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Dynamic Impact of Stokvel Savings and Banking Sector Size in South Africa: an ARDL Approach

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Abstract

Purpose - The study examined the impact stokvel savings and banking sector size using ARDL bound test approach to cointegration.

Method - Using quarterly time series secondary data ranging from 2009Q4 to 2020Q2. Data were subjected to unit root analysis to ensure that they were integrated of order zero (I(0)) before regressing the variables in the specified models.

Result - The F-statistic value for the linear ARDL and the asymmetric ARDL, bounds test result shows evidence of cointegration among dependent variables because the computed asymmetric ARDL F-statistic values exceed the tabulated value of the upper bound at the 5% level of significance. Therefore, there is no cointegration between the dependent and the independent variables. Therefore, the study failed to reject the null hypothesis of no cointegration amongst the variables in the lower bound. The negative coefficient of the ECT(-1) shows that the relationship between stock savings and banking sector size are cointegrated. It is evident that there is an inconclusive debate on the drivers of banking sector's size.

Implication - This study contributes to this debate by introducing variable, *stokvel savings*. A similar study can be conducted with inclusion of all banks that make up the banking sector and their impact on South Africa's economic growth.

Originality - The objective of the study examined the impact of stokvel savings and banking sector size using ARDL bound test approach to cointegration.

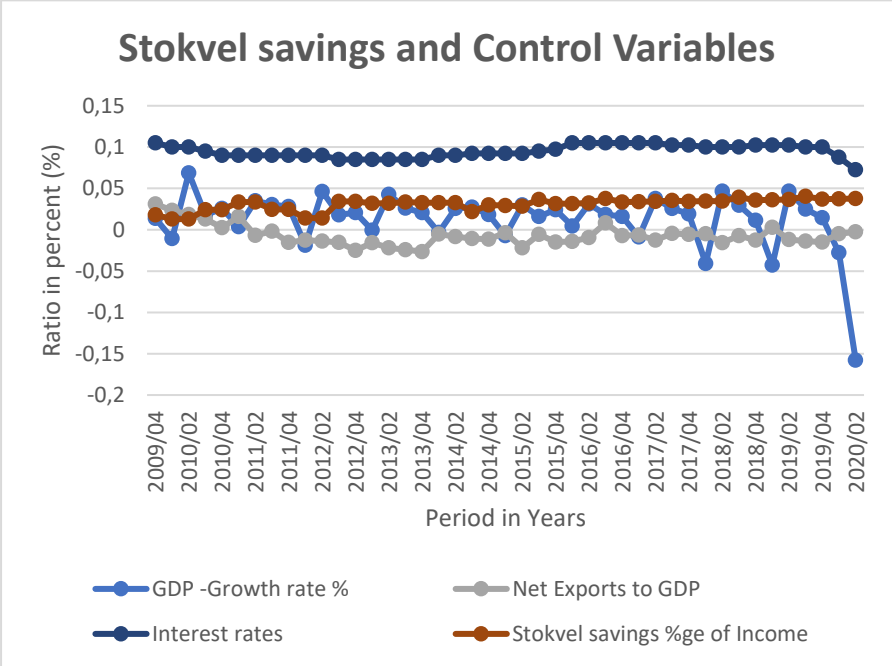
Keywords: Stokvel savings, Banking sector size, Gross domestic product, Money supply, ARDL, South Africa

Introduction

In South Africa, the term '*stokvel savings*' denotes informal household finance clubs. While, worldwide, stokvel savings are commonly known as rotating savings and credit associations (ROSCAs) (Bophela and Khumalo, 2019, Mashigo and Schoeman, 2012, Verhoef, 2001). With the ever-deteriorating economic situation, poverty and unemployment in South Africa are significant reasons for households to participate in stokvel savings (Chineka and Mtetwa, 2021). According to Sambo (2019), unemployment is the number one leader in poverty and inequality in the country. According to Stas SA (2025), unemployment remains one of the major contributors of poverty an inequality in South Africa. In the first quarter of 2025, unemployment rate is recorded at 32,9%. In the fourth quarter of 2025 the unemployment rate declined to 31,4%.

