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EFFECT OF COOPERATIVE SOCIETIES DEVELOPMENT ON FINANCIAL DEEPENING IN NIGERIA

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Abstract

This study examined the effect of the cooperative societies' development on financial deepening in Nigeria for the period 2000 to 2021. The specific objectives of the study were to investigate the effect of cooperative societies' savings on financial deepening in Nigeria; to examine the effect of the cooperative societies' investment on financial deepening in Nigeria. The study adopted an ex-post facto research design from the annual time series data generated from the annual reports of all cooperative societies submitted to the Directorate of cooperative societies and Central Bank of Nigeria statistical bulletin on cooperative societies' savings, cooperative societies investment, and financial deepening. The data were analysed using the ARDL model and Fully Modified Ordinary Least Squares estimation. The findings showed that both cooperative societies' savings and investments have significant effects on financial deepening in Nigeria. It was recommended that policymakers should focus on promoting and supporting cooperative societies' savings mobilization efforts. This can be achieved through awareness campaigns, financial literacy programs, and incentives that encourage individuals and businesses to participate in cooperative societies and contribute to savings. Creating a savings-oriented culture and highlighting the benefits of savings can strengthen the role of cooperative societies in mobilizing funds for productive investments. Furthermore, cooperative societies should focus on enhancing their investment capacities through training, technical assistance, and knowledge sharing. Building the capacity of cooperative society members and management in investment analysis, project evaluation, and risk management will enable them to make informed investment decisions. This will lead to more effective and impactful investments, contributing to financial deepening in Nigeria.

Keywords: Cooperative Societies Savings, Cooperative Societies Investment, Cooperative Societies development, Financial Deepening

INTRODUCTION

The popularity of the cooperative model has increased considerably throughout the world. One important reason for this is that the cooperative model has shown relatively strong resilience during financial and economic crises (Birchall & Hammond, 2019). The interest in cooperative organisational forms was stimulated by the United Nations. The UN declared 2012 the International Year of Cooperatives (IYOC) in recognition of the worldwide importance of cooperatives for economic and social development. It is considered that the cooperative model of business may help in poverty reduction significantly and also contribute greatly to inclusive growth through the improvement of economic structure.

In emerging nations like Nigeria, cooperative societies are particularly important for economic growth. To better the socioeconomic circumstances of its members, they are founded on the ideas of free association, democratic control, and economic engagement. Nigeria has the highest population and the largest economy in Africa, and it has a vibrant finance industry. Nigeria's financial industry has struggled to achieve broad-based financial inclusion and deepening despite its size and promise. To overcome these issues and promote financial development, cooperative societies have become a viable solution. Cooperative societies are voluntary associations or groups of people coming from the same socio-economic background who pull their resources together to solve their common problems through self-help and mutual trust (Abdulrazaq, 2021).

Cooperative societies in Nigeria have a long history, dating back to the early 20th century. They have been instrumental in mobilizing savings, providing access to credit, and promoting entrepreneurship and self-reliance among their members. The Cooperative Societies Act of 1993 provides the legal framework for their establishment and operations in Nigeria. Cooperative has been the indigenous mechanism and technique employed by the people to identify their felt needs, choose what they want and take cooperative action to satisfy their needs (Agbo, 2019). It is traditionally required that members of any of these informal financial forums should have common economic or social goals in which they pursue the betterment and improvement of their standard of living. Cooperative societies contribute N1.2 trillion yearly to Nigeria's Gross Domestic Product (GDP) and create 600,000 new direct jobs for Nigerians nationwide (CRASON, 2021).

By pooling resources and promoting a culture of savings among their members, cooperative societies create a substantial source of funds that can be channelled into productive investments. Additionally, they provide access to affordable credit, especially to small-scale businesses and individuals who might face challenges in obtaining loans from traditional financial institutions. Cooperative societies also serve as a platform for financial education and capacity building, empowering their members with financial literacy and entrepreneurial skills Epetimehin, 2016). Through training programs, workshops, and seminars, they enhance the financial knowledge and capabilities of their members, thereby improving their ability to manage finances and make informed investment decisions. Furthermore, cooperative societies promote social capital and community development. By fostering trust, cooperation, and mutual support among members, they create a conducive environment for economic activities and financial transactions (Hans, 2013). This social capital enhances financial intermediation and reduces transaction costs, further contributing to financial deepening. However, despite the potential benefits of cooperative societies, some challenges need to be addressed. These challenges include governance issues, limited access to formal financial markets, inadequate regulatory frameworks, and a lack of infrastructure and technology to support cooperative operations.

