RELATIONSHIP BETWEEN LEVERAGE AND SHARE CAPITAL AND FINANCIAL INTERMEDIATION EFFICIENCY OF DEPOSIT TAKING SACCOS IN KENYA

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ABSTRACT

Financial structure is a concept that generally describes the manner in which a firm finances asset through the combination of both debts, equity and any other hybrid security. Financial intermediation within the financial sector is very crucial in promoting financial services access as well as ensuring the financial sector stability as a key component of the financial system. Financial sector firms normally tend to exhibit a higher level of financial intermediation efficiency than firms in other sectors due to their ability to transform savings received primarily from household economic units into credit or loans for companies and others to invest in buildings, equipment and other capital goods. Therefore, by enhancing their efficiency, commercial banks are in a position to offer their financial services more effectively. SACCOs in Kenya play a very significant role in financial intermediation as savings through them translates to around 48.55% of the gross national savings. However, despite these developments, SACCOs are still facing numerous challenges especially in terms of their overall financial structure. For example, there was an increase in the amount of non-performing loan ratio on SACCOS to 6.30 percent back in 2018 down from 6.14 percent of what had been reported in 2017.Therefore, the study bridged this research gap by examining the relationship between capital structure and financial intermediation efficiency of deposit taking SACCOs in Kenya. The study adopted a descriptive research design. The study target population were all 174 DT-SACCOs in Kenya. Simple random sampling technique was adopted. The study utilized secondary data taken from the financial statements submitted by each DTS to SASRA. STATA was used for data analysis. The research was based on balanced panel data from 2017 to 2021. The study findings observed that leverage had a positive and significant effect on financial intermediation efficiency of DTS operating in Kenya. Further, it was observed that share capital had a positive and in significant effect on financial intermediation efficiency of DTS operating in Kenya. It was concluded that maintaining high-level leverage is very crucial for deposit-taking SACCOs in order to enhance their financial intermediation efficiency. It was also concluded that the amount of share capital that a DTS has in terms of ordinary share capital, preference share capital and reserves play a very crucial role in determining its overall financial intermediation efficiency. It was recommended that DTS in Kenya should always ensure that they always maintain high leverage level so as to ensure that they are able to diversify their investments as well as helping them to set out a threshold for the expansion of their business operations.

Key words: Leverage, Share Capital, Financial Intermediation Efficiency.

INTRODUCTION

Financial structure is a concept that generally describes the manner in which a firm finances asset through the combination of both debts, equity and any other hybrid security (Qin & Zhou, 2019). Balancing the proportion of debt and equity of a firm is very crucial as unbalanced capital structure may cause a firm to fail to effectively economize the manner in which they use their capital. As a result, proper care must always be taken when making financial structure decisions in order for a company to be able to adapt more effectively to the ever-changing nature of their market. For this reason, financial structure decisions are increasingly taking a significant shift by incorporating other financial aspects especially one to do with intermediation efficiency (Mehmood, Hunjra & Chani, 2019).

Financial intermediation within the financial sector is very crucial in promoting financial services access as well as ensuring the financial sector stability as a key component of the financial system (Qin & Zhou, 2019). However, even though the positive relationship between financial structure and financial intermediation has been supported by a number of studies done across the globe, very limited research has been undertaken to determine the actual effect of financial structure on firm's financial intermediation efficiency. Due to their capacity to convert savings received primarily from household economic units into credit or loans for companies and others to invest in buildings, equipment, and other capital goods, financial sector firms typically demonstrate a higher level of financial intermediation efficiency than firms in other sectors. Therefore, a well-balanced financial structure is very crucial for firms within the financial sector to ensure high financial intermediation efficiency especially with financial institutions being at the forefront of economic development (Mehmood, Hunjra & Chani, 2019).

The traditional mode of financial institutions of obtaining finances at low cost and the spread between obtaining finances and issuing out loans and advances has greatly reduced. This is because traditional financial services were deemed to be less profitable forcing the institutions to seek new avenues for enhancing their overall financial intermediation efficiency (Ma & Yao, 2022). The increase in financial institutions efficiency has been made possible due to enhanced financial structure decisions where they are able to obtain more fee-based incomes and, thus, diversifying their overall financing risks. Therefore, financial institutions are more likely to report high financial efficiency when appropriate financial structure is maintained.

Globally, the concept of financial intermediation aspect has increasing become important in developed countries such as the United States due to its ability to address efficiency issues especially among financial institutions (Jiménez, Palazzo, & Sáez, 2019). Consequently, the cost of financial intermediation has greatly contributed to the enhancement of market competitiveness and the mobilization of efficiency within a specific financial system. Fair market competition provides market power to highly capitalized and large-sized commercial banks, allowing them to compete with other financial institutions within an economy, hence dominating in loan pricing due to a cheap cost of capital. Based on this, it is evident that financial intermediation efficiency has a substantial relationship with market rivalry, which simultaneously influences the total financial structure of financial institutions.

In Indonesia, Sirait and Rokhim (2019) observes that effective implementation of financial intermediation within the financial sector is based on the ability of financial institutions to transform savings received into credit/loans for companies and others to finance their operations. As such, implementation of financial intermediation efficiency function tends to influence the overall financial structure of a financial institution. Financial sector firms are therefore are able to apply their financial intermediary role more optimally when a proper financial structure decisions are made.

