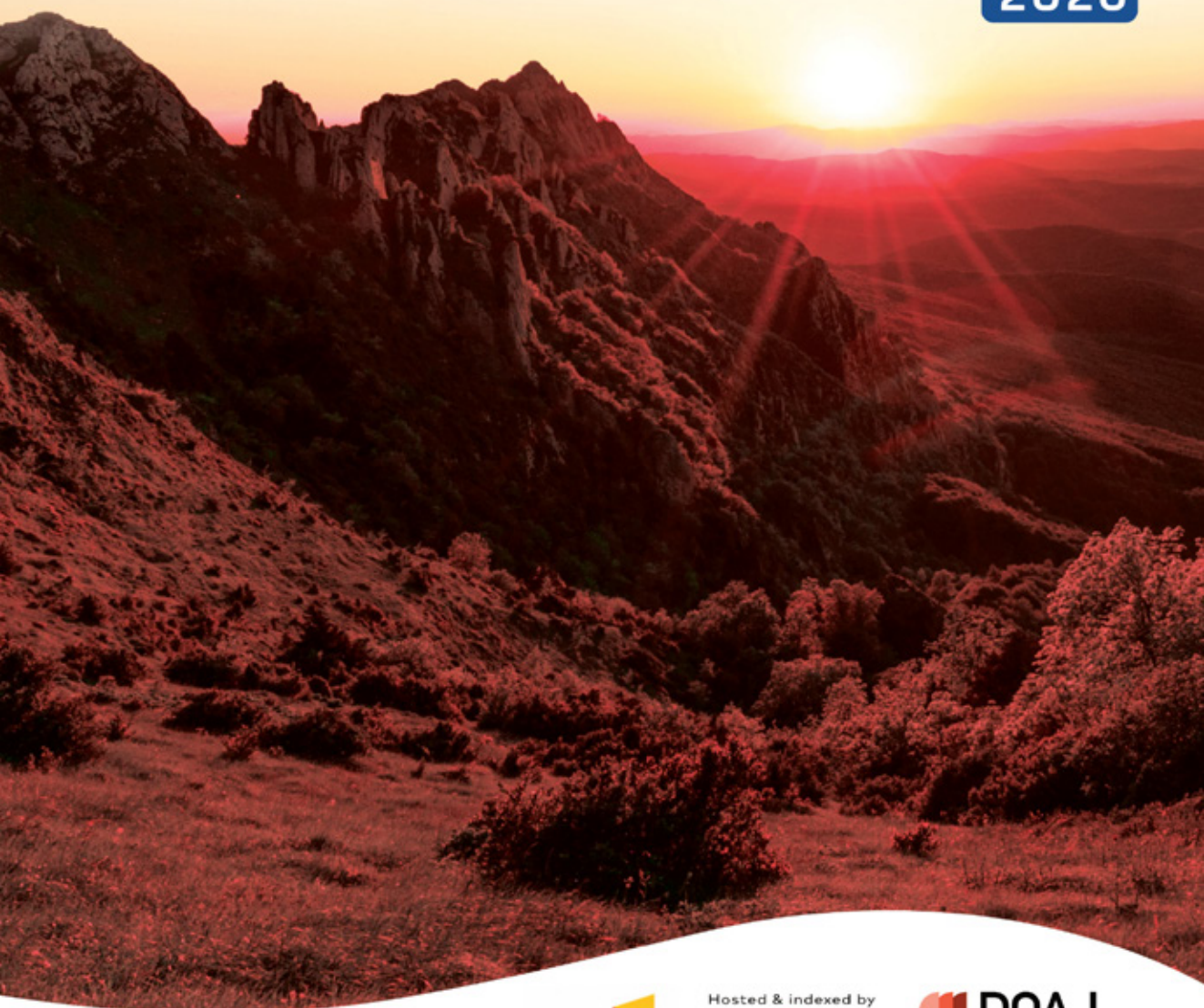


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Designing a regulatory framework for inclusive and sustainable banking in Zimbabwe

