical Considerations

All ethical issues relating to this study were considered: all the study participants were consented before they agreed to participate in this study and they were also informed that participation in the study was voluntary. The study participants were also informed that they could withdraw from the study at any point and time. All the data collected was used for purposes of this study only and it was treated with utmost confidentiality where all figures obtained from the Financial Statements of the various SACCOs were maintained and none was edited to influence the results.

RESULTS AND DISCUSSION

Results

Descriptive Statistics

The researcher collected and analyzed data for six years: three years before the introduction of the liquidity management regulatory standards (Before/Pre-LMRS) in 2010 and three years after introduction of prudential regulatory standards (After/Post-LMRS): (2007-2012). The averages of the four variables for the first three years were used as Before-PRS data while the averages of the same variables for the last three years were used as After-PRS data. The Before-PRS and After-PRS data used enabled the researcher to find out the effect of Liquidity Management Regulatory Standards on the financial performance of DTS in Kenya. This study investigated only one (1) independent variable; Liquidity Management Requirement Standards which was measured in terms of Liquidity ratio (expressed as a percentage) and one (1) dependent variable: Financial Performance of the DTS in Kenya which was measured by the net income before tax and donations in Kshs. The Liquidity ratio was categorized into six (6) classes where 1: 0.1-10.9 %, 2: 11-20.9%, 3: 21-30.9, 4: 31-40.9, 5: 41-50.9% and 6:51% and above. The frequencies for the four variables were represented as shown in table 4.1 below.

<table>
<thead>
<tr>
<th>Variables</th>
<th>N Statistic</th>
<th>Mean Statistic</th>
<th>Std. Deviation Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-PRS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial Performance</td>
<td>30</td>
<td>2.3333</td>
<td>1.70867</td>
</tr>
<tr>
<td>Liquidity Ratio</td>
<td>30</td>
<td>2.2333</td>
<td>.89763</td>
</tr>
<tr>
<td><strong>Post-PRS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial Performance</td>
<td>30</td>
<td>2.4000</td>
<td>1.69380</td>
</tr>
<tr>
<td>Liquidity Ratio</td>
<td>30</td>
<td>2.7333</td>
<td>1.04826</td>
</tr>
</tbody>
</table>

The financial performance mean and standard deviation (SD) in periods Before-PRS and After-PRS was 2.3333(1.7087) in and 2.4000(1.69380) respectively. The liquidity ratio mean and standard deviation (SD) for period before and after PRS was 2.2333(0.89763) and 2.7333(1.04826) respectively.

Inferential Analysis

a) Correlation Analysis

This was carried using correlation to determine the association between liquidity management regulatory standards on financial performance of DTS in Kenya. The relationships both in direction (positive or negative) and strength of the relationship between the two variables were investigated using Pearson correlation coefficient. This was done to assess if there existed any relationship between the variables before carrying out further analysis. The results were summarized and presented as shown in table 3 and table 4.
Table 3: Correlation coefficients: Pre-LMRS

<table>
<thead>
<tr>
<th></th>
<th>Financial performance</th>
<th>Liquidity Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial</td>
<td>Pearson Correlation</td>
<td>1</td>
</tr>
<tr>
<td>performance</td>
<td>Sig. (2-tailed)</td>
<td></td>
</tr>
<tr>
<td>Liquidity Ratio</td>
<td>Pearson Correlation</td>
<td>.361</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
</tr>
</tbody>
</table>

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

The results in table 3 suggested a weak positive correlation between liquidity Ratio and financial performance of DTS at r=0.361 during Pre-LMRS. The relationship between Liquidity Ratio and financial performance of the DTS was not statistically significant since P=0.05.

Table 4: Correlation coefficients: Post-LMRS

<table>
<thead>
<tr>
<th></th>
<th>Financial Performance</th>
<th>Liquidity Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial</td>
<td>Pearson Correlation</td>
<td>1</td>
</tr>
<tr>
<td>Performance</td>
<td>Sig. (2-tailed)</td>
<td></td>
</tr>
<tr>
<td>Liquidity Ratio</td>
<td>Pearson Correlation</td>
<td>.998</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

The results in table 4 revealed that there was a strong positive correlation between financial performance and liquidity Ratio at r=0.998 during Post-LMRS. The relationship between the two variables was also statistically significant at P=0.000.

Regression Analysis

Regression analysis was used to establish the degree of a relationship between dependent and independent variables investigated in this study. The regression analysis results for Pre-LMRS and Post-LMRS were summarized in table 5 and 6 respectively.

Table 5: Model Summary: Pre-LMRS

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.999(^a)</td>
<td>.997</td>
<td>.997</td>
<td>3046280.72180</td>
</tr>
</tbody>
</table>

Table 6: Model Summary: Post-LMRS

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.918(^a)</td>
<td>.844</td>
<td>.826</td>
<td>41039178.84309</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant) Liquidity Ratio
b. Dependent Variables: Financial Performance

The regression model results revealed that there was a strong relationship between liquidity ratio and financial performance of the DTS in Kenya at R=0.999 and 0.918 for both Pre-LMRS and Post-LMRS. The coefficient of determination (R Square) for both Pre-LMRS and Post-LMRS; 0.997 and 0.844 respectively suggests that liquidity ratio explained 99.7% and 84.4% of the changes in the financial performance respectively.

a) ANOVA

Analysis of variance was used to test whether the overall regression model used in this study was a good fit for the data. If the significance level value P<0.05 then the data is good. The results were summarized in table 7 and 8 for both pre and post LMRS respectively.