Pantielieieva, Khutorna, Lytvynenko and Potapenko (2020) in their study that targeted EU finance firms observed that implementation of financial intermediation within the banking sector usually plays a very crucial role in lowering their investment costs, managing risks and financing their daily operations. Consequently, the ability to provide such services within the economy enables financial intermediaries to influence saving and allocation decisions in ways that can impact long-term growth rates. Consequently, countries whose financial institutions are able to implement effective financial intermediation that is better at acquiring information, exerting corporate control, managing risk, and mobilizing savings are able to experience faster economic growth than nations with less developed financial systems.

In Africa, Yakubu and Abdallah (2021) argue that maintaining a proper financial structure balance is very crucial for financial institutions since they play a very crucial role as financial intermediaries by channeling funds between borrowers and lenders in Nigeria. In this case, saver's deposits their money with financial institutions for which they are eligible to annual interest payment after which they are free to withdraw their money whenever they desire. In contrast, financial institutions provide loans to borrowers who are obligated to return the principal amount plus interest. Therefore, savers are surplus spending units because they have funds in excess of their needs, but borrowers are deficit spending units since they spend more than they have. To increase the overall efficiency, however, financial institutions must act as a conduit between the two.

Further, the ability of a financial institution to operate efficiently is a key driving force behind their successful performance in Egypt (Mohieldin, Hussein & Rostom, 2019). As a result, commercial banks in majority of developing countries are nowadays more concerned with the financial efficiency. This has been influenced by the fact that financial development of commercial banks is not peculiar to a certain economy but indeed guided by universal guidelines. For this reason, commercial bank in developing countries must re-examine their financial efficiency on a continuous basis as required under Basel Regulations so as to keep pace with their counterparts operating in developed countries.

Studies done in South Africa have shown that when financial institutions such as banks are efficient, they enable the mobilization of savings from various sources and their allocation to more productive activities, which helps not just investors and beneficiaries of investments, but also the entire economy (Alhassan, Li, Reddy & Duppati, 2019). In fact, a banking system that efficiently puts financial resources to productive use is a potent economic growth driver. The efficiency of an institution reflects the thorough evaluation of all input and output projects, including the operational accomplishments that can be deduced from various types of financial reporting and the operating

outcome that cannot be accounted for in financial analysis. Not only is financial institution efficiency the embodiment of a bank's entire competitive power, but it is also, to date, the most comprehensive measure of achievement evaluation.

Locally, Musau (2022) observes that numerous financial institutions have been unable to mediate effectively because they have not put in place suitable financial strategies. The factors that contribute to the failure of financial institutions can be addressed through the implementation of strategies that promote growth and the attainment of corporate objectives. When determining the financial structure, extreme caution and care must be exercised. Inability to do so can result in financial difficulties. There could be numerous options, but to make the correct choice in a given scenario for the benefit of the firm, for somebody to critically assess the influence of the options available on the efficiency of the company's mediation.

Further, a financial institution is considered effective and efficient if it can produce the most output with the given amount of input, or if it can produce the least output with the same amount of input (Muriithi, Nasieku & Memba, 2022). As a result, the measures of efficiency are more accurate than those of productivity, as they include a comparison to the most efficient frontier; thus, they can complement those of productivity, which are based on the output-to-input ratio. As a result, a stable and efficient financial system pools, transfers, and eliminates risks while simultaneously enhancing liquidity and information flow through the use of increasingly complex financial products and technologies. When there exist robust institutions with the capacity to accommodate market demands while adhering to statutory and prudential limits, significant efficiency is realized.

Another local study by Mumo (2021) notes that Kenya's financial sector has become the largest and most developed in East Africa over the past four decades. Significant regulatory measures that aim to enhance the efficiency and competition of the financial sector have largely prompted the transformation. In order to boost profitability, capitalization, and efficiency as a result of economies of scale and the usage of specialist market sectors, policymakers support financial consolidation in the financial industry using voluntary or non-voluntary means. Nevertheless, despite this development, the banking sector in Kenya still faces numerous challenges, such as a relatively high ratio of non-performing loans (NPLs) in some banks, insufficient quantities of commercial bank loans to finance long-term infrastructural projects, declining profitability, overreliance on savings, and skewed lending towards government, public, and large entities, among others.

STATEMENT OF THE PROBLEM

SACCOs in Kenya play a very significant role in financial intermediation as savings through them translates to around 48.55% of the gross national savings. However, despite these developments, SACCOs are still facing numerous challenges especially in terms of their overall financial structure. For example, there was an increase in the amount of non-performing loan ratio on SACCOS to 6.30 percent back in 2018 down from 6.14 percent of what had been reported in 2017. This increase was reported to be caused by a significant increase provision for loans extended which rose from Shs 4.92 billion in the year 2017 to Shs 5.27 billion a year later in 2018 and further to Shs 8.99 in 2019 (Mumo, 2021). These statistics is a clear indication that the financial intermediation efficiency of

SACCOs is not as effective as it is supposed to be. Based on the above statistics, then it seems its very crucial to try and establish why the operational efficiency of SACCOs is not that effective despite them being very popular and key corner stone in the provision of financial services across the country.

There are a number of studies that have been undertaken both locally and internationally relating to the concept of financial structure and financial intermediation efficiency. Rahman et al., (2018) examined the relationship between capital requirements and the cost of financial intermediation among banks in Bangladesh and observed that a strong relationship existed between the two. In addition, Kamau (2018) examined the relationship between intermediation efficiency and productivity of banks in Kenya. Based on the above empirical studies, it is clear that there were limited studies that have been done examining the concept of financial structure and financial intermediation efficiency in Kenya. Therefore, the current study bridged this research gap by investigating the relationship between capital structure and financial intermediation efficiency of deposit taking SACCOs in Kenya.