Most studies were not carried out on all the cooperative societies in Nigeria like Adewole et al. (2022) evaluated the relationship between Islamic cooperative societies and the efficiency of financial intermediation in Ife East Local Government, Osun State, Nigeria (2010 to 2020). The study employed Ordinary Least Square (OLS) regression analysis method. Dogarawa (2015) examined the role of cooperative societies in economic development through a conceptual review approach. Abifarin and Bello (2015) established the cooperative bank as an effective financial inclusion strategy in Nigeria, also through a conceptual review approach. Abdulrazaq (2021) assessed the determinants of financial resources mobilisation of interest-free cooperative societies in Ilorin, Kwara state, Nigeria using Logistic regression analysis. While Ajayi (2022) determined factors militating against cooperative societies' contributions to housing development in Osogbo, Nigeria using Principal Component Analysis.

The above studies did not consider the effect of the cooperative societies' development on financial deepening which is the focus of this study. Also, these studies did not proxy the cooperative societies' development with cooperative societies' investment and cooperative societies' savings which are the proxies of the cooperative societies' development in this study. Furthermore, most of the studies above sourced their data using primary sources of data, while this study used secondary sources of data. This will make the study unique from the previous studies. These highlighted gaps in the literature necessitated this study; "Effect of Cooperative Societies Development on Financial Deepening in Nigeria". Given the rising policies in support of financial deepening (Currency redesign, Daily withdrawal limits, National domestic card) it becomes imperative to ask:

i. What is the effect of cooperative societies' savings on financial deepening in Nigeria?
ii. What is the effect of the cooperative societies' investment on financial deepening in Nigeria?

The study hypothesized that:

H_{01}: Cooperative societies' savings have no significant effect on financial deepening in Nigeria.

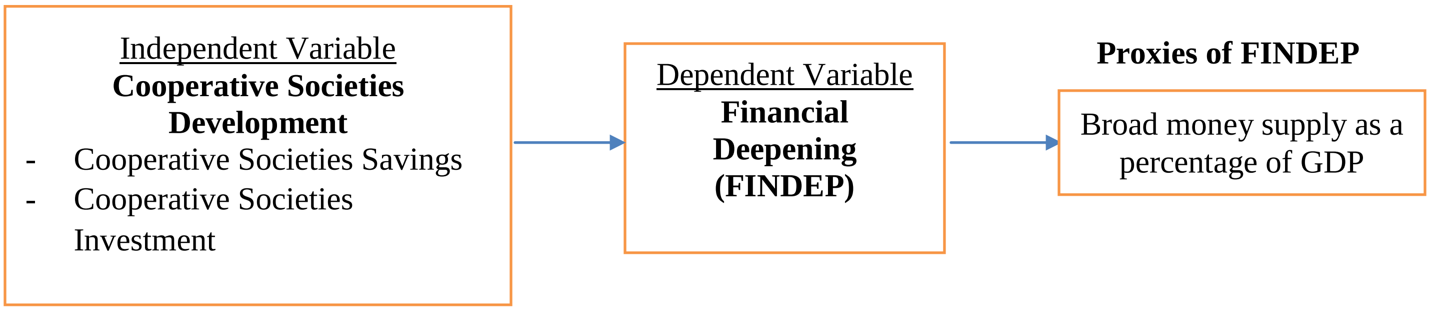
H_{02}: Cooperative societies' investment has no significant effect on financial deepening in Nigeria.

LITERATURE REVIEWS

Conceptual Review

This study examined the effect of cooperative societies' development on financial deepening in Nigeria. This section reviews the works of literature on the concept of cooperative societies development and the concept of financial deepening.

Figure 1: Conceptual Framework of the Study



Cooperative Societies Development

Cooperative societies have been defined in different ways in literature and the definitions give the same meaning. Lawal (2013) opined that a cooperative society is a business registered under cooperative law and managed by the same law under which it is registered. Noibi (2012) suggested that Cooperative Societies are private and non-profit making organizations that accept deposits as savings from members and make loans from the savings accepted to the members in need of it. Epetimehin (2016) concluded that a cooperative is a business owned and controlled by the people who use it. International Labour Organization defines a cooperative society as an association of persons who have voluntarily come together to achieve a common end through the formation of a democratically controlled organization, making equitable contributions to the capital required and accepting a fair share of the risks and benefits of the undertaking in which the members actively participate (ILO, 1990).