Despite playing second fiddle to formal banking institutions, *stokvels* are community-based savings schemes aimed at improving the lives of low- and middle-income earners (Van Wyk, 2017). Members prefer saving with *stokvels* because of the transparency of transactions and the control it brings to their money (Bophela and Khumalo, 2019; Storchi, 2018). Money in this pool is then paid in full or partially to every member participating in the *stokvel savings*, either on a rotational basis or in times of financial need (Verhoef, 2008; Kaseke and Matuku, 2014; Nyandoro, 2018). Low- and middle-income households often use precautionary savings for *stokvel savings*, which are meant to safeguard against any possible future unexpected income shocks, often referred to as "rainy days" or "emergency savings" (Simleit, Keeton and Botha, 2011). *Stokvel savings* provide an alternative for low- and middle-income households which cannot meet the requirements of the banking sector (Nyandoro, 2018; Mboweni, 1990). This view is supported by Oji (2015), who observed that African countries have a proportion of financially excluded people, which reflects a lack of access to financial resources.

Figure 1. Trend analysis of GDP growth rate, net exports to GDP, stokvel savings as a percentage of income, the ratio of liquid liabilities to GDP and interest rates



This research is different from prior similar empirical studies because using the multiple regression model, it attempts to show the linear relationship of banking sector size affected by *stokvel savings* in South Africa. Another advantage of the multiple regression model is that its results are more likely to be accurate because of its completeness. This is because it includes all the important variables in a single study, for example, the dependent variable banking sector liquidity (BSS), independent variable *stokvel savings* (*STOKVSAV*) and the control variables gross domestic product growth (GDPG) and money supply (M3).

The objective of the study examined the impact of stokvel savings and banking sector size using ARDL bound test approach to cointegration. Thus,

the paper sought to determine whether the structural break can ameliorate the findings and confirm the long-run association between dependent and independent variables. The research method used for this study involves constructing the Autoregressive Distributive Lag (ARDL) model to define the relations and the impact of the banking sector size quantitative parameters on the level of inclusive stokvel savings. The methodology considers the quantitative aspects of banking sector size. Factors that influence banking sector size include stokvel savings, gross domestic product growth (GDPG) and money supply (M3).

The remainder of the paper is organized as follows. A selected review of the theoretical and empirical literature, the methodology used, the empirical results, the summary, conclusions, limitations and the policy implications of the study are presented sequentially.

Literature Review

Apart from conducting common banking functions, banks play a paramount role in the economic development of South Africa, a country characterised by low-income households. South Africa is home to various types of banking institutions. These include locally controlled banks, mutual banks, co-operative banks, international banks and foreign banks. Banks in South Africa hold a total of around R6 trillion in deposits. Yet, despite its size, low-income households deeply mistrust the banking sector, which is rooted in fears of exploitation (Duvendack and Mader, 2019). Low-income households are regarded as unbanked by the banking sector; however, they save small cash amounts with *stokvel savings*, which are lent or paid back directly to the households (Mashigo and Schoeman, 2010). However, Dettling and Hsu (2017) noted that low-income households who cannot borrow from financial institutions can often still access credit through higher-cost alternative stokvel credit products (Dettling and Hsu, 2017). Moreover, Mashigo and Kabir (2016) and Matuku and Kaseke (2014) noted that banks fail to provide finance to low-income households in South Africa. Furthermore, Porteous (2003) observed that banks in South Africa only provide services to salaried workers, where an

employer will require proof of payslips to open a bank account. Stokvel savings are community-based savings schemes aimed at improving the lives of low-income earners (Van Wyk, 2017; Floro and Seguino, 2002). Stokvel savings members prefer saving with stokvel savings because of the transparency of transactions and the control it brings to their money (Bophela and Khumalo, 2019; Storchi, 2018). Money in this pool is then paid in full or partially to every member participating in the stokvel savings, either on a rotational basis or in times of financial need (Verhoef, 2008; Matuku and Kaseke, 2014; Nyandoro, 2018). Low-income households often use precautionary savings for stokvel savings, which are meant to safeguard against any possible future unexpected income shocks, often referred to as "rainy days" or "emergency savings" (Simleit, Keeton and Botha, 2011; Floro and Seguino, 2002). Stokvel savings provide an alternative for low-income households which cannot meet the requirements of the banking sector (Nyandoro, 2018; Mboweni, 1990). This view is supported by Oji (2015), who observed that African countries have a proportion of financially excluded people, which reflects a lack of access to financial resources.