RESEARCH OBJECTIVES

i. To examine the relationship between leverage and financial intermediation efficiency of deposit taking SACCOs in Kenya.
ii. To assess the relationship between share capital and financial intermediation efficiency of deposit taking SACCOs in Kenya.

THEORETICAL REVIEW

Modigliani and Miller Capital Structure Irrelevance Theory

Modigliani and Miller Capital Structure Irrelevance Theory was developed by Modigliani and Miller (1958). The theory states that the value of a firm is not affected by the proportion of its capital structure. According to the theory, the value of a firm remains the same irrespective of the leverage level of the firm such as loans and debts remaining unchanged as long as there is no any distress cost or income tax that a firm must pay. The key reason that the proponents of the theory argue as to why the value of a firm is not impacted by its leverage is because investment decisions of every firm are solely dependent on the asset class that they choose to invest in (Al-Kahtani & Al-Eraij, 2018).

As a result, in order for a firm to achieve optimal financing, there must be a balance between interest expenses and floatation costs related to the issuance of new debt (Sibarani, Ginarti, Tambun & Surianti, 2020). In addition, they argued that corporate value is determined by profitability and risk and not its capital structure. In fact, arbitrage opportunities largely influence investing decisions as they usually exist in any investment opportunity with merit. Consequently, investors will incline to sell shares in highly valued firms and invest in undervalued businesses.

Due to the rationality of investors, Modigliani and Miller (1958) proposed that a negative correlation exists between cost of equity and gearing ratio and investors are averse to accept risks for which

they cannot receive compensation. This is because in the case when the tax rate reaches zero, it will be difficult for businesses to access optimal capital structure. In addition, there is high likelihood of utilising debt funding due to the tax benefits associated with corporate taxes (Al-Kahtani & Al-Eraij, 2018).

The major strength of this theory is that it is a major breakthrough in the knowledge of optimal capital structure since it clearly illustrates financial decisions which are literally irrelevant to a firm and which are not likely to affect its overall value. However, the theory is greatly criticized since its application can only hold only in perfect and efficient market scenarios. In addition, the theory is considered not to consider the realism of the market in which firms operates as it excludes the effect that corporate taxes and cost of financial distress are likely to have on a firm capital structure. Despite this, the theory was of great importance to the current study due to its critical assumption that the investment decisions that a firm need to make in order to enhance its financial efficiency must always be evaluated based on its financing choices. This is because, an increase in the market book value ratio of deposit-taking SACCOs is likely to trigger a firm value and thus enhancing its overall ability to borrow more and increasing their overall financial intermediation efficiency. The theory was used to support the variable share capital.

Trade-Off Theory of Capital Structure

Trade-off Theory was developed my Myers (1984). The theory provides that the corporate leverage of a firm is solely determined through effective balancing of its tax-saving benefits against its overall dead-weight costs of bankruptcy. Therefore, the theory basically predicts that the debts of a firm are likely to increase in risk-free interest rate and if the tax code of the country in which the firm operates allows more generous interest rate tax deductions (Jarallah, Saleh & Salim, 2019). This is because corporate debts always tend to decrease due to dead-weight losses experienced in bankruptcy. Therefore, the theory assumes that the corporate debts of a firm are likely to decrease in the tax benefits and increase in risk-free interest rate.

A positive relationship usually exists between tax shield(benefits) and the firm debt financing (Dierker, Lee & Seo, 2019). As a result, a simple increase in the asset base of a firm will automatically increase its overall collateral security that enables a firm to obtain more debt financings. Therefore, the most important reason why firms opt to finance their day-to-day operations through debts is because its tax benefits. However, companies that rely on debt financings are always faced with costs associated with debt as well as its bankruptcy and non-bankruptcy costs such as staff turn-over, stockholders infighting among others. Therefore, firms are always forced to focus on the trade-off between marginal benefit of increasing debts financing and the associated marginal cost in order to be able to determine its financial structure proportion (Jarallah, Saleh & Salim, 2019).

The greatest strength of this theory is its ability to recognize that most firms are usually financed partly through debt and partly through equity. Acknowledging that firms are financed through debt and equity sources is very crucial as it allows firms to have alternative financing options and thus enhancing their operational efficiency. Despite this, the theory has been criticized through the

argument that even though it is possible to predict both tax rate and bankruptcy code effects, it is still very challenging to establish a causal link between the two.

The theory was important to the current study since it there is need to establish a clear understanding as of deposit-taking SACCOs asset structure as this will play an important role in minimizing the issue of over or under valuation which ultimately enhances their overall financial intermediation efficiency through enhanced capacity to borrow. The theory was used to support the variable on leverage as this is what many firms depend on in order to enhance their financial intermediation efficiency.

RESEARCH METHODOLY

Research Design

Research design is described as the logical flow of the way a study is to be executed. It is also the blueprint set a benchmark by the researcher towards the implementation of the study on the basis of collected data and analysis to attain the set objectives. Research design in research seeks to determine the reasons behind the prevailing status quo in the phenomenon under the study. The study adopted a descriptive research design. The descriptive study design was adopted as the study involved investigating the financial structure and its relationship with the financial intermediation efficiency of DTS in Kenya. Descriptive research was further used to collect data on the existing state of a phenomena in order to describe "what exists" in relation to the variables or conditions of a scenario (Bloomfield & Fisher, 2019). Systematically and precisely, it depicted the features or behaviour of a certain population.

