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Financial Liberalisation and Gross Domestic Savings in Southern African Development Community (SADC) Countries

Dorcas Gonese[1*], Kin Sibanda[2], Rufaro Garidzirai[3], Joseph Olorunfemi Akande[4]

[1] *Department of Business Management and Economics, Walter Sisulu University, Mthatha, South Africa*
[2] *Department of Economics and Economic History, Rhodes University, Makhanda, South Africa*
[3]*Department of Business Management and Economics, Walter Sisulu University, Mthatha, South Africa*
[4] *Department of Accounting Science, Walter Sisulu University, Mthatha, South Africa*
*Corresponding author: dorcasgonese@gmail.com

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A B S T R A C T

Objective –This study examines the impact of financial liberalisation on domestic savings in the Southern African Development Community (SADC) countries. Despite reports suggesting unfavourable outcomes in many countries, it addresses the lack of documented evidence regarding the impact of financial liberalisation on savings.
Design/Methodology –The study analyses data from 16 SADC countries from 1980 to 2019, utilising the panel Autoregressive Distributed Lag (ARDL) approach. The hypothesis tested is that financial liberalisation, as one of the structural reforms, has contributed significantly to the growth of savings rates.
Results –The findings show that financial liberalisation measures, particularly those related to interest rates and financial depth, substantially positively impact domestic savings in SADC.
Research limitations/implications –The study only focused on SADC countries. The study concludes that financial liberalisation is crucial for promoting domestic savings. The governments and policymakers in SADC countries are advised to consider implementing interest rate changes and enhancing financial efficiency monitoring to foster long-term improvements in domestic savings.
Novelty/Originality –The paper provides an original perspective as it incorporates the financial development and the degree to which external financing affects savings in the SADC region. Again, leveraging the most recent data can capture current trends and the effects of recent financial policies on SADC domestic savings. The study employs cutting-edge econometric methods, such as the panel ARDL estimation methods, which enable both short- and long-term analysis and offer new insights that traditional models might overlook.

Keywords: Financial liberalisation, domestic savings, SADC countries, interest rates, financial depth, panel ARDL

1. Introduction

Financial liberalisation is a widely advocated policy measure aimed at eliminating market distortions and fragmentation, with the expectation of improving savings rates and facilitating efficient fund allocation to support economic growth (Levine, 1997; Arestis, Chortareas & Magkonis, 2014; Ahmad & Premaratna, 2019; Ülgen & Inan, 2022). Nonetheless, the impact of financial liberalisation on domestic savings in the Southern African Development Community (SADC) countries has been infrequently studied (Cele & Kapingura, 2018; Mbuyi & Mulumba, 2022). This knowledge gap highlights the need to investigate the effectiveness of financial liberalisation on savings rates in the SADC region, thereby contributing to the existing literature and providing valuable insights for policymakers and governments.

The importance of savings from households and private and public sectors in SADC cannot be overemphasised. Noteworthy is that high savings rates promote investments, economic growth, income per capita, and jobs (Dayıoğlu & Aydın, 2020; Ribaj & Mexhuani, 2021). Again, an economy with a high marginal propensity to save has a high chance of access to health and education, which improves skills and human capital development (Tshabalala, 2019). This increases income and earnings, leading to poverty reduction. Qiao et al. (2023) emphasise that saving provides the resources for investing in tangible assets. Given the current topography of promoting financial integration, savings have become a priority to improve the financial sector.

The discussion on whether to prioritise higher savings rates within policy frameworks continues to occupy the academic space. This interest is further pursued by Qiao et al. (2023), who argue that savings are vital for physical capital investment and a cornerstone of economic development. The academic and policy-making communities have long engaged with aggregate savings dynamics (Simelane & Odhiambo, 2018; Ahmad & Premaratna, 2019; Musakwa Odhiambo, 2019). Should higher savings be considered a policy priority? If the answer to this question is positive, what are the main determinants of saving? And what role could policies play in boosting savings in developing economies such as SADC countries? Indeed, Quartey (2008), George and Mohamed (2014) and Enowbi, Kupukile, and Simplice (2017) argued that the liberalisation of the financial sector had been one of the main agendas that many countries set for the development of their financial system to achieve higher savings. Moreover, Qiao et al. (2023) argue that a vital financial sector is at the heart of every robust economy.

There is an ongoing relationship between financial liberalisation and domestic savings in more advanced and emerging countries. Prior to the 1970s, the Keynesian perspective was that low interest rates encouraged investment, which was the primary catalyst for financial deregulation in most countries. (McKinnon, 1973; Shaw, 1973; George & Mohamed, 2014). The scholars above challenged the Keynesian stance, citing the financial tyranny that reduces economic growth by suppressing it. It is worth noting that the move from the Keynesian perspective was a form of financial sector reform, particularly in less developed countries, to achieve liberalisation and stabilisation of the SADC.

Financial liberalisation consists of deregulation across many sectors, calling for central bank independence, flexibility of interest rates, and subsidised lending. The foreign sector capital account and the domestic financial and stock market sectors are viewed separately from the domestic financial sector. Akorede (2023) put forward that an efficient, robust financial system promotes savings. This minimises the financial risk and costs, which foster economic diversification.

Previous research on the impact of financial liberalisation on savings has often yielded mixed results, with some pointing to positive benefits (Aizenman, Cheung & Ito, 2017; Moyo and Le Roux, 2019) and others to neutral (Onwumere, Okore & Ibe, 2012; Asiedu et al., 2022) or negative (Ogwumike & Ofoegbu, 2012; Kapingura & Alagidede, 2016) ones. This paper acknowledges the works on the savings effects of financial liberalisation. However, the inconsistency of results in the past research presents an opportunity to explore the conditions under which liberalisation promotes savings. Thus, it is essential to look into this nexus continuously to check if financial liberalisation is significant in savings variations in SADC countries.