Landman and Mthombeni (2021), Hossein (2017), and African Response Research (2012) showed that stokvel savings members pool their savings together and are effective vehicles for encouraging saving among low-income households. Similarly, Maseng (2022), Matuku and Kaseke (2014), and Gugerty (2007) argued that stokvel savings contribute to social cohesion when people frequently assist each other financially within their communities. Moreover, Oranu, Onah and Nkhonjera (2020) and Naong (2009) asserts that stokvel savings foster a savings culture in South Africa. Furthermore, Matuku and Kaseke (2014), Anderson, Baland and Moene (2009) sought to determine if stokvel savings improve the lives of stokvel savings members and showed that stokvel savings enable stokvel savings members to meet their basic needs by participating in stokvel savings. Finally, money-saving was observed to be the main economic factor contributing to the formation and growth of stokvel savings in South Africa (Landman and Mthombeni, 2021; Bophela and Khumalo, 2019).

Despite low saving rates in the banking sector, stokvel savings have significantly participated in informal saving schemes which have now been legalised (Mishi, 2012, Irving, 2005). Stokvel *savings* provide opportunities to low-income households to save, invest and accumulate assets (Landman and Mthombi, 2021; Matuku and Kaseke, 2014). However, Aidoo-Mensah (2018), Kumarasinghe and Munasinghe (2016) noted that savings could be considered one of the crucial tools households utilise to accomplish their financial expectations in order to improve their financial well-being.

Methods

This study used quarterly time series secondary data ranging from 2009Q4 to 2020Q2 collected from the South African Reserve Bank (SARB) and Old Mutual South Africa. The main variables of this study include the proxies for banking sector development and stokvel savings. The measure of banking sector development used in this study is banking sector size. The measures of stokvel savings used in this study is a percentage of income. The data on all these variables were taken from the South African Reserve Bank (SARB, 2020) and Old Mutual South Africa (2020).

Definition of variables

The main variables of this study include the proxies for banking sector development and stokvel savings. The measures of banking sector development used in this study is banking sector size (BSS). The measures of stokvel savings used in this study is stokvel savings deposits as a ratio of GDP. The proxies are presented with the view to selecting not only the best measure, but also the ones where data is available.

Banking sector size (BSS)

The size of the banking sector, herein referred to as banking sector size, is measured by the ratio of total banking assets to deposit money plus central

banking assets. The higher the total banking assets, the bigger the banking sector (Montfaucon, 2015; Chitokwindo, Mago and Hofisi, 2014). If the banking sector is big, this provides more scope for financial inclusion. For instance, members of stokvel savings formally get involved in banking activities, thus, contributing to economic development. The advantage of the measure of total banking assets (to deposit money plus central banking assets on banking sector size in the economy is that; when many households are financially included to participate in the banking sector, this will result in higher stokvel savings (Nandru, Anand and Rentala, 2015). Therefore, total banking assets being more correlated with economic growth than stokvel savings may indicate the importance of the link between banking sector development and, thus, economic growth.

Stokvel savings deposits as a ratio of GDP

Makori, Matundura, and Mose (2022); Jagadeesh (2015); Prinsloo (2000) defined stokvel savings deposit (% of GDP) as the most suitable proxy of stokvel savings in the context of South Africa, that helps in maintaining high growth rates through its effect on the capital formation and investment from stokvels savings. However, Naumovska, Jovanovski and Gockov (2015) argued that the stokvel savings deposit (% of GDP) is the best indicator of savings mobilisation ability and size in the economy. Moreover, Remble, Marshall and Keeney (2014); Prinsloo (2000) described stokvel savings deposit (% of GDP) as a portion of current income that is put aside and not consumed, after direct taxes and other expenses have been paid off. Furthermore, Tsaurai (2018) in their studies noted stokvel savings deposit (% of GDP) minus final consumption expenditure. Stokvel savings members have benefited from stokvels savings but mainly extended their loans to households. Such differences, however, are working in favour of identifying causality between banking sector development and growth.