Target Population

Target population normally refers to the entire group of objects or individuals from which research strives to obtain a small number of the objects in order to act as the wholesome representation of the entire population (Howe & Robinson, 2018). Additionally, population is defined as the entire group of individuals, events or objects having a common observable characteristic. A portion of the population from which the researcher intends to extrapolate his research findings following analysis is known as the target population. The target population of the study was all 174-deposit taking SACCOs licensed by SASRA to operate across Kenya.

Sampling Technique and Sample Size

Sampling method or technique is regarded as a detailed approach that involves selecting or picking a sample as a representative of the larger object for the purposes of inclusion in a study (Sharma, 2017). Based on this, this study employed a simple random sampling technique. The sampling technique was adopted in order to avoid bias during data collection and thus giving all selected DT-SACCOs an equal chance of being selected for the purpose of completion of this study.

Sample size refers to the act of choosing the number of objects to include in the study out of the entire target population so as to include a clear and measurable statistical sample. In research, sample size is very crucial as it allows a researcher to choose a manageable sample from a large target population and be able to make inferences about the entire population based on the observation of the sample (Sharma, 2017). Therefore, the sample size of the current study was determined using Yamane (1967) formulae as follows:

$$n = \frac{N}{1 + N(e)^2}$$

Where;
n =Sample Size,
N=Population Size,
e= level of Precision

$$n = \frac{174}{1+174(0.1)^2}$$

n= 63

Therefore, the sample size of this study was 63 licensed DT-SACCOs operating across Kenya.

Data Collection Procedure

The study used secondary data taken from the financial statements submitted by each DTS to SASRA. Kalu, Unachukwu and Ibiam (2019) states that secondary data is data collected by others who have undergone statistical process. The data collection sheet was used to collect data from published audited annual reports, KNBS and CBK pertaining to the 63 sampled DT-SACCOs submitted to the regulator. The data for all 63 sampled DTS covered a 5-year period between 2017 and 2021.

Data Presentation and Analysis

Using STATA, descriptive statistics, correlation analysis and regression analysis were used to analyze the data. Because there was more than one independent variable in this study, regression analysis was used because it was effective in assessing the simultaneous effects of independent factors on a dependent variable (Purba & Bimantara, 2020). Using t-statistics at a 5% significance level, regression coefficients was evaluated for significance before conclusions were made. The predictor variable was deemed significant if the value P, which is the precise probability of rejecting null when it is true, is less than 5%. Numerous national and international researchers have employed the analytical techniques that were used in the past. The study's findings were displayed in tables.

Research Model

The research was based on balanced Panel data from 2017 to 2021. Panels are appealing as compared to merely cross-sectional data because they often include significantly more information than single cross-sections and thus allow for greater estimation precision (Purba & Bimantara, 2020). Panel data provided more useful data, more variability, less collinearity across variables, more degrees of freedom, and greater efficiency by merging time series of cross-section observations. Panel data, however, present similar estimate and inference issues that afflict cross-

sectional and time series data, despite their significant advantages. There are various estimating strategies that can be used to solve these issues. The first, pooled OLS, simply merges or pools all-time series and cross-sectional data and uses ordinary least squares to estimate the underlying model (OLS). Equation 3.1 represents the input-output model.

$Y_{it} = \alpha + \beta X'_{it} + \epsilon_{it}$ 1

Where;

ϵ_{it}= error term

Y_{it} = Weighted sum of loans and Investments/Weighted sum deposits and total assets for each firm i at time t

for i^{th} firm in t^{th} year.

X'_{it}= vector for independent variables for firm *i* in year *t*,

β = is the independent variables Vector of coefficients,

α is the intercept,

i= 1, 2, …, 174 (individual DTS),

t = 1, 2, 3, 4 (time factor).

Regression Analysis

According to Green (2010) equation model 2 was used for the analysis.

$W_{it}=\beta_0 + \beta_1 X1_{it} + \beta_2 X2_{it} + \varepsilon_j$ ..... (2)

Where: W_{it} – Weighted sum of loans and Investments/Weighted sum deposits for each firm i at time t

$X1_{it}$ = Leverage

$X2_{it}$ = Share Capital

$\beta_{i\ (i=0,1,2,\ ....)}$ associated regression coefficients

ε_j = associated error term.

FINDINGS AND DISCUSSIONS

Descriptive statics for the various for the data obtained on various study variables was provided under this section in terms of their mean, standard deviation, minimum and maximum values for all 63 DTS that were sampled under this study. A five years period data was obtained in terms of the study objectives pertaining to leverage (LEV), share capital (SC) and the financial intermediation efficiency (FIE).

The results in Table 1 indicate that there was a total of 315 observations that were made from the 63 DTS that were sampled in this study for the five years period between 2017 and 2021. Results also indicated that the average financial intermediation efficiency (FIE) among the 63 DTS was 1.061 with a corresponding standard deviation of 0.261. The minimum financial intermediation efficiency was 0.178 and a maximum of 2.185. Regarding leverage, the study established that the average was 18.349 with a standard deviation of 1.817. The minimum leverage was 12.326 and a maximum of 21.498. The study findings are in agreement with the findings of a study done in Indonesia by Sirait and Rokhim (2019) who observed that effective implementation of financial intermediation within the financial sector is based on the ability of financial institutions to transform savings received into credit/loans for companies and others to finance their operations.