Long-term analysis that monitors the effects of financial liberalisation on savings over extended time horizons is necessary to account for delayed or indirect effects. More research is needed to link specific policy changes in financial liberalisation to changes in savings behaviour, providing more transparent policy recommendations for SADC governments. The present study contributes to the existing literature by addressing these knowledge gaps and highlighting the SADC region's unique aspects.

Again, leveraging recent data, employing innovative methodologies, and considering other economic variables, such as institutional quality, can yield new insights into the financial liberalisation-gross domestic savings nexus in SADC countries.

Given this background, the study examines the short- and long-term relationships between financial liberalisation and gross domestic savings in SADC countries. This study thus utilised a panel Autoregressive Distributed Lag (ARDL) estimation method to analyse data from 1980 to 2019 across 16 member countries. The research aims to determine if and how financial liberalisation — through mechanisms such as interest rates and financial depth — econometrically influences domestic savings rates. By filling this research void, the study aims to augment the comprehension of financial liberalisation's impact on savings, specifically within the SADC context, and to furnish policymakers and governmental bodies with actionable insights to inform financial reforms and savings-promotion strategies within the region.

2. Literature Review, Theoretical Framework

2.1. Literature Review

This section discusses the theories linked to financial liberalisation and savings, as well as the empirical studies related to financial liberalisation and savings.

2.2. Theoretical Literature

Financial liberalisation theories suggest that removing government restrictions and regulations in financial markets and institutions can increase savings rates. According to the financial repression theory, popularised by McKinnon (1973) and Shaw (1973). Liberalising financial markets and allowing interest rates to reflect market conditions can incentivise households to save more as they gain higher returns on their savings. The portfolio diversification theory also posits that financial liberalisation provides individuals with a wider range of investment options, reducing their dependence on low-yielding assets like cash and encouraging them to save and invest in more productive avenues (Prasad, Rajan & Subramanian, 2007). Keynesian and neo-classical theories present contrasting perspectives on the relationship between financial liberalisation and savings. According to Keynesian theory, rising interest rates resulting from financial liberalisation would discourage savings as individuals prefer to consume in the present rather than save for the future (Keynes, 1937).

On the other hand, neo-classical theory suggests that by allowing for market-based interest rates, financial liberalisation would provide individuals with higher returns on their savings, thus incentivising them to save more (Friedman, 1957). These theories offer essential frameworks for understanding the potential impact of financial liberalisation on savings behaviour. However, it is crucial to note that the effectiveness of financial liberalisation on gross domestic savings may vary across countries and regions.

2.3. Empirical Literature

The empirical research shows that there is currently no clear understanding of the mechanisms underpinning how transitioning from financial repression to a liberalised economy affects savings in diverse segments of the population, particularly those with low incomes.

Odhiambo (2006) utilises the vector autoregressions and cointegration estimation technique to assess the effect of financial liberalisation on the interest rate and financial depth of savings in South Africa from 1968 to 2000. Ogwumike and Ofoegbu (2012) employ the Autoregressive Distributed lag (ARDL) estimation method to assess the impact of financial liberalisation in Nigeria between 1970 and 2009. Their empirical findings indicate that financial liberalisation did not bring about a positive real interest rate to encourage savings. Yet, the financial depth positively affects savings in the short and long run. Both Ogwumike and Ofoegbu (2012) and Odhiambo (2006) are in consensus that domestic savings is interest rate inelastic in Nigeria and South Africa.

Onwumere, Okore and Ibe (2012) used the simple regression analysis to assess the impact of interest rate liberalisation on savings and investment in Nigeria between 1976 and 1999. The study found that financial liberalisation has an inverse relationship with private savings, although the association was insignificant. At the same time, Anthony (2012) examined the determinants of bank savings using the Distributed Lag-Error Correction Model (DL-ECM) in Nigeria from 1970 to 2006. The study indicates that real interest rates and inflation reduce private domestic savings. Similarly, an Autoregressive Distributed Lag (ARDL) analysis by Ogwumike and Ofoegbu (2012) indicates that financial liberalisation, measured by interest rate, has an adverse effect on savings, while financial development had a substantial positive impact on domestic savings in the long and short run between 1970 and 2009 in Nigeria. This corroborates with Okwuchukwu and Ariwa (2017), who show that interest rates have a negative impact on investment and savings in Nigeria between 1970 and 2014.

Freytag and Voll (2013) examined the influence of institutional quality on domestic savings in developing and emerging countries. The scholars utilised the GMM to estimate this relationship. The findings show that institutional quality positively and significantly influences savings in developing and emerging countries. The same investigation was done in a different setup, focusing on Sub-Saharan Africa (SSA) (Boateng, Agbola & Mahmood, 2019). This study utilised the same methodology Freytag and Voll (2013) used and found that institutional quality has a different impact based on income groupings within the SSA.

The generalised methods of moments (GMM) analysis by Aizenman, Cheung and Ito (2017) indicates that interest rate yields different impacts on private savings across 135 countries between 1995 and 2014. The study suggests that increasing interest rates encourage individuals to save more in developing economies, while a negative effect of interest rates was detected in industrial and emerging economies.