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ABSTRACT

The rapid expansion of the shadow banking system, alongside sustained financial innovation, intensifies concerns over financial stability, systemic risk, and the adequacy of conventional banking regulation. In emerging economies such as Zimbabwe, fragmented regulatory frameworks have created opportunities for regulatory arbitrage and uneven oversight between commercial banks and shadow banking institutions. This study examines the effects of shadow banking and banking regulation on the financial performance of commercial banks in Zimbabwe and proposes an inclusive and sustainable regulatory framework that harmonises oversight across the banking sector. Using panel data from 13 commercial banks covering the period 2009–2022, the study employs Fully Modified Ordinary Least Squares (FMOLS) and Dynamic Ordinary Least Squares (DOLS) models to estimate the long-run relationships among the variables. The findings revealed that banking regulation have a positive and statistically significant effect on commercial banks' financial performance, whereas shadow banking exerts a significant negative effect by diverting financial intermediation and increasing competitive pressures outside the regulated banking system. Macroeconomic conditions were also found to significantly influence banking sector performance, highlighting the importance of macroeconomic stability in sustaining financial resilience. The study proposes a unified, risk-based regulatory framework that integrates shadow banking into the mainstream prudential and supervisory architecture to minimise systemic risk, reduce regulatory arbitrage, and strengthen financial stability. The study concludes that extending proportionate regulatory oversight to shadow banking institutions, while reinforcing prudential regulation of commercial banks, is essential for fostering an inclusive, resilient, and sustainable banking system capable of supporting Zimbabwe's long-term economic development. Future research should incorporate other regulated financial institutions to provide a more comprehensive assessment of financial sector regulation.

Keywords: shadow banking; banking regulation; financial performance; financial stability; commercial banks; regulatory framework; Zimbabwe.



Introduction

A stable banking sector is fundamental to financial intermediation, economic growth, and macroeconomic stability because it mobilises savings, allocates capital efficiently, and supports productive investment (Anake & Maxwell, 2021; Muganyi et al., 2022; Korneev et al., 2023). Banking sector instability weakens public confidence, constrains credit creation, heightens systemic risk, and undermines sustainable economic development. Zimbabwe's banking sector has experienced recurrent episodes of instability, most notably during the 2000–2009 period, when several commercial banks collapsed, exposing deep structural weaknesses within the financial system (Chidziva, 2016; Dzingai & Katuka, 2014; Dzomira, 2014). The failures are attributed to a combination of macroeconomic volatility, weak corporate governance, regulatory deficiencies, liquidity challenges, and financial mismanagement (Mlambo & Masiyandima, 2020; Nyaude, 2021). In response, the Reserve Bank of Zimbabwe (RBZ) introduced a series of regulatory reforms, including the enactment of the Banking Act (Chapter 24:20) and subsequent prudential measures aimed at strengthening institutional resilience, improving governance, and restoring confidence in the banking sector. Although the reforms have enhanced regulatory oversight, the rapid emergence of shadow banking has introduced new regulatory challenges that conventional banking regulations were not designed to address (RBZ, 2022).

The Financial Stability Board (2016) defines 'shadow banking' as credit intermediation conducted wholly or partially outside the conventional banking system. While shadow banking expands financial inclusion, diversifies funding sources, and enhances credit availability, it also creates opportunities for regulatory arbitrage, excessive risk-taking, maturity mismatches, and systemic contagion because many activities occur beyond the reach of traditional prudential regulation (Zhou & Tewari, 2019). These challenges are particularly pronounced in emerging economies where regulatory capacity and institutional coordination remain constrained. Countries such as South Africa and Nigeria progressively expanded their regulatory frameworks to incorporate significant segments of the shadow banking sector, thereby strengthening financial sector oversight. Zimbabwe, however, continues to operate under a fragmented regulatory architecture that separates oversight of commercial banks from shadow banking institutions. The regulatory fragmentation exposes the formal banking sector to spillover risks, weakens financial stability, and limits the effectiveness of prudential supervision (Mugobo & Mutize, 2019).

Despite increasing recognition of shadow banking as a source of both financial innovation and systemic risk, empirical evidence examining its implications for commercial bank performance within developing economies remains limited, particularly in Zimbabwe. Existing studies have largely examined banking regulation and financial performance independently, with little attention given to the interaction between shadow banking, regulatory effectiveness, and commercial bank performance. The absence of an integrated regulatory framework capable of harmonising oversight across both sectors represents an important policy and scholarly gap. Addressing this gap, the present study investigates the effects of shadow banking and banking regulation on the financial performance of Zimbabwean commercial banks and develops an inclusive and sustainable regulatory framework that integrates oversight of both conventional and shadow banking institutions. By providing empirical evidence from Zimbabwe, the study contributes to the literature on financial regulation, banking stability, and sustainable financial sector governance while offering policy recommendations for strengthening regulatory effectiveness and promoting long-term financial stability.

Background

Zimbabwe's banking regulatory architecture has evolved in response to recurring episodes of financial instability, institutional failures, and the increasing complexity of financial intermediation. Effective banking regulation remains central to financial stability because it strengthens market discipline, promotes prudent risk-taking, safeguards depositors, and supports sustainable economic growth (Anake & Maxwell, 2021; Muganyi et al., 2022; Korneev et al., 2023). However, the rapid expansion of shadow banking has fundamentally altered the financial landscape, exposing limitations within institution-based regulatory systems. While Zimbabwe has progressively strengthened the legal framework governing commercial banks, regulation of financial intermediaries remains fragmented across multiple supervisory authorities, creating regulatory arbitrage, supervisory inconsistencies, and systemic vulnerabilities (Mugobo & Mutize, 2019; RBZ, 2022).