The study results further indicated that the average share capital among the DTS was 20.471 and a standard deviation of 1.839. Minimum share capital among the studied DTS was established to be 15.235 and a maximum of 23.649. The study findings however contradict the findings of a study by Amraoui et al., (2018) in Morocco which for its part observed that the key determinants of firm's capital structure and the most effective financing choices, it was observed that financial markets in developing countries are not likely to meet the full financial requirements of their business entities. As a result of this, business entities are forced to rely mostly on long-term loans from commercial banks so as to operate more efficiently.

Table 1: Descriptive Statistics

Variable		Mean	Std. Dev.	Min	Max	Observations
FIE	Overall	1.061	0.261	0.178	2.185	N = 315
	Between		0.223	0.578	1.588	n = 63
	Within		0.137	0.339	1.659	T = 5
LEV	Overall	18.349	1.8171	12.326	21.498	N = 315
	Between		1.809	13.237	20.694	n = 63
	Within		0.2617	17.138	19.165	T = 5
NWD	Overall	20.330	1.7765	15.137	23.160	N = 315
	Between		1.755	15.435	23.022	n = 63
	Within		0.3404	16.483	21.587	T = 5

Correlation Analysis

Pearson correlation coefficient was applied by the researcher in order to determine the strength with which leverage, non-withdrawable deposits and share capital affected the financial intermediation efficiency of DTS in Kenya as indicated Table 2. Based on the study findings as indicated above, it was revealed that leverage (LEV) had a positive and statistically significant effect on financial intermediation efficiency (FIE) of the DTS in Kenya (0.0126, P-Value<0.05). The study also established that share capital had an inverse and non-significant effect on the financial intermediation efficiency of DTS in Kenya (-0.1055, P-Value < 0.05).

Table 2: Pearson Correlation Coefficient

	FIE	LEV	SC
FIE	1		
LEV	0.0126	1	
	0.8232		
SC	-0.1055	0.8503	1
	0.0614	0	

Fixed Effect Regression Model

Figure 1 presents the fixed effects regression model results indicating the fitness, explanatory power and significance of the adopted model in explaining the extent to which various independent variables under the study predicts the dependent variable. The value of R-Squared as per the regression analysis was 0.2212 which is an indication that the it is only 22.12% of financial intermediation efficiency of DTS operating in Kenya between 2017 and 2021 had been affected by their leverage, non-withdrawable deposits and share capital respectively. The R-Squared of 22.1% is an indication that 77.9% of financial intermediation efficiency of deposit-taking SACCOs in Kenya is influenced by other factors other than their leverage, non-withdrawable deposits and share capital respectively. F-Statistics (F=10.5) is an indication that the model was statistically significant (P<0.05), hence, it can be concluded that the model was significantly fit and also that at least one of the three key independent variables was significant in explaining the financial intermediation efficiency of DTS in Kenya.

On the objective on the effect of leverage on financial intermediation efficiency of DTS in Kenya, the regression results obtained indicates that leverage had a positive and significant effect on financial intermediation efficiency of DTS operating in Kenya as indicated by (β = 0.250, P-Value < 0.05). Pertaining to the effect of share capital on financial intermediation efficiency of DTS in Kenya, it was found out that share capital had a positive and insignificant effect on financial intermediation efficiency of DTS in Kenya (β = 0.019, P-Value > 0.05).
Therefore, based on the obtained results, then the resulting study model was as follows:
$\mathbf{FIE} = -2.202 + 0.250\mathbf{X_{1}}_{it} + 0.019\mathbf{X_{3}}_{it}$

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. xtreg FINANCIALINTERMEDIATIONEFFICIE LEVERAGE NONWITHDRAWABLEDEPOSITS SHARECAPITAL, fe

Fixed-effects (within) regression               Number of obs      =       315
Group variable: firm                            Number of groups   =        63

R-sq:                                           Obs per group:
     within  = 0.2212                                         min =         5
     between = 0.0022                                         avg =       5.0
     overall = 0.0071                                         max =         5