Emara and Kasa (2021) used the GMM to assess the impact of financial access on savings in emerging markets (EMs), covering countries from the Middle East and Africa (EMEA), Asia, Latin America and Europe between 1980 and 2018. Noteworthy is that the financial access variable comprised various measures, such as the number of banks and ATMs. The findings show a statistically significant nonlinear association with a clear threshold level between the growth of domestic savings and improvements in financial access measures. The results resonate with the ARDL findings of Nagawa, Wasswa and Bbaale (2020), who found that financial access in M3 increases the chances of saving more money at both household and national levels in Uganda.

A recent study by Asiedu et al. (2022) used the two-step GMM estimator to assess the impact of financial liberalisation on savings in SSA from 1981 to 2012. The results of SSA reveal that financial liberalisation has no effect on domestic savings in all SSA countries. The results further show that domestic savings in SSA countries follow a trend similar to that of non-SSA countries. A study (Cerda et al., 2020) in Chile found contrary results. The study employed a time series analysis and observed that the reforms implemented in 1984, and the financial depth were the two main variables that increased savings in Chile.

In SADC countries, studies on financial liberalisation and savings provide inconclusive results, probably due to different periods of study and estimation techniques. For example, Kapingura, Ikhide and Tsegaye (2015) used the Dynamic Ordinary Least Squares (DOLS) to examine factors that influence savings in SADC between 1980 and 2009. The study suggests that financial development boosts savings, while interest rate reduces it in SADC countries. In addition, a Johansen cointegration analysis between 1980 and 2012 by Kapingura and Alagidede (2016) shows a converse association between interest rate and savings, indicating a net borrowing pattern among South Africans. Nonetheless, Xaba (2018) indicates that interest rates positively impact savings, yet negatively impact investment between 2007 and 2017 in South Africa.

Again, Moyo and Le Roux (2019) utilised the pooled mean group (PMG) approach to evaluate the interest rate reforms and economic growth in SADC countries through the savings and investment channel between 1990 and 2015. The findings of the study show that interest rate reform positively influences growth through savings and investments. This aligns with the McKinnon, (1973) and Shaw (1973) hypothesis, which advocates that higher deposit rates enhance savings. The inconclusive findings highlight the need for ongoing evaluation of the domestic savings-financial liberalisation nexus to produce updated evidence.

3. Methodology and Data

The methodology of this study is designed to evaluate the impact of financial liberalisation on domestic savings in SADC countries. The current study utilises the panel ARDL approach to cointegration as outlined by Pesaran, Shin and Smith (1997) and Pesaran, Shin and Smith (1999). This section presents the data sources, the model specification, and the estimation technique.

3.1. Data

The paper utilised panel data to assess the effect of financial liberalisation on domestic savings from 1980 to 2019 in 16 SADC countries (see Appendix 6). This study period was chosen since financial liberalisation took place within this period. The data was obtained from credible sources such as the World Bank and Penn World Tables.

3.2. The Savings Model

This study analyses the hypothesis that financial liberalisation increases domestic savings in SADC countries, as McKinnon (1973) and Shaw (1973) proposed. The household savings model for this paper was adapted from McKinnon's (1973) savings model, which is expressed as:

$$\frac{S}{Y} = g\left[y, y.\frac{M}{P}, DR, (i - p^e), \left(\frac{S_f}{Y}\right)\right]$$

Where $\frac{S}{Y}$ is the saving rate, y is the real income, y is its growth rate, M/P is the real money balances, DR is the dependence ratio, $i - p^e$ is the rate of interest, and Sf/Y is the foreign saving rate. However, the specification here differs slightly from McKinnon 's (1973) savings function. The model for the study takes the form:

$$LGSV_{it} = \beta_0 + \theta LGSV_{it-1}\beta_1 FL_{it} + \beta_2 Z_{it} + \delta_i + \vartheta_t + \varepsilon_{it}$$

Where $LGSV_{it}$, the dependent variable is computed as a residual of the gross investment less foreign savings. $\theta LGSV_{it-1}$ is the one-period lagged savings variable for country i at time t. By incorporating the lagged variable, the paper addresses potential endogeneity and reverse causality biases (Asteriou & Hall, 2016). FL_{it} is financial liberalisation, which is the main independent variable. According to Arestis and Caner (2004), financial liberalisation is multidimensional. Thus, this paper is proxied by real interest rate (irte), which measures the nominal interest rate on savings deposits deflated by the prevailing inflation rate. The *irte* is computed as a residual of the nominal deposit rate less expected inflation. The other measure of financial liberalisation in this current study is the financial depth (fd), which is the ratio of domestic credit to the private sector relative to GDP, which depicts the degree of financial intermediation in an economy (Akinsola & Odhiambo, 2017). Z_{it} denotes other explanatory variables, which include real economic growth (rgdp). The inclusion of real GDP in the savings function is based on the life-cycle hypothesis and other inter-temporal models, which predict a positive relationship between savings and the growth rate of real income (Odhiambo, 2006). The export variable (exp) is measured by the share of exports in the gross domestic product, external debt (exdt), and inflation rate (infl), which is generated from the actual inflation rate and institutional quality (ps). β_0 is the constant, and β_1 and β_2 are the coefficients of the predictor variables. δ_i represents the time-varying country fixed effects. ϑ_t is year effect. ε_{it} is the error term.

3.3. Estimation Technique

The study employs the panel ARDL estimation technique to assess the impact of financial liberalisation on domestic savings in SADC countries. The estimation technique has been chosen because of its numerous advantages for panel data with a greater time dimension and fewer cross-sectionals (Asteriou & Hall, 2016). The ARDL accommodates variables with different orders of integration, including I(0) and I(1) (Pesaran & Smith, 1995; Pesaran et al., 1997; Tukhtamurodov et al., 2024). It also takes sufficient lags to capture the data-generating process from a general to a specific modelling framework (Pesaran et al., 1999; Nyeadi, 2023). The estimation technique yields superior long-run coefficient estimates, and the estimated equation diagnostic tests are more reliable (Pesaran & Smith, 1995; Lee & Wang, 2015). More so, the panel ARDL methodology derives a dynamic error correction model (ECM) through a simple linear transformation (Blackburne & Frank, 2007).