Zimbabwe's regulatory framework has undergone substantial transformation over the past two and a half decades, reflecting successive attempts to respond to financial sector instability and restore confidence in the banking system (Dzapasi, 2020). Before the enactment of the Banking Act (Chapter 24:20) in 2000, responsibility for licensing banking institutions rested with the Ministry

of Finance, while the Reserve Bank of Zimbabwe (RBZ) exercised only limited supervisory authority, relying largely on moral suasion and off-site oversight rather than formal prudential regulation (Nhavira et al., 2013).

The banking crises experienced from 2003 onwards, characterised by widespread bank failures, weak corporate governance, liquidity shortages, and declining depositor confidence, exposed the inadequacy of this fragmented supervisory approach. Rather than representing isolated institutional failures, these events revealed structural weaknesses within Zimbabwe's regulatory architecture and demonstrated the limitations of reactive supervision in safeguarding financial stability (Dzomira, 2014; Nhavira et al., 2013). Regulatory reforms shifted towards a more interventionist prudential model through amendments to the Banking Act, strengthened supervisory powers for the RBZ, and the establishment of the Deposit Protection Corporation (DPC) to reinforce depositor confidence and enhance financial system resilience (RBZ, 2010).

The reforms culminated in a regulatory architecture anchored by the Reserve Bank Act (Chapter 22:15), the Banking Act (Chapter 24:20), the Deposit Protection Act (Chapter 24:29), the National Payment System Act (Chapter 24:23), and the Collective Investment Schemes Act (Chapter 24:19). Collectively, these statutes regulate licensing, prudential supervision, corporate governance, payment systems, financial safety nets, and market conduct. The Reserve Bank Act establishes the RBZ as the principal prudential regulator responsible for monetary policy, financial stability, lender-of-last-resort facilities, and supervision of deposit-taking institutions (Ncube & Chitimira, 2025). Complementing this mandate, the Banking Act prescribes prudential standards governing capital adequacy, liquidity, risk management, corporate governance, and institutional resolution, while the Deposit Protection Act strengthens systemic confidence by protecting insured deposits and facilitating the orderly resolution of distressed banks (Ncube & Chitimira, 2025). The National Payment System Act further supports financial stability by ensuring the integrity and efficiency of payment and settlement systems that underpin commercial banking operations (RBZ, 2022).

Notwithstanding these legislative developments, Zimbabwe's broader financial regulatory framework remains characterised by functional fragmentation. Deposit-taking institutions, including commercial banks, merchant banks, building societies, microfinance banks, the People's Own Savings Bank (POSB), and Agricultural Development and Loan Authorities (ADLAs), are

supervised by the RBZ, whereas capital market institutions, including collective investment schemes, asset managers, securities dealers, and other non-bank financial institutions, fall under the jurisdiction of the Securities and Exchange Commission of Zimbabwe (SECZ). Insurance companies, pension funds, and provident funds are regulated separately by the Insurance and Pensions Commission (IPEC) (Dzapasi, 2020; RBZ, 2022).

Although this institutional arrangement provided sector-specific expertise, it effectively constituted a silo regulatory framework, where oversight remains organised according to institutional categories rather than the underlying financial risks generated by increasingly integrated financial activities. As shadow banking institutions continue to perform bank-like functions, including credit intermediation, liquidity provision, maturity transformation, and risk transfer, without being subjected to prudential requirements equivalent to those imposed on commercial banks, the resulting regulatory asymmetry creates opportunities for regulatory arbitrage and weakens systemic oversight (Financial Stability Board, 2016; Mugobo & Mutize, 2019).

International regulatory experience demonstrates a transition away from silo-based supervision towards integrated risk-based models. Jurisdictions such as South Africa, Australia, the Netherlands, and New Zealand have adopted the Twin Peaks regulatory framework, which separates prudential regulation from market conduct supervision to improve regulatory coordination, strengthen consumer protection, reduce supervisory overlaps, and enhance systemic resilience (Schoemaker & Véron, 2021). By allocating prudential stability and market conduct responsibilities to specialised regulators, the Twin Peaks model addresses many of the coordination failures inherent in fragmented institutional regulation. Nevertheless, its effectiveness depends on strong inter-agency coordination, clearly defined regulatory mandates, and institutional capacity, particularly within emerging financial systems. These international developments suggest that regulatory effectiveness is determined less by the number of regulators than by the coherence, coordination, and functional integration of supervisory responsibilities.