The United Nations Research and Social Development also see cooperative societies as all organizations that are legally recognized as such which are subject to organized supervision and which claim to follow cooperative principles (UN, 1980). The Coady International Institute, another international organization interested in co-operative societies defines it as free associations of persons legally constituted to conduct economic enterprises or businesses which they control and administer democratically according to established principles and techniques (Coady, 2015). At the local level, a cooperative society is defined as a voluntary association of individuals, united by a common bond, who have come together to pursue their economic goals for their benefit (Cooperative Act, 2004). However, other scholars have attempted to define a cooperative society too.

Kareem et al. (2018) viewed cooperative society as a voluntary association of people who established a democratically controlled business entity, carrying on the business with operating cost that is contributed, capitalized and controlled by members and sharing rewards and risks in proportion to their participation, to achieve a common socio-economic objective. It may also be defined as a privately formed society of like-minded people who come together to operate savings and loan schemes among themselves to meet their needs (Oluyombo, 2013).

This means that cooperative members are the main beneficiaries of the association as both the risk and benefits are shared among them. Not only that, ownership and control of the society lie with the cooperators. Nawai and Shafii (2017) define a cooperative society as an organization that is owned controlled and operated by a group of people who contribute capital and decide on a one-vote principle for the benefit of all members. Cooperative societies have been defined in different ways in literature and the definitions give the same meaning. Lawal (2016) opined that a cooperative society is a business registered under the cooperative law and managed by the same law under which it is registered. Noibi (2016) suggested that Cooperative Societies are private and non-profit making organizations that accept deposits as savings from members and make loans from the savings accepted to the members in need of it. Epetimehin (2016) concluded that a cooperative is a business owned and controlled by the people who use it. As a way of summarizing the various attempts to appreciate the concept of cooperative societies, this study sees it as a voluntary association for the promotion of numerous socio-economic interests of members.

A cooperative society is in a world of its own and regulated by its laws and regulation both in formation, registration and operation. It is also exempted from payment of tax. It is registered or incorporated as a statutory corporation not passing through the Corporate Affairs Commission and therefore not subject to the Companies and Allied Matters Act, Security and Exchange Commission Act or any other law regulating corporate organizations in Nigeria (Abifarin 2014). Cooperative society no matter how large, whether micro or macro cannot be a member of the Nigerian Exchange Group nor can it raise money from the capital market. But it is a legal entity with a corporate personality (Abifarin, 2014).

The formation and operation of an association as a cooperative society are generally based on some fundamental principles. The International Cooperative Alliance (2016) identified seven principles of cooperative society including voluntary and open membership, democratic control, economic participation, autonomy and independence, education and training, cooperation and concern for the community. Following these principles will enable the association to grow and contribute meaningfully to the members' economic welfare (Masuku et al., 2016).

In meeting the economic and social needs of members, different types of cooperative societies evolved. Different types of cooperative societies abound most common among them are; agriculture, thrift and credit, consumer, housing, marketing, transport insurance and multipurpose cooperative societies. Nwankwo et al. (2016) mentioned consumers, producers, marketing, housing, transport, thrift and loan cooperative are some of the different types of cooperative societies formed for fostering the interest of their respective members. Cooperative farmers are another type of cooperative society that could be found in any farming community (Kareem et al., 2012). Cooperatives can either be operated on a conventional or a non-interest basis. Rasaki et al. (2018) concluded that a conventional cooperative society is based on a pure financial intermediation model, where the society's profits are the margin between the interest earned by members from their savings on one hand and the interest from the funds advanced to members on the other, while non-interest or zero interest cooperatives are based on principles that prohibit interest earning, risk-taking, sinful activities, gambling and speculative. It believes in trading based on real goods and services and a reward-sharing contract. Cooperative societies' objective is not to maximize profit but rather to maximize the benefit the members can derive from their transactions with the cooperative societies (Birchall, 2013).

However, the Nigeria cooperative movement is composed largely of agricultural cooperatives, (Ijere, 2019). The reason is not far-fetched when one realizes that most of its population earns their living from Agriculture. This has led to the formation of cooperatives in the agricultural sub-sectors of crops and animal production, processing and marketing, fishery and forestry. According to Ihimodu (2018), a cooperative society is a vital framework for solving many rural problems. In the rural area where civilization and development facilities are low, the impact of cooperative societies can be enormous. The areas of impact include the following among others; Mobilization of savings, provision of credit, expansion of cultivated land area mechanization, increasing output, supply of inputs, marketing of farm products, provision of raw material to industries, improved level of income as well as standard of living. Cooperatives offer excellent opportunities for both individual and group economic empowerment. In this study, cooperative societies' savings and investments are considered as the proxies for cooperative societies' development. This is because they are part of the major source of increasing the funds available for cooperative societies.