The panel ARDL estimation techniques consist of three estimation methods alternatively: the mean group (MG), dynamic fixed effect (DFE), and the pooled mean group (PMG) (Pesaran & Shin, 1995; Pesaran et al.,1999; Anjum & Perviz, 2016; Nyeadi, 2023). However, the PMG is the most preferred estimator for the current paper as it uniquely combines consistency with the ability to accommodate homogenous long-run relationships across countries (Pesaran et al., 1997; Bassanini & Scarpetta, 2001; Rafindadi & Yosuf, 2013; Tukhtamurodov et al. 2024).

Another advantage of PMG over DFE and MG is that it controls for endogeneity (Pesaran et al., 1999; Rafindadi & Yosuf, 2013; Anjum & Perviz, 2016). The current research addresses endogeneity concerns by supplementing the PMG estimator with lags of regressors and dependent variables to minimise the resultant bias and ensure that the regression residuals are serially uncorrelated (Tukhtamurodov et al., 2024). The PMG is applicable only when the long-run homogeneity restriction is not rejected (Asteriou & Hall, 2016; Ramos-Herrera & Prats, 2020). Therefore, the study employs the Hausman (1978) test to identify the optimal estimation method among DFE, MG and PMG.

Since the study uses the panel ARDL estimation technique, the gross domestic savings model is specified as follows:

$$\Delta LGSV_{it} = \theta\left[LGSV_{i,t-1} - \gamma_i X_{it}\right] + \sum\nolimits_{j=1}^{p-1} \zeta_{ij}\, \Delta LGSV_{i,t-j} + \sum\nolimits_{j=0}^{q-1} \beta_{ij}\, \Delta X_{i,t-1} + \delta_i + \varepsilon_{it}$$

Where:

$lGSV_{it}$ is the dependent variable computed as a residual of the gross investment less foreign savings. The X_{it} denotes independent variables. γ_i denotes the vector of a long-run relationship. $\left[lGSV_{i,t-1} - \gamma_i X_{it}\right]$ is the error correction term (ECT) that represents the long-run information of the model. ζ_{ij} and β_{ij} are short-run parameters. δ_i and ε_{it} denote the country-specific fixed effects and the idiosyncratic error, respectively.

4. Results and Discussion

4.1. Empirical Results and Discussion

This section presents the study's empirical results. However, before presenting the empirical findings, the paper presents preliminary results, including descriptive statistics, correlation coefficients, optimal lag length and stationarity tests.

Table 1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max	Meaning	Source
Gsv	619	11.50034	18.78684	-84.40696	50.17681	Government savings	World Bank Database
Irte	528	17.31777	87.07308	-93.51346	1166.513	Real interest rate	World Bank Database
Fd	585	22.62277	24.15339	.45	131.0482	Financial depth	World Bank Database
Exp	632	34.67212	20.16382	2.524708	107.9944	Export	World Bank Database
Rgdp	640	3.453979	4.775	-24	26.8	Real economic growth	World Bank Database
Ps	592	1.245439	6.506114	-10	10	Institutional quality	Global Economy Database
Exdt	580	63.13314	64.35288	.15	581.1186	External debt	World Bank Database
Infl	640	83.97343	981.3996	-72.7	23773.1	Inflation	World Bank Database

Table 1 presents the descriptive statistics, and the results indicate that the standard deviation is sufficiently large to assess the variance in the data. Table 2 presents the correlation coefficients.

Table 2: Correlation Coefficient

Lgsv	lirte	Lfd	lexp	lrgdp	Lps	Lexdt	linfl	
Lgsv	1.0000							
Lirte	-0.100**	1.0000						
Lfd	0.1058**	0.1327*	1.0000					
Lexp	0.2850*	-0.1564*	0.3263*	1.0000				
Lrgdp	0.1107*	0.0360*	-0.0950*	0.0932*	1.0000			
Lps	0.0526*	0.1323**	0.2825**	0.0403*	0.1570***	1.0000		
Lexdt	-0.149*	-0.003*	-0.359**	-0.440**	-0.114	-0.146**	1.0000	
Linfl	0.0399*	-0.4264*	-0.2919*	0.0603**	0.0329*	-0.0727	0.2099*	1.0000

Table 2 shows that all the explanatory variables are not linearly dependent. They may thus be used in the same regression model. Table 3 presents the first and second-generation panel unit root tests. The commonly used stationarity tests (the first-generation stationarity tests) scrutinise the integrating level of variables to ensure that the variables are not integrated of order 1(2). These include the Im Pesaran and the ADF unit roots tests (Asteriou & Hall, 2016). Since the study uses panel data, there is potential cross-sectional dependence (CD) between the SADC countries. Thus, cross-sectional dependence tests were performed to check for the existence of CD amongst the countries. If the CD exists, the second-generation unit root tests will overcome the shortcomings of the cross-sectional dependence in the first-generation panel unit root test (Baltagi, 2008; Barbieri, 2009). It provides more accurate results than first-generation unit root tests if the series are cross-sectionally dependent (Hurlin and Mignon, 2007).

Nevertheless, the probability values of the Pesaran and Friedman tests are greater than 5% (see Appendix 1). Therefore, the null hypothesis cannot be rejected, implying no cross-sectional dependence in the data across the groups. The paper presents the first and second-generation unit root test results (see Table 3) for robust results.