Against this backdrop, Zimbabwe's existing regulatory architecture no longer adequately reflects the realities of contemporary financial intermediation, where commercial banks and shadow banking institutions increasingly perform overlapping economic functions while remaining subject to fundamentally different regulatory regimes. The persistence of institution-based supervision

creates regulatory gaps that undermine financial stability, distort competition, and constrain the effectiveness of prudential oversight. Addressing these deficiencies requires a transition towards an integrated, activity- and risk-based regulatory framework capable of harmonising oversight across conventional banking and shadow banking.

It is within this regulatory context that the present study examines the effects of banking regulation and shadow banking on the financial performance of commercial banks and develops an inclusive and sustainable regulatory framework designed to strengthen financial stability, improve regulatory coherence, and enhance the resilience of Zimbabwe's financial system.

Literature Review

The complexity of modern financial systems has altered the nature and purpose of banking regulation. Historically, banking regulation focused primarily on safeguarding individual institutions through prudential supervision. However, the emergence of shadow banking, financial innovation, and interconnected financial markets has shifted regulatory attention towards preserving system-wide financial stability while minimising regulatory arbitrage and systemic risk (Financial Stability Board [FSB], 2016). Financial regulation extends beyond ensuring institutional compliance to addressing market failures, protecting consumers, maintaining market integrity, promoting financial inclusion, and strengthening macroprudential resilience (Llewellyn, 1999; Stigler, 1971). This evolution is relevant in emerging economies, where fragmented supervisory arrangements often struggle to regulate increasingly integrated financial markets. The Zimbabwean financial sector, discussed in the preceding background section, exemplifies this challenge through the coexistence of tightly regulated commercial banks and comparatively less regulated shadow banking institutions operating under separate supervisory authorities.

The Theory of Financial Regulation, originally advanced by Stigler (1971) and subsequently expanded by Llewellyn (1999) and the FSB (2016), provides the principal theoretical foundation for understanding why banking systems require regulatory intervention. The theory argues that financial markets are susceptible to market failures arising from information asymmetry, adverse selection, moral hazard, agency conflicts, contagion, and systemic externalities. Because banking institutions occupy a central position within payment systems, liquidity creation, and credit allocation, the failure of a single institution can

impose substantial costs on the wider economy that exceed the private costs borne by individual banks (Llewellyn, 1999). Prudential regulation seeks to internalise these externalities through capital adequacy requirements, liquidity standards, corporate governance frameworks, supervisory oversight, and financial safety nets. Within Zimbabwe's banking sector, this theoretical perspective explains the progressive strengthening of prudential regulation following repeated episodes of banking instability and provides the normative justification for extending regulatory oversight beyond traditional banking institutions to encompass shadow banking activities that generate comparable systemic risks.

Although the Theory of Financial Regulation provides the normative rationale for regulatory intervention, it has been challenged by theories that question whose interests regulation ultimately serves. Capture Theory, popularised by Stigler (1971), argues that regulatory agencies gradually become influenced, or "captured", by the industries they regulate, leading regulation to advance private rather than public interests (Cohen & Sundararajan, 2015; Omran & El-Galfy, 2014). Rather than eliminating market failures, captured regulators may create barriers to competition, protect incumbent institutions, or tolerate regulatory loopholes that facilitate financial innovation outside the formal banking system. This perspective offers an important explanation for the continued expansion of shadow banking despite stringent prudential regulation. Closely related, Public Interest Theory maintains that regulation exists primarily to maximise social welfare through correcting market failures and protecting consumers (Hantke-Domas, 2003), whereas Private Interest Theory contends that regulatory outcomes are inevitably shaped by political, institutional, and commercial interests rather than collective welfare (Van der Heijden, 2022). Rather than viewing these theories as competing explanations, contemporary regulatory scholarship increasingly considers them complementary because they collectively explain why financial regulation simultaneously promotes stability while remaining susceptible to institutional capture, regulatory arbitrage, and governance failures. This theoretical synthesis is relevant to Zimbabwe, where the institutional separation between banking and non-bank regulation creates opportunities for economically similar activities to be subjected to fundamentally different regulatory standards.

Scholarship presents equally divergent evidence regarding the relationship between banking regulation and financial performance. A substantial body of research reports that stronger prudential regulation, particularly through higher

capital adequacy requirements, improves bank performance by strengthening solvency, enhancing depositor confidence, reducing insolvency risk, and improving institutional resilience (Torbira et al., 2016; Abdul, 2017; Mathuva, 2019; Dao, 2020; Margono et al., 2020; Nayak, 2021). From this perspective, regulation is viewed as an investment in financial stability that generates long-term institutional and macroeconomic benefits. Another stream of literature argues that stringent regulation increases compliance costs, constrains credit creation, reduces operational flexibility, and ultimately suppresses profitability (Onuoha, 2017; Gausi & Grima, 2020; Bala-Keffi et al., 2020; Li & Li, 2021; Nsanyan et al., 2021). Kiplagat (2020) further reports no statistically significant relationship between capital regulation and commercial bank performance, suggesting that regulatory effectiveness is contingent upon institutional quality, market structure, and macroeconomic conditions. Collectively, these conflicting findings indicate that the regulation–performance relationship cannot be generalised across jurisdictions and that regulatory architecture may be as important as regulatory intensity itself.

