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Abstract

DT SACCOs are significant in the stimulation of the economic growth in Kenya, besides contributing to the stability of the country's financial system. The financial institutions promote investments and through financial inclusion to the household economies. In the year 2022, the DT-SACCO segment had a 5.71% ratio of total assets to the national GDP. Though prudential regulations to guide these financial institutions have been set, several DT SACCOs had their licenses revoked or renewed conditionally. Besides, the trend of ROA in this segment has been erratic and inconsistent, implying that the segment has not been consistently utilizing the assets maximally. The study was guided by Information Asymmetry theory and inclined toward positivism philosophy while adopting explanatory research design. Secondary data for period 2018 to 2022 were collected using data extraction sheets. The target population was 176 while the sample size was 159, which derived by utilizing the inclusion-exclusion criteria. Data was analyzed using STATA, where both descriptive statistics and inferential analysis were conducted. Results showed that capital adequacy had a significant effect on the financial performance of DT SACCOs in Kenya. This implies that higher capital ejected into these financial institutions, the higher the ROA, and vice versa. Rigorous regulations and policies on capital levels/adequacy ratio should therefore be put in place by the regulator to enhance the financial performance.

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1. Background

The Global financial crisis of 2007-2008 as well as the Asian financial crisis in the 1990's had major impact on the global economy. These resulted in financial instability of major financial institutions of giant economies that shock the global economy (Wyne, 2010). The crises prompted a rethink of financial regulation in the European Union and other jurisdictions (Hodson & Quaglia, 2009). These evoked many researchers to investigate on the financial performance and efficiency of alternative banking systems in order to avert the re-occurrence of similar financial crises (Erfani & Vasigh, 2018). As a core function of a country's, financial system, the financial stability promotes the financial intermediation role and hence the economic growth. A country's economic growth largely depends on the stability of its financial sector, while on the other hand; financial instability of financial institutions impedes and constrains the financial system (Pholphirul, 2008; Cesa-Bianchi & Rebucci, 2017; Lhuissier, 2017). According to Creel, Hubert, Labondance (2015); Sotiropoulou, Giakoumatos and Petropoulos (2019), financial instability negatively effects economic growth.

The responsibility of maintaining financial stability in financial institutions is allocated to the Central Banks and other associated public authorities in respective countries (European Central Bank, 2016). Policy makers and academic circles have shown much attention to the financial stability of financial institutions (Acharya & Richardson, 2012; Allen *et al*., 2018). According to Gupta and Kashiramka (2020), financial instability in financial institutions can threaten and cause losses to an economy through the operating mechanisms of the financial system which can subsequently trigger financial crisis, thereby devastating and destabilizing an economy. It is therefore critical to enhance financial stability through promotion of investment, in order to create a financial system that is strong and stable (Madichie, Maduka, Oguanobi, & Ekesiobi (2014); Meierrieks, (2014). Phan, Iyke, Sharma and Affandi (2020) assert that a strong and stable financial system can be achieved through mobilization of savings, boosting the foreign exchange, funding viable and profitable business opportunities, while avoiding losses, spreading risks and observing the performance of managers.

In terms of total assets, Kenya has the strongest co-operative movement in Africa and is rated tenth globally (WOCCU, 2021; SASRA, 2021). DT SACCOs in Kenya provide formal financial services, reaching out to many people in various localities that are seemingly unattractive to commercial banks (Olando, Jagongo & Mbewa, 2013). Besides, the Kenya's Vision 2030 recognizes SACCOs as one of the major participants in the financial deepening of the household economy for both investments and self-improvement (SASRA, 2013). The responsibility of the SACCO industry is principally holed within the Financial Services Sector Plan of the Economic Pillar of the Kenya Vision 2030 (SASRA, 2022). The DT-SACCOs segmental total assets to the national GDP was 5.71% in 2022, indicating that, the regulated SACCOs are quite significant to the economic growth of the country. In 2022, the regulated SACCOs in Kenya had a total of 6.42 million active members, besides providing employment opportunities to eleven thousand, one hundred and eighty-eight Kenyans (SASRA, 2022). The financial intermediation role to the less financially empowered people, who may not qualify for financial services from commercial banks make their contribution in Kenya's economic development indispensable (Marwa & Aziakpono, 2015). In Kenya, more than 5 million people derive their incomes through the SACCOs' channeling techniques (Njeru, Ondabu, & Tirimba, 2015; Waitherero, Muchina, & Macharia, 2021).