Table 3: First-and Second-Generation Panel Stationary Test Results

	First Generation Unit Root Tests				Second-Generation Unit Root Test	
	ADF		Im Pesaran		CADF	
Variable	**1(0)**	**1(1)**	**1(0)**	**1(1)**	**1(0)**	**1(1)**
Lgsv	-5.600	-23.946***	-4.559	-15.336***	-0.933	-7.496***
Lirte	-13.52	-24.634***	-9.525	-14.619***	-3.398	-8.743***
Lfd	-2.209	-10.9661**	-1.614***	-13.2695**	-2.649	-6.748***
Lrgdp	-9.5936**	-23.3245**	-10874**	-177964**	-1.559*	-7.609***
Lexp	-10.847**	-23.8169**	-11.771**	-17.0917**	-3.374***	-4.758***
Lps	-0.7347	-11.6289**	-	-	-2.626	-7.319***
Lexdt	0.98822	-10.6485**	0.3949	-12.4984**	-3.332***	-5.910***
Linfl	-4.9003**	19.0415**	-5.5139**	-16.2761**	-2.573***	-4.104***

Note: gsv is gross domestic savings; irte- interest rate; fd-financial depth; exp-exports; rgdp-real GDP; exdt-external debt; ps-institutional quality; infl-inflation rate

*** p<0.01, ** p<0.05, * p<0.1

The first- and second-generation unit root tests show that other variables are stationary at levels I(0) while others are stationary at first difference 1(1). The stationarity test results indicate that all the variables are not integrated into order 1(2). Since the variables under consideration have distinct orders of integration, the research adopts the panel ARDL PMG estimation technique, which is efficient and dependable where the series of variables are not integrated in the same order (Pesaran et al., 1999).

This paper utilised the PMG methodology; the cointegration test results can be ascertained from the statistical significance of the long-run coefficient. However, for robustness purposes, the paper performed the Pedroni and Kao cointegration tests (see Appendix 2) to evaluate cointegration among the variables of concern. The Kao and Pedroni tests indicate cointegration between gross domestic savings and the explanatory variables.

Looking at lag length selection, the ARDL Akaike Information Criterion (AIC) shows that the optimal lag for the variables included in the model is 0, except for gross domestic savings, which uses lag (1) (see Appendix 3). The models are estimated in ARDL (1) form.

Table 4 shows that the(Hausman, 1978) Hausman (1978) probability values for DFE and MG are greater than 5%. This implies that the PMG is the appropriate estimator. Nonetheless, the study also reports the results obtained using the MG and the DFE estimators for comparative purposes.

Table 4: Short-Run Coefficients

Variables	(DFE) SR	(MG) SR	(PMG) SR

ECT	-0.360***	-0.847***	-0.384***
	(0.0362)	(0.219)	(0.109)
d.lirte	-0.0112	-0.314	-0.0393
	(0.0252)	(0.358)	(0.0328)
d.lfd	-0.0465	1.234	-0.142
	(0.164)	(0.876)	(0.268)
d.lexp	0.579**	-0.0484	1.227
	(0.256)	(0.476)	(0.801)
d.lrgdp	-0.0308	0.177	0.0742
	(0.0339)	(0.274)	(0.0515)
d.lps	-0.0355	-2.923	-0.251
	(0.0705)	(3.355)	(0.304)
d.lexdt	-0.0832	-0.932**	-0.468*
	(0.143)	(0.471)	(0.245)
d.linfl	0.0212	0.230*	-0.136
	(0.0407)	(0.133)	(0.143)
Constant	1.715**	-3.258	-1.274***
	(0.851)	(15.21)	(0.355)
Hausman p-value	0.0600	0.2883	
Observations	463	463	463

Note: gsv is gross domestic savings; irte- interest rate; fd-financial depth; exp-exports; rgdp-real gross domestic product; exdt-external debt; ps-institutional quality; infl-inflation

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 4 shows that the ECT is negative and significant. This confirms a long-run convergence towards the equilibrium between the financial liberalisation and domestic savings relationship. Table 4 indicates that interest rate, financial development, exports, growth, political instability, and inflation have negligible effects on domestic savings in the short run in SADC countries. At the same time, the results in Table 4 show that a percentage increase in external debt reduces domestic savings by 0.5% at a 10% significance level in the short run. The long-run coefficients are presented in Table 5.

Table 5: Long-Run Coefficients

Variables	**(DFE)**	**(MG)**	**(PMG)**
	LR	**LR**	**LR**
Lirte	-0.119	0.193	0.0910**
	(0.0781)	(0.260)	(0.0391)
Lfd	-0.654**	-1.247	0.535***
	(0.272)	(1.914)	(0.119)
Lexp	0.593	5.629	0.983***
	(0.465)	(4.413)	(0.188)
Lrgdp	0.209*	-0.286	-0.0122
	(0.118)	(0.537)	(0.0622)
Lps	-0.170*	0.0972	-0.136*
	(0.0925)	(5.222)	(0.0752)
Lexdt	-0.335*	3.632	0.0462
	(0.192)	(3.949)	(0.0939)
Linfl	-0.503***	-1.899*	-0.0141
	(0.146)	(1.121)	(0.0432)
Constant	1.715**	-3.258	-1.274***
	(0.851)	(15.21)	(0.355)
Hausman p-value	0.0600	0.2883	
Observations	463	463	463

Note: gsv is gross domestic savings; irte- interest rate; financial depth; exp-exports; rgdp-real GDP; exdt-external debt; ps-institutional quality; infl-inflation rate

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 5 indicates that financial liberalisation, as measured by interest rate and financial depth, is positive and significant in explaining changes in domestic savings. Thus, a 1% increase in financial liberalisation, referring to interest rate and financial depth, increases domestic savings by 0.1% and 0.5%, respectively, at 5% and 1% significance levels in the long run. This implies that both measures of financial liberalisation promote savings rates in SADC countries over the long run. The results support the interest elasticity of savings in SADC countries. Domestic savings in SADC countries are interest rate elastic. This result aligns with Aizenman et al. (2017) and Moyo and Le Roux (2019), who posit that higher real deposit rates have a positive and significant effect on savings, which is in line with the proposition of McKinnon (1973) and Shaw (1973) which hypothesises that liberalising financial markets and allowing interest rates to reflect market conditions can incentivise households to save more as they gain higher returns on their savings.