An even more complex debate has emerged regarding the regulation of shadow banking. Existing studies broadly acknowledge that shadow banking improves financial inclusion, expands access to credit, enhances liquidity, and complements conventional banking, particularly where formal financial markets remain underdeveloped (Gebauer & Mazelis, 2018; Ilesanmi & Tewari, 2019). However, these benefits are accompanied by heightened systemic risk because shadow banking institutions undertake credit intermediation, liquidity transformation, and maturity transformation outside conventional prudential regulation (FSB, 2016; Thiemann, 2018).

A growing body of evidence further suggests that stringent banking regulation may contribute to the expansion of shadow banking by encouraging financial activities to migrate towards less regulated institutions, thereby intensifying regulatory arbitrage and systemic interconnectedness (Gebauer & Mazelis, 2018; Huang, 2018; Sun, 2019; Yang et al., 2019). Regulation may paradoxically strengthen commercial banks while simultaneously accelerating the growth of shadow banking and increasing financial system vulnerability. The studies reinforce the argument that regulating institutions in isolation is becoming increasingly ineffective within highly integrated financial systems.

The emerging consensus within the literature, therefore, advocates a transition from institution-based supervision towards function- and activity-based

regulation, where economically equivalent financial activities are subjected to comparable prudential oversight irrespective of the type of institution undertaking them (Feve et al., 2019; Mugobo & Mutize, 2019). Such an approach reduces opportunities for regulatory arbitrage, strengthens macroprudential supervision, and improves financial system resilience by aligning regulation with underlying financial risks rather than institutional classifications. Nevertheless, empirical evidence supporting this transition remains concentrated within developed financial systems, while relatively little research has examined how fragmented regulatory architectures influence commercial bank performance in developing economies characterised by volatile macroeconomic conditions and evolving financial markets.

This gap is particularly evident in Zimbabwe, where commercial banks and shadow banking institutions continue to operate under separate supervisory regimes despite undertaking similar intermediation functions. Addressing this gap, the present study jointly examines the effects of banking regulation and shadow banking on the financial performance of commercial banks and develops an inclusive and sustainable regulatory framework capable of harmonising prudential oversight across both conventional and shadow banking sectors.

Conceptual Framework

The foregoing review demonstrates that the relationship between banking regulation and commercial bank performance cannot be understood independently of the expanding role of shadow banking and the broader macroeconomic environment. While prudential regulation seeks to strengthen financial stability and institutional resilience, the growing interconnectedness between regulated banks and non-bank financial intermediaries has created new channels through which regulatory arbitrage, systemic risk, and financial contagion may influence banking sector performance (FSB, 2016; Mugobo & Mutize, 2019). The literature further suggests that commercial banks operate within a dynamic regulatory and macroeconomic ecosystem where institutional performance is shaped not only by regulatory intensity but also by interactions between financial innovation, market conditions, and macroeconomic fundamentals (Llewellyn, 1999; Huang, 2018; Yang et al., 2019). The insights provide the basis for the conceptual framework adopted in this study.

Accordingly, Figure 1 presents the conceptual model illustrating the hypothesised relationships among the study variables. Commercial banks' financial performance constitutes the dependent variable and is measured

using Return on Assets (ROA) and Return on Equity (ROE), which are widely recognised as indicators of profitability and managerial efficiency. The principal explanatory variables are banking regulation, proxied by the Capital Adequacy Ratio (CAR), and shadow banking, which represents non-bank financial intermediation operating outside conventional prudential regulation.

The model further incorporates bank efficiency, liquidity, inflation, gross domestic product (GDP) growth, and broad money supply (M3) as control variables because previous studies demonstrate that institutional performance is jointly determined by bank-specific characteristics and macroeconomic conditions (Dao, 2020; Margono et al., 2020; Nayak, 2021).

The conceptual framework, therefore, assumes that commercial bank performance is the product of interactions between prudential regulation, the expansion of shadow banking, institutional characteristics, and the wider macroeconomic environment. Specifically, stronger banking regulation is expected to enhance financial performance by improving institutional resilience and reducing insolvency risk, whereas the expansion of shadow banking may weaken commercial bank performance by diverting financial intermediation, intensifying competitive pressures, and increasing opportunities for regulatory arbitrage. By integrating regulatory, institutional, and macroeconomic dimensions within a single analytical framework, the model provides a comprehensive basis for examining the determinants of commercial bank performance while informing the development of an inclusive and sustainable regulatory framework capable of harmonising oversight across conventional banking and shadow banking sectors.