Cooperative Societies Savings

Cooperative societies' savings refer to the collective savings accumulated by members of a cooperative society. In the context of cooperative societies, savings are the funds that members contribute regularly into a shared pool (Ajayi, 2022). These savings are then used to support the financial activities and objectives of the cooperative society. According to Abdulrazaq (2021), the following are various types of cooperative societies' savings: Voluntary participation, regular contributions, pooled resources, financial security and access to credit.

Cooperative Societies Investments

Cooperative societies' investments refer to the allocation of funds or resources by a cooperative society into various income-generating projects or assets. These investments are made to generate returns and enhance the financial sustainability of the cooperative society (Dogarawa, 2015). Cooperative societies engage in investments to maximize their resources, support their members' economic activities, and contribute to their overall development.

It is important for cooperative societies to carefully evaluate investment opportunities, considering factors such as risk, potential returns, alignment with cooperative values, and the impact on members and the community (Abifarin & Bello, 2015). Proper financial management, risk assessment, and monitoring of investments are essential to ensure the long-term sustainability and success of cooperative societies.

Financial Deepening

The definition of financial deepening varies among scholars. Financial deepening has been defined as an increase in the supply of financial assets in the economy (Hamilton & Godwin, 2016). It includes the aggregate or wide range of financial assets that are available in the economy. Financial deepening also implies the ability of financial institutions to effectively mobilize savings for investments. The growth of domestic savings provides the real structure for the creation of diversified financial claims. Financial deepening generally entails an increased ratio of the money supply to the Gross Domestic Product (Christian, 2016). Financial deepening/development thus involves the establishment and expansion of institutions, instruments, and growth processes. Osinsanwo (2015) describes financial deepening as increased financial services geared to all levels of society. Financial deepening refers to the enlarged delivery of financial facilities by financial institutions to all people in a society (Nnenna, 2019).

Kromtit and Tsenkwo (2018) posit that financial deepening means expanding ventures through organized markets. It is expanding the size of financial organizations, and assimilating the casual market into the official economic system to improve the effectiveness of intermediation and efficiency of economic policy. The level of financial deepening reflects the soundness of the financial sector and the ability with which credits are created concerning lending and deposit rates. Financial deepening theory thus defines the positive role of the financial system on economic growth by the size of the sector's activity (Ohwofasa & Aiyedogbon, 2015). That means that an economy with more intermediary activity is assumed to be doing more to generate efficient allocations. In development studies, financial deepening is very often referred to as the increased provision of financial services with a wider choice of services geared to the development of all levels of society.

Empirical Reviews

Cooperative Societies Savings and Financial Deepening

Adewole et al. (2022) investigated the relationship between cooperative societies and financial intermediation efficiency in Ife East local government, Osun State, Nigeria. The broad objective of this study is to examine the extent to which cooperative societies in Ife East Local Government achieved their financial intermediation role. The specific objectives are to examine the relationship between the total deposit and total credit of the Munislam Welfare Fund cooperative society and to investigate the relationship between the total deposit and the total credit of the Al-Irshad welfare fund cooperative society. The study used the regression analysis method to achieve the stated objective. The data for this study was obtained from the annual financial report of the selected cooperative societies in Ife East Local Government, Osun state, Nigeria. It was revealed in Credit supply equation I that there was a positive correlation and significant relationship between the total deposit and total credit of the Munislam Welfare Fund cooperative society. It was also discovered in Credit supply equation II that there was a positive correlation and significant relationship between the total deposit and total credit of the Al-Irshad welfare fund cooperative society. The study recommends that Cooperative Societies should foster a higher level of liquidity to increase their ability to grant loans and advances to their members for productive purposes. The study also recommends that Cooperative societies should effectively utilize mobilized deposits to ensure the efficiency of financial intermediation.