The findings show a positive effect of financial depth on savings. This aligns with Ogwumike and Ofoegbu (2012) and Kapingura and Alagidede (2016), who posit that financial development accelerates savings rates in Nigeria and South Africa. This implies that the SADC governments and policymakers should embrace financial liberalisation policies, such as encouraging financial repression and deepening, to improve the savings rate in SADC.

Table 5 shows that a percentage increase in exports increases domestic savings by 1% at 1% significance level, implying exports' positive effect on SADC countries. This result is consistent with Odhiambo (2006), who posits that exports are positively and significantly related to domestic savings in South Africa. Contrary to expectations, the results indicate that institutional quality is detrimental to domestic savings in SADC countries. Thus, a percentage rise in institution quality results in a 0.1 decrease in domestic savings at a 10% significance level. The study`s findings are not in sync with the study by Freytag and Voll (2013), which found a positive and significant influence on savings in developing and emerging countries. A negative effect could be attributable to the fact that people tend to save if the institutions are well established. This study makes external debt, economic growth, and inflation insignificant over the long run.

4.2. Diagnostic Test Results

The diagnostic test (see Appendix 4) indicates no evidence of heteroscedasticity and serial correlation in all groups. To determine the constancy of the model, the cumulative sum of squares (CUSUMQ) was performed using Brown, Durbin, and Evan's (1975) model stability tests. The graphs are presented in Appendix 5. The plots of the CUSUMQ (see Appendix 5) indicate stability in the coefficients over the sample periods for 14 out of 16 countries.

5. Conclusions

The findings indicate that financial liberalisation, specifically in terms of interest rate and financial depth, enhances domestic savings in SADC countries and has substantial policy implications across theory, practice, and policy.

From a theoretical perspective, these findings challenge traditional theories, such as Keynesian and neo-classical theories, which suggest that high interest rates discourage savings. The positive association between financial liberalisation and domestic savings supports the interest rate elasticity of savings in SADC countries. This suggests that policymakers should reevaluate their assumptions and consider the specific context of SADC countries when formulating policies related to interest rates and savings.

In practice, these findings imply that SADC countries should prioritise financial liberalisation policies focusing on interest rate reforms and deepening financial markets. Policymakers should create an enabling environment that fosters competition, innovation, and efficiency in the financial sector. By removing barriers and restrictions, improving financial infrastructure, and expanding the reach of formal financial institutions, individuals and businesses can have greater access to savings options and credit facilities, ultimately encouraging savings behaviour and financial planning.

Regarding policy implications, policymakers should monitor and adjust interest rate policies to balance encouraging savings and supporting investment and economic growth. While higher interest rates may incentivise savings, policymakers need to be cautious about setting excessively high rates that could hinder investment. Additionally, efforts should be made to enhance financial education and literacy, ensuring individuals have the necessary knowledge and skills to make informed financial decisions. Strengthening regulatory frameworks is also essential to protect consumers, maintain market integrity, and safeguard financial stability.

By considering these policy implications, SADC countries can harness the potential of financial liberalisation to cultivate a culture of savings, stimulate economic growth, and enhance overall financial well-being in the region. Policymakers should aim to balance encouraging savings and promoting investment while ensuring consumer protection and financial stability.

References

Ahmad, D., & Premaratna, S. P. (2019). Effect of financial liberalisation on savings and investment in Nigeria. *Colombo Journal of multi-disciplinary Research*, 04(1), pp. 100–132.

Aizenman, J., Cheung, Y., & Ito, H. (2017). *Private saving: alternative Asian Development Bank Institute*. 715. Available at: https://www.adb.org/sites/default/files/publication/239546/adbi-wp715.pdf (accessed: 26 August 2024)

Akinsola, F. A. and Odhiambo, N. M. (2017). The impact of financial liberalisation on economic growth in sub-Saharan Africa. *Cogent Economics and Finance*, 5(1), pp. 1–12. doi: 10.1080/23322039.2017.1338851

Akorede, H. (2023). Advertising and financial performance: insight from a competitive market in Africa. *Measuring Business Excellence*, 27(4), pp. 634-650. doi: https://doi.org/10.1108/mbe-11-2022-0130

Anjum, N., & Perviz, Z. (2016). Effect of trade openness on unemployment in case of labour and capital abundant countries. *Journal of Chemical Information and Modelling*, 5(1), pp. 44–58. doi: https://bbejournal.com/index.php/BBE/article/view/248

Anthony, O. (2012). Bank savings and bank credits in Nigeria. *International Journal of Economics and Financial Issues*, 2(3), pp. 357–372.

Arestis, P., & Caner, A. (2004). *Financial Liberalisation and Poverty: Channels of Influence*. 411. New York. doi: 10.2139/ssrn.569663

Arestis, P., Chortareas, G., & Magkonis, G. (2014). The Financial Development and Growth Nexus. *Journal of Economic Surveys*, 44(0), pp. 1–40.