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Financial performance indicates the effectiveness in the exploitation of organizational functional business assets in producing returns (Rozarri & Rahman, 2013). Makkar and Singh (2013) state that financial performance indicates whether a firm is achieving its ultimate goal of maximizing its shareholders' wealth or not. Organizations should therefore engage in ethical activities that generate sufficient revenue to support its longevity (Umukoro, *et al*., 2020). ROA and ROE are the best measures of financial performance in relation to financial institutions. However, ROE exhibits several shortcomings, being manipulatable by the management through financing decisions, thereby concealing problems related to financial performance (Huang, Teoh, & Zhang, 2014. This conceals the deteriorating performance of business principles (Aliabadi, Dorestani, & Balsara, 2013).

Hagel *et al*., (2013) states the that ROA prolonged path is the best financial performance yardstick. According to Hagel *et al*., (2013), ROA is a perfect financial performance measure that is most effective and broadly available and apprehends the foundations of business performance in a comprehensive way. ROA is a seasoned measure and a central metric for evaluating financial performance (Hilal, 2017). Thus, ROA analyses income generation by assets involved in running an organization (Hertina *et al*., 2021) and reflects management's efficiency in terms resource transformation in the generation of income (Khrawish, 2011). Hassan & Bashir, (2003) state that ROA is therefore a reflection of management's ability in utilization of resources to produce higher profits. According to Wen (2010), high ROA indicates more effectiveness in utilization of resources, while Hermuningsih *et al*., (2020) stated that a relatively high ROA indicates how well available assets are utilized more speedily in generating profits. Thus, understanding the ROA trajectory provides a foundation of the long-term perspective that helps an entity shape its winning strategies. ROA not only shows the profit earned by assets. Most financial literature have in general adopted ROA in the measurement of financial performance (Almehdawe *et al*., 2020). This includes Rozzari and Rahman (2013); Olusegun, Akingunola, & Oluseyi (2013); Almazauri (2014); Pokharel *et al*., (2019) and Teimet *et al*., (2021). The current study therefore adopted ROA as the measure of financial performance.

The concept of capital adequacy can be traced from the Basel I accord of 1980's that defined the regulations of capital in terms of the minimum capital requirement on the basis of capital-to-assets ratios, with an aim of promoting a sound and stable international banking system. Most banks regulators worldwide have adopted these regulations and have imposed them virtually in all their jurisdictions (Goodhart 2011). Basel II Accord of 2004 set forth the objectives that better aligned the risk-taking of banks with their required regulatory capital. The accord was built on three pillars of minimum capital requirements, supervisory oversight on behalf of national regulators and stronger market discipline in the form of information disclosure on capital, risk exposures, and risk assessment processes. Basel III accord was aimed at improving the quantity and quality of capital and addressing the weaknesses of the existing capital regulations. The accord reinforced bank regulation and targeted at reducing the probability and magnitude of possible financial crises.

Capital adequacy indicates the level of financial stability and strength of a financial institution in financial terms and indicates how well the institution is prepared to resist both irregular and operational losses (Githinji, 2016; Caporale, Lodh, & Nandy, 2017). Admati and Hellwig (2013) states that the level of capital requirements should be high to eradicate a financial institution's unacceptable risk-taking practice. When capital adequacy falls below the prudential threshold, the

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result is financial instability that puts financial institutions under pressure from shocks (Hassan, Unsal, & Tamer, 2016). According to Kivuvo and Olweny (2014), capital adequacy buffers financial institutions against potential losses which subsequently influence their financial performance.