                                                F(3,249)           =     23.57
corr(u_i, Xb)  = -0.8199                        Prob > F           =    0.0000
```

FINANCIALINTERMEDIATI~E	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
LEVERAGE	.2504017	.031276	8.01	0.000	.1888023	.312001
NONWITHDRAWABLEDEPOSITS	-.0842109	.0298821	-2.82	0.005	-.1430649	-.025357
SHARECAPITAL	.018585	.0232009	0.80	0.424	-.0271101	.0642801
_cons	-2.201879	.626619	-3.51	0.001	-3.436028	-.9677294
sigma_u	.40404529					
sigma_e	.13615602					
rho	.89802324	(fraction of variance due to u_i)				

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F test that all u_i=0: F(62, 249) = 10.15                     Prob > F = 0.0000
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Discussion of the Findings

On the objective of the effect of leverage on the financial intermediation efficiency of deposit-taking SACCOs in Kenya, it was observed that leverage had a positive and significant effect on financial intermediation efficiency of DTS operating in Kenya as indicated by ($\beta = 0.250$, P-Value < 0.05). The result is a clear indication that DTS that maintained sufficient leverage levels had a high-level performance in terms of their financial intermediation efficiency than their counterparts who had low-level of leverage. Therefore, the findings clearly indicates that when DTS increases their leverage level by one unit, then this will automatically result in an increased financial intermediation efficiency level by 25.5%, when all the other variables are held constant.

The study findings concur with the results of a study conducted in the United States by Finger, Gavious and Manos (2018) which informs those financial institutions in the country willing to finance illiquid investments usually do so through short-term borrowing. The financial institutions do so because once the illiquid investments are financed, financial institutions tend to ban short-term financing in order to avert crises with their leverage level.

Further, the results obtained were in agreement with Laeven, Kalemli-Özcan and Moreno (2018) who studied European companies to establish the role of financial leverage behind the slugging

post-crisis investment performance established that firms entering the financial crisis with higher debts level have to reduce their investment significantly after a financial crisis is over.

The findings concur with the results of a study done in Ghana by Musah (2018) who observed that commercial banks in the country are highly leveraged as 84 percent of their total capital structure is composed of debt financing. However, despite this, most commercial banks still prefer financing their operations through short-term debts which accounts to around 77% of their financial structure. Commercial banks in the country continues to overly on short-term debts despite clear indications that relying on such is decreasing operational efficiency due to reducing profitability level.

The study findings also agree with the findings of a study done in Turkey by Delikanl and Kılıç (2021) which observed that SMEs' assets grow and efficiency increases, their overall financial debts rise as well. While asset growth mostly results in long-term debts, increase in operational efficiency of SMEs is attributed to short-term borrowing. However, as SMEs continue to generate more revenue, their dependency on debt financing decreases which is an indication that SMEs try to meet their financing needs based on the concept advocated under the Pecking Order Theory.

The study findings however contradict the findings of another study undertaken locally by Nyabaga and Wepukhulu (2020) who observed that the concept of the most effective financial structure still remains a very controversial topic among researchers. The disagreement mostly stems from differing perspectives, perceptions, and theories on how to attain the optimal financial structure in order to minimise firm's cost of capital and maximize its value. For example, financial institutions especially commercial banks have reached a crossroads in their pursuit of the optimal method of financial structure financing. This is despite the fact that decision of the mode of funding is crucial to the operational viability of commercial banks. However, research indicates that in the majority of cases, commercial banks fail to identify the most suitable form of capital financing when their activities are disrupted, thus harming their financial intermediation efficiency. The contradiction between the current study findings and that one undertaken by Nyabaga and Wepukhulu (2020) stems from the fact that the two looked at different aspects of financial structure. Trade-Off Theory of Capital Structure supported the objective on the effect of leverage on financial intermediation efficiency of DTS in Kenya as the theory predicts that the debts of a firm are likely to increase in risk-free interest rate and if the tax code of the country in which the firm operates allows more generous interest rate tax deductions.

The findings also contradict Legesse and Guo (2020) results that established that in India, borrowers are increasingly utilizing short-term debt as they are financing source given that they are much cheaper than long-term debts. Since using short-term debts has been determined to lower borrowing costs, then borrowers are may decide to use them despite the fact that they are likely to increase their exposure to roll-over crises. In addition, short-term debts are preferred by many Indian borrowers since they tend to match the maturity of their liabilities to that of their assets. Firms are therefore increasingly utilizing long-term debt for financing fixed assets while preferring short-term debt for financing their working capital.

On the objective of the effect of share capital on the financial intermediation efficiency of deposit-taking SACCOs in Kenya, it was observed that share capital had a positive and in significant effect

on financial intermediation efficiency of DTS operating in Kenya as indicated by (β = 0.019, P-Value> 0.05). The result is a clear indication that DTS that had maintained large amount of share capital had a high-level performance in terms of their financial intermediation efficiency than their counterparts who had less amount of share capital. Therefore, the findings clearly indicates that when DTS increases their share capital by issuing out a single share either ordinary or preference, then this will automatically result in an increased financial intermediation efficiency level by 1.9%, when all the other variables are held constant.

The study results are in agreement with the results of a study done in Poland by Dudycz (2021) which examined whether the share capital of a firm can influence its overall performance established that such achievements can result from two key features of share capital. First, the study observed that a firm must always hold share capital in order to secure its creditors' claims. This means that a firm cannot simply redistribute its share capital while at the same time new shares cannot be issued at a less price than the par value. This aspect causes inflexibility on the part of the firm and such can easily affect the firm performance. On the other hand, the amount of share capital can be used by prospective shareholders to assess investment viability, thus, acting as a signaling tool for firms wishing to enhance their performance by attracting new investors.