Asiedu, E., Asiseh, F., Mannah-Blankson, T., & Paintsil, J. A. (2022). *Financial liberalisation and its implications for private savings in sub-Saharan Africa*. 2022/79. Helsinki. doi: https://doi.org/10.35188/UNU-WIDER/2022/210-2

Asteriou, D., & Hall, S. G. (2016). *Applied econometrics*. 3rd edn. New York; London: Palgrave Macmillan.

Baltagi, B. H. (2008). *Econometric analysis of panel data*. 4th edn. West Sussex: John Wiley and Sons Ltd.

Barbieri, L. (2009). Panel unit root tests under cross-sectional dependence: an overview. *Journal of Statistics Advances in Theory and Applications* ·, 1(2), pp. 117–158.

Bassanini, A., & Scarpetta, S. (2001). *Does human capital matter for growth in OECD countries? Evidence from Pooled Mean-Group*. 282. Paris. doi: https://dx.doi.org/10.1787/424300244276

Blackburne, E. F., & Frank, M. W. (2007). Estimation of nonstationary heterogeneous panels. *Stata Journal*, 7(2), pp. 197–208. doi: 10.1177/1536867x0700700204

Boateng, E., Agbola, F. W., & Mahmood, A. (2019). Does the quality of institutions enhance savings? The case of Sub-Saharan Africa. *Applied Economics*, 51(58), pp. 6235–6263. doi: 10.1080/00036846.2019.1616066

Brown, R. L., Durbin, J., & Evans, J. M. (1975). Techniques for testing the constancy of regression relationships over time. *Journal of the Royal Statistical Society. Series B (Methodological)*, 37(2), pp. 149–192.

Cele, N., & Kapingura, F. M. (2018). Financial sector liberalisation and financial instability: case of selected Southern African Development Community member countries. *Journal of Economics and Behavioural Studies*, 10(6), pp. 42–49.

Cerda, R., Fuentes, R., García, G., & Llodrá, J. I. (2020). Understanding domestic savings: an empirical approach. *Applied Economics*, 52(9), 905–928. https://doi.org/10.1080/00036846.2019.1646871

Dayıoğlu, T., & Aydın, Y. (2020). Relationship between economic growth, unemployment, inflation and current account balance: theory and case of Turkey. in *Linear and Non-Linear Financial Econometrics-Theory and Practice.* IntechOpen. doi: http://dx.doi.org/10.5772/intechopen.93833

Emara, N., & Kasa, H. (2021). The non-linear relationship between financial access and domestic savings: the case of emerging markets. *Applied Economics*, 53(3), pp. 345–363. doi: 10.1080/00036846.2020.1808174

Enowbi, B., Kupukile, M., & Simplice, A. (2017). *Determinants of Reinsurance Demand in the Ghanaian Insurance Market*. 17/030. Available at: https://mpra.ub.uni-muenchen.de/82641/ (Accessed: 4 August 2024)

Freytag, A., & Voll, S. (2013). Institutions and savings in developing and emerging economies. *Public Choice*, 157(3–4), pp. 475–509. doi: 10.1007/s11127-013-0121-7

Friedman, M. (1957). *A Theory of the consumption function.* Princeton University Press.

George, N., & Mohamed, E. (2014). Does Libya need the WTO? A critical analysis of the potential economic impacts of financial liberalization in the event of Libya's accession to the World Trade Organization. *5th Euro-African Conference in Finance and Economics, 24th - 26th April 2014*. Agadir, Morocco: University of Hiddersfield Respiratory. Available at: http://eprints.hud.ac.uk/id/eprint/28944/ (Accessed: 23 August 2024)

Hausman, J. A. (1978). Specification Tests in Econometrics. *Econometrica*, 46(6), pp. 1251–1271. doi: https://doi.org/10.2307/1913827

Hurlin, C., & Mignon, V. (2007). *Second Generation Panel Unit Root Tests*. Available at: https://halshs.archives-ouvertes.fr/halshs-00159842 (Accessed: 7 June 2021)

Kapingura, F. M., & Alagidede, P. (2016). The relationship between financial sector development and savings mobilisation in South Africa: an empirical study. *Development Southern Africa*, 33(5), pp. 703–718. doi: 10.1080/0376835X.2016.1203760

Kapingura, F. M., Ikhide, S., & Tsegaye, A. (2015). Determinants of savings in the SADC region: the role of foreign capital and financial development. *Journal of Applied Business Research*, 31(6), pp. 2107–2121. doi: 10.19030/jabr.v31i6.9470

Keynes, J. M. (1937). The general theory of employment. *The Quaterly Journal of Economics*, 5(2), pp. 209–223.

Lee, Y. M., & Wang, K. M. (2015). Dynamic heterogeneous panel analysis of the correlation between stock prices and exchange rates. *Economic Research-Ekonomska Istrazivanja*, 28(1), pp. 749–772. doi: 10.1080/1331677X.2015.1084889

Levine, R. (1997). Financial development and economic growth: views and agenda. *Journal of Economic Literature*, 35(2), pp. 688–726. doi: https://doi.org/10.1596/1813-9450-1678

Mbuyi, A. K., & Mulumba, E. M. (2022). Financial development and economic growth in the Southern African Development Community (SADC): the role of institutional quality. *Journal of Financial Risk Management*, 11(02), pp. 296–310. doi: 10.4236/jfrm.2022.112015

McKinnon, R. I. (1973). *Money and capital in economic development*. Washington D C: Brookings Institution