Table 7: ANOVA: Pre-LMRS

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig(^b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>27,808</td>
<td>3</td>
<td>9.269</td>
<td>4.239</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>56,859</td>
<td>26</td>
<td>2.187</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>84,667</td>
<td>29</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The results in 7 revealed that liquidity ratio statistically and significantly predicted the financial performance of DTS in Kenya with a significance level below 0.05 (P=0.014) during pre-LMRS, an indication that the regression model was a good fit of the data.

Table 8: ANOVA: Post-LMRS

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residual</td>
<td>39.729</td>
<td>26</td>
<td>1.528</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>69.500</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: financial performance  
b. Predictors: (Constant), loan allowance, Liquidity ratio, Core capital

The results in table 8 revealed that Liquidity Ratio statistically and significantly predicted the financial performance of DTS in Kenya at P˂0.05 during post-LMRS, an indication that the regression model was a good fit of the data.

Regression Coefficients

The tests of coefficient were carried out to find out the direction and the strength of Liquidity ratio; on the financial performance for both pre and post LMRS. The results obtained were summarized in table 9.

Table 9: Regression Coefficients: Pre-LMRS

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>-1890191.184</td>
<td>1553869.607</td>
<td>-1.216</td>
<td>.235</td>
</tr>
<tr>
<td>Liquidity Ratio</td>
<td>62074.418</td>
<td>67923.614</td>
<td>.010</td>
<td>.914</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Financial performance

The beta value of Liquidity Ratio was substituted in the regression model below to give a specific regression equation:

Regression Model: Y = C + β1X1 + ϵ  
Specific Regression Model: Y = -1890191.184 + 62074.418X1

For Pre-LMRS, Financial Performance = -1890191.184 + 62074.418X1 + ϵ. This suggested that, holding the other factors constant, a unit increase in Liquidity ratio results to increase in Financial Performance by Kshs 62,074.418. Liquidity ratio had the highest contribution to the regression model although it was not significant.

Table 10: Regression Coefficients: Post-LMRS

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>-154994107.864</td>
<td>17429774.743</td>
<td>-8.892</td>
<td>.000</td>
</tr>
<tr>
<td>Liquidity Ratio</td>
<td>4929440.365</td>
<td>696342.577</td>
<td>.713</td>
<td>7.079</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Financial performance

The results in table 10 indicated that Liquidity Ratio had the highest positive beta coefficient which was substituted in the regression model below to give the specific regression model.

Regression Model: Y = C + β1X1 + ϵ  
Post-LMRS Specific Regression Model: Y = -154994107.864 + 4929440.365X1 + ϵ.

The Post-LMRS specific regression model revealed that, holding other factors constant, unit increase in Liquidity ratio results to an increase in Financial Performance by Kshs 4,929,440.365. Liquidity Ratio had a statistically significant contribution to the financial performance of the DTS in post-LMRS but not Pre-LMRS.

Discussion

Liquidity Management Regulatory Standards and Financial Performance of DTS

The researcher sought to establish the effect of LMRS on Financial Performance of DTS in Kenya. The researcher used liquidity ratio to determine its effects on Net Income before Taxes and Donations. The pre-LMRS correlations revealed that there was a weak positive correlation between liquidity ratio and financial performance before introduction of PRS, at r=0.361, P=0.050, the relationship between the two variables was not statistically significant before the introduction of the LMRS. However, there was a strong positive correlation between liquidity ratio and financial performance after introduction of the LMRS (r=0.998, p=0.000). Since
P<0.05, it was concluded that there was a significant relationship between the liquidity ratio and financial performance of the DTS after but not before the introduction of the LMRS in 2008. This study concluded that the introduction of the LMRS had an effect; positive impact on the financial performance of DTS in Kenya. The findings of this study suggested that the liquidity management regulatory standards improved the financial performance. This suggested that the LMRS restored the confidence the DTS had lost to their customers as well as improving the other factors associated with the uptake of loans in the Deposit Taking SACCOS in Kenya. The findings of this study were in agreement with those of Saunders and Cornett (2011) in their study where they investigated the liquidity risk management of China’s commercial bank targeting all commercial banks in China. Their study found out that the liquidity is a lifeline for commercial banks and this portrays how commercial banks consider how significant the liquidity is to them.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions
From the findings of this study, it was concluded that Liquidity Ratio had a significant effect on financial performance of DTS in Kenya in relation to all other factors investigated by the researcher in the period before introduction of PRS. Liquidity ratio also had no significant effect on the financial performance of the DTS after introduction of PRS. While the regulator provides the minimum Liquidity ratio that SACCOS should observe, the SACCOS should adhere to the liquidity ratio while also considering investing excess cash in profitable projects to derive more income rather than holding more cash and cash equivalent in the name of being liquid. However the study concludes that the liquidity management regulatory standards (liquidity ratio) have a positive effect on financial performance of DTS in Kenya.

Recommendations
From the findings and conclusions of this study, there is need for all the DTS in Kenya to adhere to the introduced Liquidity Management Regulatory Standards as they have a positive impact on the financial performance of these financial institutions. Proper adherence will enable the DTS to meet the daily needs of their customers and therefore, the Management of DTS should be encouraged to invest more in liquid assets. This will not only improve financial performance but it will also enable DTS meet their short term obligations as they fall due.

The findings were only limited to financial performance while we have many other variables which can be used to measure the performance in DTS. This study recommends that there is need for more research to determine the other factors influencing the financial performance as well as the other effects of the liquidity management regulatory standards on the DTS in Kenya. This will add knowledge and more understanding of the policies affecting the performance of DTS in Kenya.

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FSD. (2009). Saving Credit Cooperative Societies Large SACCO: Restructuring Facility outline.


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