The results also agreed with the findings of a study done by Omai et al., (2018) that examined how share capital finance influence profitability of petroleum companies in Kenya observed that share capital has a positive impact on their profitability since it tends to represent that part of financial structure that is free of debt as it only represents shareholders ownership interest only Unlike debts which studies have established to be negatively correlated with company's profitability, share capital finances are usually positively correlated with firms' profitability. Therefore, company's share capital value is very crucial feature that investors look at before deciding on whether or not to investment in a given firm.

The findings also agree with the findings of a study done in Nigeria by Owolabi et al., (2021) which observed that equity financing is extensively adopted by manufacturing entities in Nigeria as it is regarded as the most risk free and stress-free financing option for them. This is because many manufacturing entities in Nigeria constantly require huge financing in order to be able to finance for their fixed assets, bridge the gap between production and sales as well as to run day to day operation which can only be obtained through issue of equity. Despite this, the study noted that issuing of equities has significantly diluted the ownership structure of many manufacturing entities in the country. However, the performance of firms issuing equities was found to be more profitable than those utilizing debt financing.

However, the findings contradict the results of a study done by Lusola et al., (2022) that examined whether financial performance of large firms listed at Hong-Kong Stock Exchange was affected by their capital structure established that a small negative effect existed between the two. However, the results obtained was considered non-conclusive since Hong-Kong has a great different economic system and its economy has numerous characteristics that is completely different from other countries especially developing ones in terms of spending behaviour, consumer consumption level as well as households' savings habit.

The findings also contradict those of Amraoui, Jianmu and Bouarara (2018) who examined the key determinants of firm's capital structure and the most effective financing choices, it was observed that financial markets in developing countries are not likely to meet the full financial requirements of their business entities. As a result of this, business entities are forced to rely mostly on long-term loans from commercial banks so as to operate more efficiently. This is mostly done in order to finance long-term investment projects which are likely to enhance the overall value of the firm.

CONCLUSION

Regarding the effect of leverage on financial intermediation efficiency of DTS in Kenya, the study concludes that maintaining high-level leverage is very crucial for deposit-taking SACCOs in order to enhance their financial intermediation efficiency. This is because, maintaining high-leverage level makes it possible for deposit taking SACCOs to increase their liquidity available to the company because when they give out loans to customers, they receive sufficient cash from the borrowers in terms of interest charge and that cash can be used for a variety of activities. Maintaining high leverage can also be very advantageous to deposit taking SACCOs as it enables them to diversify their investments as well as helping them to set out a threshold for the expansion of their business operations.

On the objective of the effect of share capital on financial intermediation efficiency of DTS in Kenya, it was concluded that the amount of share capital that a DTS has in terms of ordinary share capital, preference share capital and reserves play a very crucial role in determining its overall financial intermediation efficiency. As such, DTS which holds more amount of share capital are expected to report enhanced financial intermediation efficiency than their counterparts that have few investors. Indeed, an increase in share capital through sale of shares is very advantageous to firms since it ensures that the company does not have repayment requirements for the initial investment or for interest payments. This can make it more appealing than other forms, such as bank loans and bonds, that are debts of the company.

RECOMMENDATIONS

Practical Recommendations

The study established that leverage had a positive and significant effect on financial intermediation efficiency of DTS operating in Kenya. Therefore, the study recommends that DTS in Kenya should always ensure that they always maintain high leverage level so as to ensure that they are able to diversify their investments as well as helping them to set out a threshold for the expansion of their business operations. This way they will be able to become more efficient while discharging their financial intermediations services.

The study further established that share capital had a positive and in significant effect on financial intermediation efficiency of DTS operating in Kenya. As such, the study recommends that the managers of DTS in Kenya should ensure that an optimal equity level is maintained in order to

enhance their entities operational efficiency. Management should not be too interested to issue more shares as this is likely to dilute their firm's ownership structure and such issue may hinder prospective investors from investing in their SACCOs in the future.

Policy Recommendations

The study findings were of great significant to the management of SACCOs in Kenya. The study therefore recommends that the management of DTS across the country need to ensure that they are involved in making their financial structure decisions that are very likely to effectively mitigate against any possible financial crisis which may arise due to lack of investment funds. This is because, ineffective financial structure decisions are likely to affect the leverage, non-withdrawable deposits and share capital all which may eventually lead to financial distress.

The study findings were of great significant to the policy makers such as SASRA who are concerned with the regulation of DTS. Therefore, the study recommends that policy makers in Kenya that are concerned with DTS regulation should ensure that that DTS across the country implement and adopt effective and sound financial structure decisions in order to enhance their financial intermediation efficiency and thus minimize the instances of DTS plunging into financial crisis that has caused many people across the country to lose a lot of money in the past.

The study was also of great significance to scholars and academicians who might be interested to carry-out further research on the relationship between financial structure and financial intermediation efficiency. Therefore, the study recommends that interested scholars and academicians should look at the findings of this study and make sure that they are able to identify other aspects of financial structure that are likely to influence the financial intermediation efficiency role of various financial institutions in the country.

LIMITATIONS OF THE STUDY