Abdulrazaq (2021) explored the determinants of savings mobilization in interest-free cooperatives in Ilorin Kwara State. Data were collected with the use of a questionnaire which was administered to 365 members of institution-based interest-free cooperative societies in the Ilorin metropolis. Kaiser-Meyer-Olkin (KMO) and Cronbach's alpha tests were performed to establish the validity and reliability of the research instrument. Logistic regression analysis was conducted and it was found that mode of saving, credit administration, internal governance and member awareness have positive effects on the volume of savings mobilized and the effects are significant at 5% and 1% levels of significance. The study concluded that the mode of savings, credit administration, internal governance, and members' awareness affect the resource mobilization of Islamic cooperatives in the Ilorin metropolis. Direct deduction of savings from salaries, a higher level of transparency and accountability, and sensitization campaigns are recommended for effective and efficient financial resource mobilization in interest-free cooperative societies. The study has done well by using logistic regression analysis for the study since the study is a survey analysis. Logistic regression allows the study to find the probability of event success and event failure. In this case, the probability of event success and event failure of savings mobilization in an interest-free cooperative in Ilorin Kwara State.

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Dogarawa (2015) examined the role of cooperative societies in economic development. The aim was to investigate how cooperatives can act as agents towards sustainable community development. The study was carried out using a descriptive survey, which involves the collection of data to describe the role of cooperative societies in economic development. The paper posits that for over 160 years now cooperatives have been an effective way for people to exert control over their economic livelihoods as they play an increasingly important role in facilitating job creation, economic growth and social development. The study concludes that to be effective and successful, cooperatives must continuously achieve two interrelated goals: enhance the viability and improve the ability to service its members; and remain an economically viable, innovative and competitive enterprise.

Cooperative Societies Investments and Financial deepening

Ajayi (2022) investigated the barriers that hinder cooperative societies' involvement in housing delivery in Osogbo and Olorunda local government areas of Osogbo, Osun State, Nigeria. The study used a quantitative research design, with a questionnaire survey. Using the multi-stage sampling technique, 110 cooperative societies were selected across the local government areas and the structured questionnaire was administered to one member of each selected cooperative society. Data collected were analysed using descriptive statistics (frequency table) and Principal Component Analysis (PCA). Results of the communality values based on PCA showed that financial and land regulation, loan management, and credibility of co-operators are the factors affecting the ability of cooperative societies in funding housing development in Osogbo. The study concluded that cooperative societies have a significant impact on housing delivery in Osogbo

Adesina et al. (2021) ascertained the role played by microfinance banks and cooperative societies on the small and medium-scale enterprises in Southwest, Nigeria. The study sourced primary data through a self-administered structured questionnaire which the researchers distributed to respondents in the study area. The first step in analyzing the data that was gathered from these diverse business enterprises was to code the questionnaire and then design a master data sheet on Microsoft Excel. Descriptive statistics and chi-square tests were used for the testing hypotheses. The findings revealed showed that financial services, advisory services and conditions for obtaining credit from microfinance banks and cooperative societies have a significant impact on the business development of SMEs in South-West Nigeria. The study concluded that little or no collateral demand when SME owners apply for loans. The study recommended that microfinance banks and cooperative societies should design and market their financial services towards the SMEs in a way that truly aims to improve their products and services invariably leading to development.

Akani (2021) analyzed the effects of financial dualism on rural low-income earners in the Port Harcourt City Local government area in Rivers State. The purpose was to examine the relationship between financial dualism and rural low-income earners. The questionnaire was administered to 200 respondents sampled from the residence of the local government. Financial dualism was proxied by commercial banks operations, microfinance banks, thrift associations and local money lenders. Simple percentages and Spearman rank correlation coefficient were used as data analysis methods. The study found a correlation coefficient of 21.9 percent between commercial banks and rural low-income earners, 59.3 percent between microfinance banks and rural low-income earners, 83.7 percent between thrift associations and rural low-income earners and 59.9% between local money lenders and rural low-income earners in Port Harcourt. From the findings, the study concluded that commercial banks have no significant effect on rural low-income earners, while microfinance banks, thrift associations and local money lenders have a significant effect on rural low-income earners in the Port Harcourt City local government area. It was recommended that policies such as rural banking schemes, branch banking and commercial banks reform should be directed towards increasing financial access of rural low-income earners in Nigeria. The operational efficiency of the microfinance institution should further be strengthened; existing challenges should be eliminated by the regulatory authorities and management to enhance its function in increasing financial access to rural low-income earners and there should be a law to strengthen the operational functions of the informal financial institutions, this will increase the operational efficiency and further give access to financial services to rural low-income earners.

Dogarawa (2015) established the role of cooperative societies in economic development. The aim was to investigate how cooperatives can act as agents towards sustainable community development. The study was a descriptive survey, which involves the collection of data to describe the role of cooperative societies in economic development. The study concluded that for over 160 years now cooperatives have been an effective way for people to exert control over their economic livelihoods as they play an increasingly important role in facilitating job creation, economic growth and social development. The study recommended that to be effective and successful, cooperatives must continuously achieve two interrelated goals: enhance the viability and improve their ability to service their members; and remain an economically viable, innovative and competitive enterprise.