Table 1. Variables and proxies

Variable	Proxy	Data source
Dependent variables: Banking sector development proxies		
Banking Sector Size (BSS)	The ratio of total bank assets to deposit money plus central bank assets	Isla and Jahan (2018); Subbiramani, Ranjith and Balagurusamy (2018)
Independent variable: Stokvel savings proxy		
Stokvel savings (STOKVSAV)	Stokvel savings deposits as a ratio of GDP	Chandio, Wei and Yuansheng (2015); Kafayat (2013)
Control variables		
Gross Domestic Product Growth (GDPG)	Savings/Gross income	Ribaj and Mexhuani (2021); Mogale, Mashamaite and Khoza (2018); Zwane, Greyling and Maleka (2016); Jagadeesh (2015)
Money Supply (M3)	M3 = M1 + TD (Broad Money); TD – Time Deposits with banks includes fixed deposits, recurring deposits, and time liability of savings accounts	Tenenbaum (2021); Omodero (2019); Mierau and Mink (2018)

The literature extensively demonstrated, from both empirical and theoretical angles, that *stokvel savings* play a significant role in the development of the banking sector size (BSS). Equation 1 below is illustrative.

$$BSS = f(STOKVSAV, GDPG, M3) \quad [1]$$

The following general econometric model represents the impact of STOKVSAV on BSS in South Africa (see equation 2).

$$\Delta BSS_t = \beta_0 + \beta_1 \Delta LnSTOKVAV_t + \sum_{j=1}^{n} X_{jt} + u_t \quad [2]$$

Where: STOKVSAV *= stokvel,* X_{jt} *is the vector of control variables*

If $\beta_1 \neq 0$ and have significance, meaning there exists a break-point and the impact of STOKVSAV on BSS is the difference between the two periods. The minimum stokvel savings is β_0 in the period before the break-point is $(\beta_0 + \beta_1)$ in the period after the break-point. If $\beta 3>0$ and have significance, this implies the impact of stokvel osavingsn banking sector development in the period after the break-point is bigger than the effect in the period before the break-point.

Autoregressive Distributed Lag (ARDL) approach

Following Pesaran, Shin and Smith (2001) long- and short-run estimations econometric approaches postulated by Engle and Granger (1987), Johansen and Juselius (1990), and Johansen (1996), study used the following ARDL framework in equation 3:

$$\Delta LnBSS_t = \alpha_0 + \beta_1 InBSS_{t-1} + \beta_2 STOKVSAV_{t-1} + \beta_3 GDPG_{t-1} + \beta_4 M3_{t-1} + \sum_{k=0}^{m1} \alpha_{1k} \Delta InBSS_{t-k} + \sum_{k=0}^{m2} \alpha_{2k} \Delta STOKSAV_{t-k} + \sum_{k=0}^{m3} \alpha_{3k} \Delta GDPG_{t-k} + \sum_{k=0}^{m4} \alpha_{4k} \Delta M3_{t-k} + \omega_t \quad [3]$$

where:

Δ = first difference

B1, β2, β3 and β4 =coefficients of the long-run impacts

α1, **α**2, **α**3 and **α**4 =coefficients of the short-run impacts

ω= error

Error correction method

After confirming that there exists cointegration among the variables in the long-run, the short-run relationship between stokvel savings and banking sector liquidity was estimated in equation 4 and 5 using the ECM as follows:

$$\Delta LnBSS_t = \alpha_0 + \lambda_1 ECM_{t-1} + \sum_{k=0}^{m1} \alpha_{1k} \Delta BSS_{t-k} + \sum_{k=0}^{m2} \alpha_{2k} \Delta STOKSAV_{t-k} + \sum_{k=0}^{m3} \alpha_{3k} \Delta GDPG_{t-k} + \sum_{k=0}^{m4} \alpha_{4k} \Delta M3_{t-k} + \omega_t \quad [4]$$

where: m1, m2, m3 and m4 = optimal lag length of the variables calculated by the ARDL model to choose the lag order using measures such as LR, final prediction error (FPE), Akaike Information Criterion (AIC), Schwarz Bayesian Criterion (SBC) and Hannan-Quinn information criterion (HCQ).