Moyo, C., & Le Roux, P. (2019). Interest rate reforms and economic growth in SADC countries: the savings and investment channel. *Scientific Annals of Economics and Business*, 66(4), pp. 507–523. doi: 10.47743/SAEB-2019-0039

Moyo, C., & Le Roux, P. (2020). Financial liberalisation, financial development and financial crises in SADC countries. *Journal of Financial Economic Policy*, 12(4), pp. 477–494. doi: 10.1108/JFEP-07-2018-0102

Musakwa, M. T., & Odhiambo, N. M. (2019). Foreign direct investment dynamics in South Africa: reforms, trends and challenges. *Studia Universitatis Vasile Goldis Arad, Economics Series*, 29(2), pp. 33–53. doi: 10.2478/sues-2019-0007

Nagawa, V., Wasswa, F., & Bbaale, E. (2020). Determinants of gross domestic savings in Uganda: an autoregressive distributed lag (ARDL) approach to cointegration. *Journal of Economic Structures*, 9(1), pp. 1–19. doi: 10.1186/s40008-020-00209-1

Nyeadi, J. D. (2023). The impact of financial development and foreign direct investment on environmental sustainability in Sub-Saharan Africa: using PMG-ARDL approach. *Economic Research-Ekonomska Istrazivanja*, 36(1), pp. 2796–2818. doi: 10.1080/1331677X.2022.2106270

Odhiambo, N. M. (2006). Financial liberalisation and savings in South Africa: An empirical analysis. *African Review of Money Finance and Banking*, pp. 61–74.

Ogwumike, F., & Ofoegbu, D. (2012). Financial liberalisation and domestic savings in Nigeria. *The Social Sciences*, 7(4), pp. 635-646. doi: https://doi.org/10.3923/sscience.2012.635.646

Okwuchukwu, O., & Ariwa, F. O. (2017). Financial system liberalisation, savings, investment and economic growth in Nigeria. *International Journal of Economics and Business Management*, 3(5), pp. 12–23. Available at: www.iiardpub.org

Onwumere, J. U. J., Okore, A. O., & Ibe, I. G. (2012). The impact of interest rate liberalisation on savings and investment: Evidence from Nigeria. *Research Journal of Finance and Accounting*, 3(10), pp. 130–136.

Pesaran, H., Shin, Y., & Smith, R. P. (1999). Pooled mean group estimation of dynamic heterogenous panels. *Journal of the American Statistical Association*, 94, pp. 621–634.

Pesaran, M. H., Shin, Y., & Smith, R. P. (1997). *Pooled estimation of long -run relationships in dynamic heterogenous panels*, Department of Applied Economics

Pesaran, M. H., & Smith, R. (1995). Estimating long-run relationships from dynamic heterogeneous panels. *Journal of Econometrics*, 68(1), pp. 79–113. doi: 10.1016/0304-4076(94)01644-F

Prasad, E. S., Rajan, R. G., & Subramanian, A. (2007). *Foreign capital and economic growth*. Massachusetts. doi: 10.1016/0305-750X(75)90005-4

Qiao, Y., Shao, X., Han, Z., & Duan, H. (2023). The impact of investments in physical capital, labor, and knowledge capital on enterprise market value: estimation and optimization. *Mathematics*, 11(18), pp. 1–19. doi: 10.3390/math11184016

Quartey, P. (2008). *Financial sector development, savings mobilization and poverty reduction in Ghana*, *financial development, institutions, growth and poverty reduction*. 2005/71. Helsinki. doi: 10.1057/9780230594029_5

Rafindadi, A. A., & Yosuf, Z. (2013). An application of panel ARDL in analysing the dynamics of financial development and economic growth in 38 Sub-Saharan African continents. *Kuala Lumpur International Business, Economics and Law Conference*, 2(February), pp. 1–19.

Ramos-Herrera, M. D. C., & Prats, M. A. (2020). Fiscal sustainability in the European countries: a panel ARDL approach and a dynamic panel threshold model. *Sustainability (Switzerland)*, 12(20), pp. 1–14. doi: 10.3390/su12208505

Ribaj, A., & Mexhuani, F. (2021). The impact of savings on economic growth in a developing country (the case of Kosovo). *Journal of Innovation and Entrepreneurship*, 10(1), pp. 1–13. doi: 10.1186/s13731-020-00140-6

Shaw, E. S. (1973). *Financial deepening in economic development*. New York: Oxford University Press

Simelane, B. P., & Odhiambo, N. M. (2018). The dynamics of savings in Swaziland. *Socioeconomica*, 7(13), p. 121. Available at: http://hdl.handle.net/11159/2593

Tshabalala, G. S. (2019). *The application of total quality management on branch project delivery in a South African bank*. University of Johannesburg.

Tukhtamurodov, A., Sobirov, Y., Toshalieva, S., Ibrayimova, D., & Feruz, M. (2024). Determinants of CO2 emissions in the BRICS. A dynamic Panel ARDL approach. *BIO Web of Conferences*, 82(December 2011), pp. 1–13. doi: 10.1051/bioconf/20248206002

Ülgen, S., & Inan, C. (2022). *From the local to the global: the politics of globalisation - rewiring globalisation.* Carnegie Europe. Available at: https://carnegieeurope.eu/2022/02/17/fromlocal-to-global-politics-of-globalization-pub-86310 (accessed: 15 August 2024)

Xaba, N. (2018). *The impact of interest rates on savings and investments in South Africa*. University of the Witwatersrand, South Africa. Available at: https://wiredspace.wits.ac.za/server/api/core/bitstreams/aa5f9c42-eeff-4885-a319-70535f627af4/content (accessed: 5 August 2024)