Theoretical Framework

Financial Intermediation Theory

The financial intermediation theory was developed by Leland and Pyle (1977). The theory emphasized the roles of the financial intermediaries in the financial systems. They recognized that the financial intermediaries can be categorized by four criteria that are: categories of liabilities (deposits) which are specified for a fixed sum which is not related to the performance of a portfolio, short-term deposits, and a high proportion of their liabilities are chequeable and liabilities and assets which are not transferable. The theory establishes that the contribution of intermediaries is to ensure a steady flow of funds from the surplus units to the deficit units.

Financial intermediation theory provides a useful framework for understanding the relationship between cooperative societies' savings, investments, and financial deepening.

According to this theory, financial intermediaries, such as cooperative societies, play a critical role in mobilizing savings from surplus units and channelling them into productive investments (Abifarin & Bello, 2015). Cooperative societies, through their savings and investments, act as intermediaries between savers and borrowers within their members' communities.

The theory suggests that cooperative societies' savings contribute to financial deepening by increasing the availability of investable funds (Dogarawa, 2015). The accumulated savings enable cooperative societies to provide loans and credit to members who may have limited access to formal financial institutions. By mobilizing savings and channelling them into productive investments, cooperative societies support economic activities, stimulate entrepreneurship, and contribute to the overall development of the financial system. Additionally, cooperative societies' investments can further deepen the financial system by generating returns and expanding the range of financial services available to members. Investments in income-generating projects, cooperative enterprises, or financial instruments can enhance the financial sustainability of cooperative societies, thereby facilitating their ability to provide more comprehensive financial services and support economic growth (Adewole et al., 2022).

The theory is essential in the study for it emphasizes the functions of the financial intermediaries in mobilizing, channelling and pooling savings and increasing investment levels in the economy, thus improving their efficiency and expanding their functions contributes immensely to the growth of the economy.

METHODOLOGY

This study towed the path of the positivist research philosophy as it adopts the deductive method of research focused on testing theory. This approach seeks facts and causes of social or business phenomena, with little regard to the individual’s subjective state. Considering the purpose of this study, the type of investigation, the extent of researcher involvement, the period over which data were collected, and the type of analysis, the *ex-post facto* research design was appropriate and was therefore adopted.

This study uses annual time series data covering the period 2000 to 2021. The variables of the study are cooperative societies’ savings, cooperative societies’ investment, and financial deepening. Data for the study was obtained from the annual reports of the cooperative societies submitted to the Federal Directorate of cooperative societies, and the Central Bank of Nigeria Statistical Bulletin 2022.

Table 1: Measurement Table for Dependent and Independent Variables

Variables Specification	Proxied By	Description
Dependent Financial Deepening	FINDEX	$\frac{\text{Broad Money Supply (M2)}}{\text{GDP}}$
Independent Cooperative Societies Development	Cooperative Societies Savings (CSS)	$\frac{\text{Cooperative Societies Savings}}{\text{GDP}}$
	Cooperative Societies Investment (CSI)	$\frac{\text{Cooperative Societies Investments}}{\text{GDP}}$

Source: Researcher's Computation 2023.

Descriptive statistics were used to explain the data. A stationarity test was conducted to test for the presence of unit roots in the time series data. In addition, the ARDL model was conducted to investigate the possible correlation among the variables of this study. A vector error correction model was also used since there was cointegration among the variables. The data obtained were further analyzed using Fully Modified Ordinary Least Squares (FMOLS) through Eviews 10 Statistical Package.

The model is specified as follows:

FINDEX = f (CSS, CSI) ……………………………………….. (1)

The econometric form of equation (1) is represented as:

$FINDEX_t = \alpha + \beta_1 CSS_t + \beta_2 CSI_t + \mu_t$ ……..……… ….…….. (2)

Where: FINDEX = Financial Deepening; CSS = Cooperative Societies Savings; CSI = Cooperative Societies Investment; α =Intercept or Constant; β = Slope of the regression line concerning the independent variables; μ=Error Term. The Cointegration model of the study is represented by:

$$\Delta FINDEX_t = \mu + \sum_{i=1}^{n-1} \Gamma i \Delta FINDEX_{t-i} + \sum_{i=0}^{m-1} \gamma_1 \Delta CSS_{t-i} + \gamma_2 \Delta CSI_{t-i} + \varepsilon_t \text{ …… (3)}$$

Where: FINDEX = Financial Deepening; CSS = Cooperative Societies Savings; CSI = Cooperative Societies Investment; ε = Error term; Δ = First difference operator; μ =Intercept or Constant; $_{t-i}$ = Time lagged; $\gamma_1 – \gamma_2$= Coefficient of independent variables.