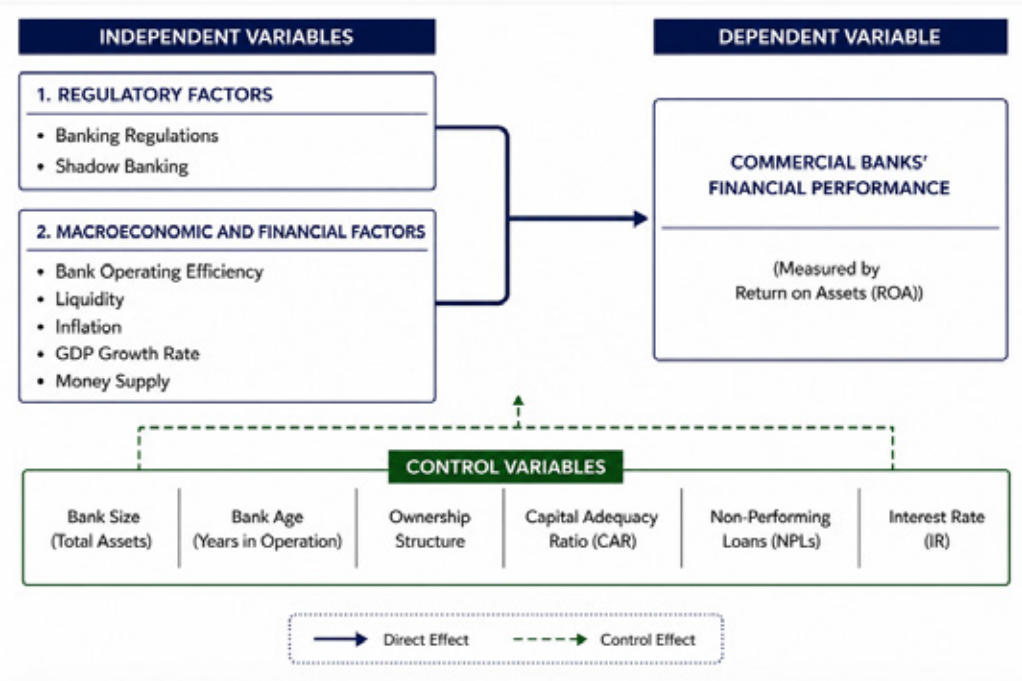


Figure 1: Influence of shadow banking and banking regulation on commercial banks’ financial performance (Source: Authors’ construction, 2025).

METHODOLOGY

This study adopted a positivist research philosophy, which assumes that objective reality can be measured empirically through systematic observation and statistical analysis. Consistent with this philosophical position, the study employed a quantitative research design and a deductive approach to examine the effects of shadow banking and banking regulation on the financial performance of commercial banks in Zimbabwe. The quantitative approach was considered appropriate because it facilitates objective hypothesis testing, establishes statistical relationships among variables, and enables the generalisation of findings from longitudinal financial data. Secondary panel data were obtained from the Reserve Bank of Zimbabwe (RBZ) and the Securities and Exchange Commission of Zimbabwe (SECZ), covering all 13 commercial banks operating in Zimbabwe over the period 2009–2022. Data management and econometric analyses were conducted using STATA Version 18.

Econometric Model Specification

To enhance the robustness of the findings, the study estimated two complementary panel regression models using alternative measures of bank performance. Specifically, Return on Assets (ROA) and Return on Equity (ROE) were employed as dependent variables to capture managerial efficiency and shareholder value creation, respectively. Banking regulation constituted the principal explanatory variable and was proxied by the Capital Adequacy Ratio (CAR), while shadow banking was measured using Non-Bank Financial Institutions' (NBFIs) total assets. Consistent with the literature on bank performance, the models further controlled for liquidity, operating efficiency, inflation, gross domestic product (GDP) growth, and broad money supply (M3) to isolate the independent effects of banking regulation and shadow banking on commercial bank performance. The estimated models are specified as follows:

$$\begin{aligned} ROA_{it} &= \alpha + \beta_1 SB_{it} + \beta_2 BR_{it} + \beta_3 LQ_{it} + \beta_4 OE_{it} + \beta_5 INF_{it} + \beta_6 GDP_{it} + \beta_7 MS_{it} + \mu_{it} \\ ROE_{it} &= \alpha + \phi_1 SB_{it} + \phi_2 BR_{it} + \phi_3 LQ_{it} + \phi_4 OE_{it} + \phi_5 INF_{it} + \phi_6 GDP_{it} + \phi_7 MS_{it} + \mu_{it} \end{aligned}$$

Where *ROA* and *ROE* denote commercial bank financial performance; *SB* represents shadow banking; *BR* denotes banking regulation measured by the capital adequacy ratio; *LQ* represents liquidity; *OE* denotes operating efficiency; *INF* represents inflation; *GDP* denotes gross domestic product growth; *MS* represents broad money supply (M3); α is the intercept; β and ϕ are regression coefficients; and μ is the stochastic error term.