$$\Delta LnBSS_t = \alpha_0 + \beta_1 InBSS_{t-1} + \beta_2 STOKSAV_{t-1} + \beta_3 GDPG_{t-1} + \beta_4 M3_{t-1} + \sum_{k=0}^{m1} \alpha_{1k} \Delta InBSS_{t-k} + \sum_{k=0}^{m2} \alpha_{2k} \Delta STOKSAV_{t-k} + \sum_{k=0}^{m3} \alpha_{3k} \Delta GDPG_{t-k} + \sum_{k=0}^{m4} \alpha_{4k} \Delta M3_{t-k} + \omega_t \quad [5]$$

Results and Discussion

Unit Root

The study applies Augmented Dickey-Fuller (ADF) unit root test to examine stationarity properties of variables prior estimating the Autoregressive Distributed Lag (ARDL) model.

The results of unit root tests in levels and at intercept are presented in Table 2. The variable tests were employed for this study to see whether the data was stationary. The test is more robust to heterogeneity and unit roots when under a non-standard distribution. The variables were found to be I(0) and I(1), thus confirming that variables that are I(2) were not present. The presence of I(2) variables in the model would result in spurious F-statistics since the F-statistics computed by Pesaran, Shin and Smith (2001) and Nayaran (2005) have their root in the presumption that the variables are I(0) or I(1). The results of the study suggest that the variables are mutually integrated in the order of either zero or one, or both, which supports the conditions for the use of the ADF unit root test.

Table 2. Unit Root Estimation

Variable	Trend	Intercept	Trend and Intercept	Diagnosis
Stationary tests of variables using Augmented Dickey-Fuller (ADF) test: Trend Specification: Intercept only				
BSS	-	-5.435252***	-	I(0)
STOKVSAV	-	-4.600730***	-	I(0)
GDPG	-	-6.394021***	-	I(0)
M3	-	-7.126778***	-	I(1)
Stationary tests of variables using Augmented Dickey-Fuller (ADF) test: Trend Specification: Trend and Intercept				
BSS	-6.025610***	-6.924560***	-6.733788***	I(0)
STOKVSAV	-7.763481***	-6.578931***	-5.978431***	I(0)
GDPG	-17.42696***	-6.441841***	-8.182452***	I(0)
M3	-4.210961**	-5.328696***	-4.307545**	I(0)

Source: Author's own compilation from E-Views

*Notes: ***; **; * indicates that we reject the null hypothesis of unit root tests at 1%, 5% and 10%, respectively*

Optimal lag lengths

Table 3 shows the results of lag length, where lag length 1 is suggested by the criteria LR, FPE, AIC, SC and HQ. To select the optimal lag order, it is important to select high enough lags to ensure that the optimal order is not exceeded. Thus, the optimal lag length of 1 was chosen. It is worth noting that the choice of lag length can drastically affect the results of the cointegration analysis (Brooks, 2008).

Table 3. Lag lengths

Lag length selection – BSS STKSAV GDPG M3						
Lag	LogL	LR	FPE	AIC	SC	HQ
0	15.459.991	NA	0.000237	3.005.123	3.175.745	3.066.341
1	**-1.247.160**	**7.345.447**	**6.25e-05***	**1.665210***	**2.518319***	**1.971298***
2	0.915753	2.059.593	7.35e-05	1.799.192	3.334.788	2.350.151
3	1.616.361	2.033.048	8.21e-05	1.837.763	4.055.846	2.633.592
4	3.360.225	1.967.436	8.81e-05	1.763.987	4.664.556	2.804.686

Source: *Author's own compilation*

Notes: This study uses the commonly used lag order selection criteria to choose the lag order, such as LR, final prediction error (FPE), Akaike Information Criterion (AIC), Schwarz Bayesian Criterion (SBC), and Hannan-Quinn information criterion (HQC).

Bound Test

The results of the Bound testing approach presented in Table 4 show that the value of the F-statistic for all three models is greater than the upper-bound critical values suggesting that the null hypothesis can be rejected. The F-statistics were all significant at the 1% level. Thus, it can be concluded that

there is a long-run relationship between *STOKSAV* and BSS. These results align with the findings of Khan (2005) and Khan and Qayyum (2006). Additionally, a long-run relationship exists between GDPG, M3 and BSS.