Decision Rule:

If the p-value is < 5%, then the null hypothesis is rejected, otherwise the null hypothesis is accepted.

RESULTS AND DISCUSSION

Table 2: Descriptive Statistics

	FINDEX	CSS	CSI
Mean	103.4611	0.017713	0.002453
Maximum	155.3083	0.040171	0.004568
Minimum	39.77173	0.002784	0.000494
Std. Dev.	36.27411	0.012481	0.001113
Observations	22	22	22

Source: Eview Version 10 Output, 2023

Table 2 reveals that financial deepening has a mean of 103.4611, meaning that the Nigerian financial sector had an average quarterly depth of 103.5% for the period under consideration, while the deviation from the mean (standard deviation) was 36%. This means that financial deepening was normally distributed because the standard deviation value was lower than the mean value. The maximum financial deepening within the period of this study was 155.31%. This implies that the highest financial depth of the economy is not more than 155% within the 43 quarters. Table 2 also shows the minimum value to be 39.77%, meaning that financial deepening per quarter was not less than 40% for the period under review.

Cooperative society's savings had a mean of 0.018% while the deviation from the mean was 0.012%. This indicates that the cooperative societies' savings were normally distributed since the standard deviation value was lower than the mean value. The maximum percentage within the period under consideration was 0.04, implying that for the period under review, all cooperative societies' savings in the Nigerian economy is not more than 0.04%. While the minimum cooperative societies savings within the period under review is 0.003%.

Finally, the cooperative societies' investment had a mean of 0.002% while the deviation from the mean was 0.001%. This indicates that the cooperative societies' investment was normally distributed since the standard deviation value was lower than the mean value. The maximum value within the period under consideration was 0.004568, implying that the highest cooperative societies investment for the period under review was not more than 0.005%. The minimum percentage of cooperative societies' investment for the period under review was 0.0005%, indicating that cooperative societies' investment did not go below 0.0005%.

Table 3: Unit Root Test

Variables	**Adj. T-Statistic**	**Prob. Values**	**Order of Integration**
FINDEX	-5.697754	0.0009	*I(1)*
CSS	-7.899412	0.0000	*I(1)*
CSI	-11.63929	0.0000	*I(1)*

Source*: Researcher's Computation 2023.*

To examine the existence of stochastic non-stationarity in the series, the research establishes the order of integration of individual time series through the unit root tests. The test of the stationarity of the variables adopted was Phillips-Perron (PP) test. The variables tested were FINDEX, CSS and CSI with results as presented in Table 3. From Table 3, it can be seen that all the variables were found to be stationary at the first difference, that is, at order I(1). The PP test statistics were greater than their respective tabulated values and their p-values are all below the 0.05 significant level for this study.

Table 4: FMOLS Regression Analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CSS	690.8994	306.1146	2.256996	0.0367
CSI	26068.72	3571.199	7.299711	0.0000
C	28.49798	6.665680	4.275330	0.0005
R-squared	0.856847	Mean dependent var		106.2504
Adjusted R-squared	0.840941	S.D. dependent var		34.66805
S.E. of regression	13.82636	Sum squared resid		3441.029
Long-run variance	128.2305			

Source: Eview Version 10 Output, 2023

Cooperative society's savings has a significant effect on financial deepening because the p-value is 0.0367 which is lower than the 5% significant level, indicating that an increase in cooperative societies' savings will automatically increase financial deepening to the extent of 690. Therefore, the study rejects $H0_1$, which states that cooperative societies' savings have no significant effect on financial deepening in Nigeria.

Also, the analysis shows that the cooperative societies' investment has a significant effect on financial deepening because the p-value is 0.0000 which is lower than the 5% significant level, indicating that an increase in the cooperative societies' investment will automatically increase financial deepening to the extent of 260069. Therefore, the study rejects

$H0_2$, which states that the cooperative societies investment, has no significant effect on financial deepening in Nigeria.

The coefficient of determination (R^2) is 0.856847 implying that the cooperative societies development explains variation in financial deepening to the extent of 86%, while the remaining variation was explained by other variables not captured in the model.