Diagnostic and Estimation Procedures

To ensure the validity and reliability of the econometric estimates, a series of diagnostic tests were conducted prior to model estimation using STATA Version 18. Data normality was first assessed using the Shapiro–Wilk test, which indicated that several variables deviated from normality and contained outliers. Spearman's Rank Correlation was employed to examine pairwise relationships among the variables, with the results confirming the absence of problematic correlations. Variance Inflation Factors (VIFs) were subsequently computed to assess multicollinearity, and all VIF values were below the conventional threshold of 10, indicating that multicollinearity was not a concern.

The stationarity properties of the panel data were examined using the Levin–Lin–Chu (LLC) panel unit root test. The results showed that most variables were

stationary at levels, whereas Return on Assets (ROA) and the Capital Adequacy Ratio (CAR) became stationary after first differencing. Long-run equilibrium relationships among the variables were then assessed using both the Kao and Westerlund panel cointegration tests, which confirmed the existence of cointegration. The presence of long-run relationships justified the application of long-run panel estimators. However, further diagnostic testing using the Robust Score Chi-square and Robust Regression F-tests revealed endogeneity involving the Capital Adequacy Ratio (CAR) and Cost-to-Income Ratio (CIR), thereby violating the exogeneity assumption underlying conventional panel regression models. To address these econometric challenges while producing efficient and consistent long-run parameter estimates, the study employed Dynamic Ordinary Least Squares (DOLS) as the principal estimation technique. DOLS is particularly appropriate in the presence of cointegration and endogenous regressors because it corrects for simultaneity bias and serial correlation through the inclusion of leads and lags of first-differenced regressors, thereby producing asymptotically unbiased and efficient estimates. To further validate the robustness of the findings, Fully Modified Ordinary Least Squares (FMOLS) estimates were also generated and compared with the DOLS results.

Results

The study analysed the central tendency of all the variables that were used, and Table 1 is a summary of descriptive statistics.

Table 1: Descriptive Statistics Summary

	N	Mean	SD	Median	Skewness	CV
CAR	182	25.373	11.502	23.370	2.063	0.453
CIR	182	81.064	79.764	75.375	8.243	0.984
Liquidity	182	59.731	25.169	58.385	1.38	0.421
SB	182	20.37	0.453	20.450	-1.101	0.022
ROA	182	4.986	10.919	2.795	3.609	2.19
Inflation	182	80.693	154.371	3.600	2.156	1.913
GDP	182	5.407	7.529	5.100	0.161	1.392
M3	182	22.034	0.51	22.059	0.072	0.023

(Source: Researcher compilation from Stata version 18)

The return on assets variable, measured by the profit after tax to total assets, had a minimum value of -38.19% and a maximum value of 84.36% with a

mean of 4.99%, while the standard deviation was recorded at 10.92. The capital adequacy ratio had a mean value of 25.37% and a standard deviation of 11.50, while the minimum and maximum values were obtained at 4.59% and 83.14%, respectively. The median value was 23.37%.

Return on Assets (ROA), used as the primary measure of commercial bank financial performance, exhibited considerable variability over the study period, ranging from -38.19% to 84.36%, with a mean of 4.99% and a standard deviation of 10.92. The relatively large dispersion, together with the wide range of values, suggests substantial heterogeneity in bank profitability across institutions and time, reflecting the volatile operating environment that characterised Zimbabwe's banking sector between 2009 and 2022. In contrast, the Capital Adequacy Ratio (CAR) recorded a mean of 25.37%, a median of 23.37%, and a standard deviation of 11.50, with values ranging from 4.59% to 83.14%. The relatively high average capital adequacy ratio indicates that, on aggregate, commercial banks maintained capital buffers well above the regulatory minimum during much of the study period, although the wide range observed points to significant differences in capitalisation levels across banks. These preliminary statistics suggest adequate variability in both the dependent and explanatory variables, thereby providing a sound basis for subsequent panel econometric estimation.