2. Statement of the Problem

The DT SACCO segment in Kenya has faced numerous financial challenges that have affected their performance. In 2022, Metropolitan SACCO underwent liquidity problems after experiencing huge losses. The problem begun in 2019 after a surge in bad loans that squeezed the SACCO liquidity, thereby limiting its ability to meet its member refunds and withdrawals. In 2018, the license of Moi University SACCO was revoked and it was placed under liquidation in 2019. The SACCO failed to meet the statutory financial and liquidity ratios as set out by SASRA. Between 2015 and 2021, Mwalimu SACCO, Stima Investment SACCO, and Ekeza SACCO were mentioned by SASRA and department of Co-operatives as among the SACCOs whose members had lost in excess of Kshs 3.6 billion (SASRA, 2020). Besides, the DT SACCO segment has experienced an increase in the NPLs to gross loans ratio as analyzed from table 1.1 below. The ratios were 6.14 percent in 2017, 6.3 percent in 2018, 6.15 percent in 2019, 8.39 percent in 2020 and 8.86 percent in 2021 (SASRA, 2022). The financial performance of the DT SACCO segment as measured by ROA shows an erratic and inconsistent trend. ROA being a relative term rather than an absolute term reflects the change in either the numerator or the denominator, i.e., earnings or assets respectively. The movement in ROA implies that, the DT SACCO segment is not continuously and maximally utilizing their resources in the generation of revenue or at the same time, they are not minimizing their costs. Table 1.1 below shows the performances of DT SACCO segment between the year 2017 to 2022 as deducted from SASRA reports. The table analyzed the total incomes, net income after tax, total assets NPLs to gross loans, ROA and provision for loan losses.

3. Theoretical Literature Review

Buffer theory of capital adequacy

The theory was developed by Calem and Rob in 1996 and postulates that, financial institutions tend to retain a level of their available capital above the required minimum level set by the regulators. The theory depicts that, as the capital ratio approaches the regulatory minimum, financial institutions pump in more capital in order to minimize risk that is set by the regulator, while at the same time avoiding the related regulatory costs associated with the breach of such requirements. Financial institutions will therefore deliberately cushion themselves from falling below the minimum capital requirements (Aruwa & Naburgi, 2014; Ikpefan, 2012). Adequately capitalized financial institution are strong enough to undertake risky ventures which subsequently bring forth more profits (Calem & Rob, 1996). The regulators have thus gone ahead and set minimum requirement level of capital adequacy to financial institution in order to ensure their financial soundness, solvency and stability is unquestionable (Aruwa & Naburgi, 2014).

Financial institutions with high capital buffers maintain such capital levels while those that are poorly capitalized plan to increase their capital levels to avoid risk while at the same time anticipating higher returns. Higher capital ratios translate to higher liquidity levels which enhance the ability of financial institutions giving out more loans (Mugenyah, 2015). According to Lotto (2016), implicit and explicit costs are incurred when capital ratio drops below the statutory

minimum requirement. Implicit cost includes increase in demand for insurance while explicit costs include penalties and restrictions that may be enforced by the regulator when such minimum regulation requirement is breached (Jokipii & Milne, 2011). Capital requirement is therefore an important tool for monitoring the stability of financial institutions, and when properly implemented, it incentivizes the financial institutions to improve on their risk management (Calomiris, 2012; World Bank, 2012). Moreover, capital can substitute for supervision and oversight in reducing risk. According to Teshome *et al*., (2018), well capitalized SACCOs are able to advance more loans and advances to their members thereby generating more income which boosts their financial performance as opposed to those that are poorly capitalized. Additionally, a higher capital adequacy ratio represents a stronger buffer against liquidity risk (Azlan *et al*., 2015). When the capital adequacy falls below the prudential minimum, SACCOs become financially unstable and are prone from shocks (Hassan *et al*., 2016).

4. Empirical Literature Review

Barus *et al*., (2017) studied on the effect of capital adequacy on financial performance of DT SACCOs in Kenya. Explanatory research design was adopted, while the expense-preference behavior theory underpinned the study. Both primary and secondary data were collected from 83 DT SACCOs cross-sectionally. Purposive sampling technique was used to derive a sample that was analyzed by multiple linear regression. The study concluded that capital adequacy had a significant and positive relationship with financial performance. The use of expense-preference behavior theory employed call for separation of ownership from control (Williamson 1963, Olsen 1973). However, DT SACCOs operation demand on an all-inclusive model of co-operation where member own the organizations and are prohibited. These organizations are prohibited by the regulator from engaging with non-members. Cross-sectional data collected limits the examination of outcome and exposure of the temporal link between two variables that cannot be determined. Again, cross-sectional studies do not have the capability to undertake causal inference and are not capable of carrying out an analysis to determine whether an intervening variable or a moderating variable was the cause of an outcome simultaneously with the independent variable.