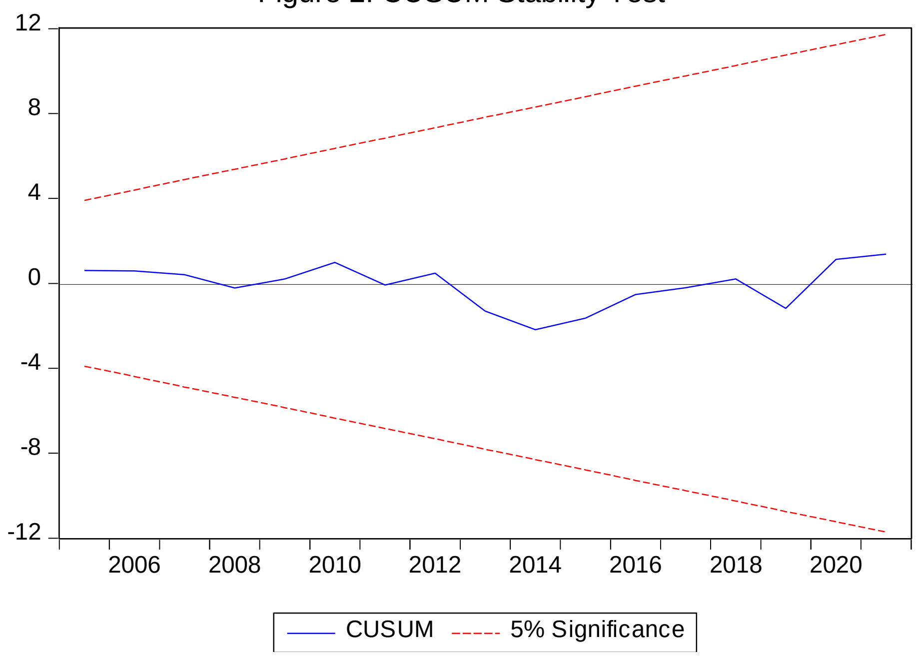
Table 5: Post-Estimation Test

Description	Probability values
Serial Correlation	
F-statistics	0.910588
P-value	0.4334
Heteroskadasticity Test	
F-statistics	3.046549
P-value	0.0571

Source: *Researcher's computation*, 2023

Table 5 indicates that the Breusch-Godfrey Serial Correlation LM Test indicates that there is no autocorrelation. This is given by the F-statistic of 0.910588 and its corresponding P-value of 0.4334. The Breusch Pegan Test of Heteroskedasticity with F-statistics 3.046549 and its corresponding P-value of 0.0571 indicates that there is no problem with heteroskedasticity.

Figure 2: CUSUM Stability Test



Source*: Eview Version 10 Output, 2023*

The stability of the model was checked using the CUSUM test and it shows that the model is stable as it is within the 5% boundary.

CONCLUSION AND RECOMMENDATIONS

The main objective of the study is to empirically examine the effect of the cooperative societies' development on financial deepening in Nigeria for the period 2000 to 2021. The study concludes that cooperative societies' savings have a significant effect on financial deepening in Nigeria. This means that the savings of cooperative societies in Nigeria do have a proportionate increase in financial deepening. This finding is in line with the works of Adewole et al. (2022). In like manner, the cooperative societies' investment significantly increases financial deepening. This result is in tandem with the findings of Dogarawa (2015).

Based on the findings of this study, it is recommended that: To further enhance financial deepening in Nigeria, policymakers should focus on promoting and supporting cooperative societies' savings mobilization efforts. This can be achieved through awareness campaigns, financial literacy programs, and incentives that encourage individuals and businesses to participate in cooperative societies and contribute to savings. Creating a savings-oriented culture and highlighting the benefits of savings can strengthen the role of cooperative societies in mobilizing funds for productive investments. Also, Cooperative societies should collaborate with financial institutions to expand access to a wide range of financial services for their members. This includes facilitating partnerships with banks, microfinance institutions, and fintech companies to offer savings accounts, payment services, credit facilities, and other financial products tailored to the needs of cooperative society members. Access to formal financial services will not only deepen financial inclusion but also provide opportunities for members to save, invest, and access credit more efficiently.

Furthermore, cooperative societies should focus on enhancing their investment capacities through training, technical assistance, and knowledge sharing. Building the capacity of cooperative society members and management in investment analysis, project evaluation, and risk management will enable them to make informed investment decisions. This will lead to more effective and impactful investments, contributing to financial deepening in Nigeria.

This study was limited to data extracted from the annual reports of all cooperative societies registered with the Federal Directorate of Cooperatives in Nigeria.

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