The study was limited to examining the relationship between financial structure and financial intermediation efficiency of DTS in Kenya. As such, the study was theoretically, conceptually, contextually and methodologically limited. Theoretically, the study was limited to three major theories namely Modigliani and Miller Capital Structure Irrelevance Theory, Trade-Off Theory of Capital Structure and Pecking Order Theory. Although there were some weaknesses that were identified with these theories, their overall strengths significantly surpassed these weaknesses as a result of continued theoretical development as was supported by the empirical evidence.

The study was also limited conceptually given the fact that the study was undertaken in Kenya as there was no any other identified study that had been done examining the relationship between financial structure and financial intermediation efficiency of DTS. For this reason, the findings of this study were only limited to DTS operating in Kenya and therefore cannot be generalized for any other DTS operating outside the country.

Contextually, the study was limited to all 175 SASRA licensed and regulated DTS that operates from across the country, thus, limiting the study population. In addition, the study was also limited because it didn't sample all other non-deposit taking SACCOs that operate in Kenya; hence, the findings of the study were limited to DTS only and not to other SACCOs that operate in the country. However, this was mitigated since the study used data spanning over a five years period amongst the identified DTS.

Methodologically, the study was limited by the fact that it only randomly sampled 63 DTS as opposed to targeting all 175 of them in order to be able to draw a much more valid conclusion. In addition, the study was methodically limited since was based on linear regression technique which is based on linear assumptions; hence, one must possess sufficient interpretation skills in order to understand and interpret those assumptions. In addition, the linear regression technique upon which the study was based which may have significant limitations on the study findings if not properly interrupted.

REFERENCES

Alhassan, A., Li, L., Reddy, K., & Duppati, G. (2019). The impact of formal financial inclusion on informal financial intermediation and cash preference. *Applied Economics*, 51(42), 4597-4614.

Al-Kahtani, N., & Al-Eraij, M. (2018). Does capital structure matter. *International Journal of Financial Services Management*, 9(1), 39-46.

Amraoui, M., Jianmu, Y., & Bouarara, K. (2018). Firm's capital structure determinants and financing choice by industry in Morocco. *International journal of management science and business administration*, 4(3), 41-51.

Bloomfield, J., & Fisher, M. J. (2019). Quantitative research design. *Journal of the Australasian Rehabilitation Nurses Association*, 22(2), 27-30.

Delikanl, İ., & Kılıç, S. (2021). Factors influencing SMEs' capital structure: a comparative analysis from Turkey. *Small Enterprise Research*, 28(1), 57-74.

Dierker, M., Lee, I., & Seo, S. W. (2019). Risk changes and external financing activities. *Journal of Empirical Finance*, 52, 178-200.

Dudycz, T. (2021). Does share capital mater for company performance? *Economic Research-Ekonomska*, 1-25.

Finger, M., Gavious, I., & Manos, R. (2018). Environmental risk management and financial performance in the banking industry. *Journal of International Financial Markets, Institutions and Money*, 52, 240-261.

Jarallah, S., Saleh, A. S., & Salim, R. (2019). Examining pecking order versus trade-off theories of capital structure. *International Journal of Finance & Economics*, *24*(1), 204-211.

Jiménez-Hernández, I., Palazzo, G., & Sáez-Fernández, F. J. (2019). Determinants of bank efficiency: evidence from the Latin American banking industry. *Applied Economic Analysis*, 4(3) 184-206.

Laeven, L., Kalemli-Özcan, Ş., & Moreno, D. (2018). Debt Overhang, Rollover Risk, and Corporate Investment. *Journal of European Economic Association* 2(12), 21-30.

Legesse, T. S., & Guo, H. (2020). Does firm efficiency matter for debt financing decisions? Evidence from the biggest manufacturing countries. *Journal of Applied Economics*, 23(1), 106-128.

Ma, Y., & Yao, C. (2022). Openness, financial structure, and bank risk. *International Review of Financial Analysis*, 81, 102065.

Mehmood, R., Hunjra, A. I., & Chani, M. I. (2019). The impact of corporate diversification and financial structure on firm performance. *Journal of Risk and Financial Management*, 12(1), 49.

Mohieldin, M., Hussein, K., & Rostom, A. (2019). On financial development and economic growth in Egypt. *Journal of Humanities and Applied Social Sciences*. 8(1), 20.

Mumo, J. A. (2021). Effect of Financial Innovation on Financial Intermediation Efficiency Within the Banking Sector in Kenya (Doctoral dissertation, University of Nairobi).

Muriithi, P. K., Nasieku, T., & Memba, F. (2022). Influence Of Credit Management on Financial Intermediation Efficiency of Deposit Taking Saccos's in Kenya. *Journal of Accounting*, 5(1), 1-12.

Musah, A. (2018). The impact of capital structure on profitability of commercial banks in Ghana. *Asian Journal of Economic Modelling*, 6(1), 21-36.

Musau, S. (2022). Deepening financial inclusion and stability of commercial banks in Kenya. *International Academic Journal of Economics and Finance,* 3 (7), 143-155.

Nyabaga, R. M. I., & Wepukhulu, J. M. (2020). Effect of firm characteristics on financial performance of listed commercial banks in Kenya. *International Journal of Economics and Financial Issues*, 10(3), 255-268.

Omai, M. D., Memba, F. S., & Njeru, A. G. (2018). The effect of share capital finance on profitability of petroleum marketing firms in Kenya. VI (1), 410-422.

Owolabi, O. A., Kolawole, A. D., Ogungbade, O. I., & Adekoya, A. C. (2021). Equity Financing Options and Financial Performance of Listed Manufacturing Firms in Nigeria. *PalArch's Journal of Archaeology of Egypt/Egyptology*, 18(7), 1730-1741.

Pantielieieva, N., Khutorna, M., Lytvynenko, O., & Potapenko, L. (2020). FinTech, RegTech and traditional financial intermediation: *Data-Centric Business and Applications*.1-21.

Purba, J. H. V., & Bimantara, D. (2020). The influence of asset management on financial performance, with panel data analysis. *International Seminar on Business, Economics, Social Science and Technology*, 150-155.

Qin, X., & Zhou, C. (2019). Financial structure and determinants of systemic risk contribution. *Pacific-Basin Finance Journal*, 57, 101-183.

Rahman, M. M., Zheng, C., Ashraf, B. N., & Rahman, M. M. (2018). Capital requirements, the cost of financial intermediation and bank risk-taking. *Research in International Business and Finance*, *44*, 488-503.

Sibarani, J. L., Ginarti, C., Tambun, R., & Surianti, M. (2020). Analysis of the Influence of Capital Structure and Profit Ability on Corporate Value under Modigliani and Miller Theory of Investment Review. *European Journal of Business and Management*, 12(3), 164-170.

Sirait, R. A., & Rokhim, R. (2019). Capital adequacy requirement, the cost of financial intermediation and risk-taking behavior of the indonesia banking sector. *International Conference on Business and Management Research*, 99-104

Yakubu, I. N., & Abdallah, I. (2021). Modelling the financial intermediation function of banks. *Journal of Money and Business*, 10(14), 46-58.