Mbaeri *et al*., (2021) investigated on the relationship between capital adequacy ratio (CAR) on the financial performance (ROCE) of commercial banks operating in Nigeria covering 2014-2019. The study adopted purposive sampling technique to derive a sample of 13 banks. Financial performance was measured by ROCE and data analysis was carried out using panel regression while the ex-post-facto research design was adopted. The result showed that capital adequacy ratio had a positive and significant relationship on return on capital employed. independent variable. The use of purposive sampling technique limited the study making generalizability due to the weakness of the sampling method. It could also generate an enormous display of inferential statistical approach that could make the statistics invalid, making the outcome more anticipated rather than unpredictable. The ex-post facto research design adopted does not give the researcher a basis to define the association linking the two variables under investigation (Bevin, 1999). Lack of randomness in selecting the sample and the variable depend on researcher's interest.

Nyanyuki *et al*., (2022) investigated on the relationship between the capital adequacy and financial performance of commercial banks listed in Kenya. Correlational research design guided the study while capital buffer theory underpinned the study. A target population of 43 banks was considered while purposive sampling technique was applied. Results showed that capital adequacy had a

negative and significant effect on the financial performance of commercial banks listed in Kenya. Correlation research design has an inherent weakness as it can only uncover a relationship but does not have the capability to provide a conclusive reason as why the relationship occurs, nor can it reveal which variable influences the other. It is therefore very difficult to make accurate conclusions about the causes of the relationship. It was possible that neither of the variables caused the other and that some other variable caused the observed variables to be correlated (Stangor, 2011). Besides, Adeghe *et al*., (2019) and Barus *et al*., (2017) found contrary findings from the study.

3. Data Analysis

The target population was 176 DT SACCOs operating in Kenya between 2018 and 2022. The study adopted the inclusion-exclusion criteria derive a sample of 159 DT SACCOs. Secondary quantitative data were collected from the financial reports of DT SACCOs using data extraction tools. The study inclined towards positivism philosophy and adopted explanatory research design. Data was then analyzed using STATA, where both descriptive statistics and inferential analysis were conducted. Diagnostic tests carried out included the test of normality, heteroskedasticity, multicollinearity, autocorrelation, stationarity and the Hausman test. Analyses were conducted at ninety five percent (95%).

4. Results

The mean of capital adequacy was found to be 22.56%, while the regulator has set the minimum rate of capital adequacy at 10%. The correlation coefficient between capital adequacy and financial performance was 0.8610 (or 86.10) with a corresponding p-value of 0.000. This implied that capital adequacy had a strong positive correlation with financial performance. The p-value of capital adequacy was found to be 0.0000 which below 0.05, the significance level, indicating that capital adequacy had significant effect on financial performance of DT SACCOs. Lastly, the beta coefficient was found to be 0.0292433.

5. Discussions

With a beta coefficient of 2.92433%, it implies that on average, a unit increase in capital adequacy would result in approximately 2.92433% increase in financial performance, holding all other predictors fixed. Again, with a p-value of 0.0000 at 0.05 significance level, it indicated that capital adequacy had significant effect on financial performance of DT SACCOs. The findings were consistent with the Buffer Capital theory of Calem and Rob (1996) which concurs that adequately capitalized financial institution are strong to undertake risky ventures which subsequently bring forth more profits. Besides, Teshome, Debela, and Sultan (2018) explain that, stable financial institutions are well capitalized and can therefore extend more loans and advances to their customers, thereby generating more revenue than those that are poorly capitalized.

6. Conclusions

It is imperative for management to ensure that their DT SACCOs maintain adequate capital levels in accordance with the regulatory requirements. This will deter the SACCOs from incurring additional costs to sustain the minimum capital adequacy requirements. From the Capital Buffer theory, DT SACCOs should hold capital buffers or surplus capital beyond the minimum regulatory requirements. Those DT SACCOs with capital adequacy ratio that is below or near the minimum requirement should seek to bolster their capital reserves, while those with higher capital buffers

should ensure they retain their existing surplus. DT SACCOs must maintain a sufficient level of liquidity to sustain their viability. This can be achieved by DT SACCOs through retaining their surplus as retained earnings or capital reserves rather than sharing it to their members. This will boost their capital adequacy ratio and subsequently their financial performance.

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