Table 4. Bound Test Estimation

Dependent variable	Function	F-test statistic	Upper- and lower- bound
BSS	STKOVSAV GDPG M3	13.66468***	4.45– 6.36
STOKVSAV	GDPG M3 BSS	6.873440***	4.45-5.62
GDPG	STKVSA M3 BSS	6.218284***	3.77-5.61
M3	STKVSA GDPG BSS	5.886491***	3.77-5.61

ARDL long-run form

The ARDL co-integration model is implemented with automatic lag selection using E-views version 11. The optimal number of lags for each variable is shown as ARDL (1,0,2,0). The estimated results are presented in Table 5, where BSS is the dependent variable when regressing against STOKVSAV, GDPG and M3. The model was run with the constant and trend (Appendix 1).

Results show that in the long-run, STOKVSAV was found to have a negative but statistically insignificant impact on BSS, with a coefficient of -2.651514. Furthermore, GDPG exhibited a negative and statistically significant long-run relationship with the size of the BS (β=-100.6432). However, as expected, a positive and statistically significant long-run relationship was established between M3 and BSS (β=0.328186). This implies that a decrease in STOKVSAV and GDPG will decrease BSD, while an increase in MS tends to support development.

The coefficients for BSS 0.013738, GDPG 0.511496 and M3 -0.006743 exhibited a statistically insignificant contribution to STOKVSAV. While the relationship between BSS and GDPG and STOKVSAV was found to be positive,

surprisingly, M3 was found to have a negative relationship with STOKV as variations in the money supply would be expected to influence the levels of holdings of cash and cash equivalents by members of stokvels and by extension of the number of contributions to *stokvel savings*.

Further analysis revealed that the size of the BS in an economy (BSS) has a positive relationship with the GDPG (β=0.001461) and that the relationship is statistically significant ($p<0.01$). This can be explained by the fact that as the size of the BS increases, the production level improves, influenced by access to more financial assets, holding other factors constant. Conversely, both STOKVSAV and M3 were found to have a negative relationship with GDPG. While STOKVSAV's contribution to GDPG was statistically insignificant, that of M3 was significant at 1% confidence level.

The last model examined the long-run relationship using M3 as the dependent variable. BSS, STOKVSAV and GDPG were captured as predictors. As expected, BSS was found to have a positive and statistically significant contribution to M3. As the number of banking institutions increases, the level of money creation and hence M3 increases. Like the BSS, GDPG was found to have a statistically significant relationship with M3, albeit negative. The negative coefficient may be linked to the inflationary impact of money supply GDPG.

Table 5. Estimated Long-run Coefficient Using the ARDL Approach

Long-Run Coefficients Result				
Unrestricted Constant and Unrestricted Trend – BSS				
Variable	**Coefficient**	**St.Error**	**t.Statistic**	**Prob**
STOKVSAV	-2.651.514	3.674.618	-0.721575	0.4756
GDPG	-100.6432*	4.438.660	-2.267.424	0.0300
M3	0.328186	0.223275	1.469.869	0.1511
Unrestricted Constant and Unrestricted Trend – STOKVSAV				
BSS	0.013738	0.009722	1.413.109	0.1705
GDPG	0.511496	1.238.328	0.413054	0.6832
M3	-0.006743	0.013594	-0.496006	0.6244

Unrestricted Constant and No Trend GDPG				
BSS	0.001461***	0.000470	3.107.636	0.0044
STOKVSAV	-0.007910	0.007807	-1.013.254	0.3199
M3	-0.002573***	0.000874	-2.843.640	0.0066
Unrestricted Constant and Unrestricted Trend M3				
BSS	0.294254**	0.133779	2.199.556	0.0366
STOKVSAV	-0.742504	2.583.460	-0.287407	0.7760
GDPG	-232.4396**	8.821.141	-2.635.028	0.0138

Source: Author's own compilations

The error correction model

Table 6 presents the coefficient of the error correction term [ECT (-1)] for BSS was found to be negative and statistically significant (-0.935246; p<0,05). This shows the speed of adjustment between the short- and the long-run equilibrium. Therefore, the system automatically corrects 93.5% of the disequilibrium in the following year. Similar results are observed when the model is run with *STOKVSAV* as the dependent variable ECT (β=-0.81370), which was found to be negative and statistically significant at the 1% confidence level. The result implies that any variations from equilibrium will be corrected by approximately 19% in the year ahead.

Moreover, the coefficient for the ECT (β=-0.282759), when GDPG is the dependent variable, was found to be negative and statistically insignificant. Furthermore, when the BSS is run with M3 as the dependent variable, the coefficient for the ECT (β=-0.666170) was found to be negative and statistically significant with a speed of adjustment to the equilibrium of 67%. Thus, it can be concluded that in the short-run, *STOKVSAV* and BSD, measured by the BSS, are cointegrated.

Table 6. Estimated Short-run Coefficients Using the ARDL Approach

Dependent Variable	ECM(-1) Coefficient	T-Statistic	Prob
	BSS		
D(BSS)	-0.935246	-3.010.265	0.0048
D(STOKVSAV)	-0.81370	2.272.293	0.0070
D(GDPG)	-0.282759	-0.964761	0.0341
D(M3)	0.666170	-2.599.535	0.0027

Source: Author's own compilations

Conclusion

The study examined stokvel savings and banking sector size using ARDL bound test approach to cointegration. The unit root analysis mutually integrated in the order of either zero or one, or both, which supports the conditions for the use of the ADF of the study. After determining the lag length of 1, the bounds F-test was used to establish the presence of a long-run relationship among the variables under examination. The F-statistic value for bounds test result shows evidence of cointegration among dependent variables because the computed asymmetric ARDL F-statistic values exceed the tabulated value of the upper bound at the 5% level of significance. Therefore, there is no cointegration between the dependent and the independent variables. Therefore, the study failed to reject the null hypothesis of no cointegration amongst the variables in the lower bound. The study can thus infer that the structural break can ameliorate the findings and confirm the long-run association between dependent and independent variables.

Limitations And Future Scope

Choosing the best measure of banking sector development. It was not an easy task as there are many relevant ones whose choice for inclusion in the study required an in-depth evaluation. A similar study can be conducted with

the inclusion of all banks that make up the banking sector and their impact on South Africa's economic growth.

Acknowledgments

This research paper is a product of my unpublished Doctor of Philosophy's degree 2023 thesis entitled: "The role of *stokvel savings* in banking sector development in South Africa". This thesis may be found in the UNISA repository but is unpublished material.

Appendices

Appendix 1: The short-run dynamics using a long-level ARDL error correction

Short-run coefficient								
	Dependent Variable: D(BSS)				Dependent Variable: D(STOKVSAV)			
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
D(BSS(-1))	0.263189	0.290549	0.905834	0.3712	0.002732	0.007304	0.374028	0.7106
D(M3(-1))	0.338615	0.216029	1.567.448	0.1260	0.002578	0.010394	0.248000	0.8056
D(STOKVSAV(-1))	-6.921.039	3.085.765	-2.242.892	0.0313	0.010775	0.245580	0.043874	0.9653
D(GDPG(-1))	-1.284.891	9.629.695	-1.334.301	0.1907	2.047.816	0.496354	4.125.713	0.0002
ECME(-1)	0.935246	0.310686	-3.010.265	0.0048	-0.81370	0.398831	2.272.293	0.0070
R-squared				0.398857				0.392873
Adjusted R-squared				0.330155				0.323487
	Dependent Variable: D(GDPG)				**Dependent Variable: D(M3)**			
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
D(BSE(-1))	0.009788	0.002543	3.849.684	0.0005	-0.058855	0.129571	-0.454227	0.6525
D(M3(-1))	-0.006493	0.003530	-1.839.458	0.0743	0.609447	1.098.780	0.554658	0.5827

D(STOKVSAV(-1))	0.002345	0.052063	0.045045	0.9643	-1.418.328	2.528.154	-0.561014	0.5784
D(GDPG(-1))	-0.223552	0.247306	-0.903948	0.3722	-5.742.994	7.855.165	-0.731111	0.4696
ECME (-1)	-0.282759	0.293087	-0.964761	0.3413	0.666170	0.311146	-2.599.535	0.0027
R-squared				0.409696				0.013467
Adjusted R-squared				0.342232				-0.099279

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