The results of the panel regression model for the estimation of the effect of Shadow Banking (sb), Capital Adequacy Ratio (car), Liquidity (liquidity), Cost-to-Income Ratio (cir), Inflation (inflation), Gross Domestic Product (GDP), and Money Supply (M3) on the Return on Assets using FMOLS and DOLS are presented in Table 2.

Table 2: FMOLS and DOLS Regression Results Summary for ROA

FMOLS					DOLS				
Var	β	SE	t	p	Var	β	SE	t	p
car	0.617	0.005	10.346	0.001	car	0.535	0.005	8.911	0.001
cir	0.005	0.001	5.840	0.001	cir	0.005	0.001	5.527	0.001
liquidity	0.003	0.002	1.580	0.116	liquidity	0.003	0.002	1.692	0.093
sb	-2.810	0.065	-3.361	0.004	sb	-4.064	0.066	-2.213	0.000
m3	1.483	0.110	13.437	0.001	m3	1.343	0.090	14.907	0.000
inflation	0.578	0.030	19.096	0.001	inflation	0.544	0.030	17.965	0.000

FMOLS					DOLS				
Var	β	SE	t	p	Var	β	SE	t	p
gdp	0.118	0.041	2.875	0.005	gdp	0.133	0.043	3.124	0.002
R ²	0.796				R ²	0.796			
R ² adj	0.770				R ² adj	0.772			
S.E.	0.757				S.E.	0.744			
LRV	0.243				LRV	0.273			

Sample: 2009 2022; Periods included: 14; Cross-sections included: 13

Table 2 presents the long-run estimation results obtained from the FMOLS and DOLS models. The two estimators produced results, indicating the robustness of the empirical findings. Both models recorded an R^2 of 0.796, implying that approximately 79.6% of the variation in ROA is jointly explained by banking regulation, shadow banking, bank-specific characteristics, and macroeconomic variables. The close similarity between the FMOLS and DOLS estimates further confirms the stability of the estimated long-run relationships.

Capital Adequacy Ratio (CAR) exerted a positive and statistically significant influence on commercial bank performance in both estimation techniques. Under the FMOLS model, CAR recorded a coefficient of 0.617 ($p = 0.001$), while the DOLS estimator produced a coefficient of 0.535 ($p = 0.001$). The findings indicate that well-capitalised banks generate superior returns on assets, reinforcing the importance of prudential capital regulation in enhancing financial resilience and profitability. The results support the argument that adequate capital buffers improve banks' capacity to absorb unexpected losses, strengthen depositor confidence, and facilitate sustainable financial intermediation.

Similarly, operating efficiency, measured by the Cost-to-Income Ratio (CIR), exhibited a positive and statistically significant relationship with ROA across both estimators (FMOLS: $\beta = 0.005$, $p < 0.001$; DOLS: $\beta = 0.005$, $p < 0.001$). The consistency of these estimates suggests that improvements in operational efficiency enhance bank profitability. More efficient utilisation of operating resources enables banks to minimise costs while maximising returns on productive assets, thereby strengthening overall financial performance.

In contrast, liquidity displayed a positive but statistically insignificant association with ROA under both estimation methods (FMOLS: $\beta = 0.003$, $p = 0.116$; DOLS: $\beta = 0.003$, $p = 0.093$). Although the positive coefficients suggest that

maintaining adequate liquidity may contribute to improved profitability, the absence of statistical significance indicates that liquidity management alone was not a primary determinant of commercial bank performance during the study period. This finding may reflect Zimbabwe's volatile financial environment, where liquidity preservation was often driven by prudential considerations rather than profitability objectives.

The results identify shadow banking as a significant determinant of commercial bank performance. Both estimators produced statistically significant negative coefficients, although the magnitude differed slightly between models (FMOLS: $\beta = -2.810$, $p = 0.004$; DOLS: $\beta = -4.064$, $p < 0.001$). The stronger negative coefficient under the DOLS estimator suggests that, after correcting for endogeneity and dynamic adjustments, the adverse long-run effect of shadow banking on commercial bank profitability becomes even more pronounced. These findings imply that the expansion of non-bank financial intermediation may divert deposits, intensify competition for financial resources, and create opportunities for regulatory arbitrage, thereby weakening the profitability of regulated commercial banks. The consistency of this result across both estimators provides strong empirical support for strengthening the regulatory oversight of shadow banking within Zimbabwe's financial system.

Among the macroeconomic variables, broad money supply (M3) exerted a positive and statistically significant influence on ROA in both models (FMOLS: $\beta = 1.483$, $p < 0.001$; DOLS: $\beta = 1.343$, $p < 0.001$). Although the estimated effect was marginally lower under the DOLS specification, both models suggest that monetary expansion improves banking sector profitability by increasing liquidity, supporting credit creation, and stimulating financial intermediation. Likewise, inflation maintained a positive and highly significant relationship with ROA (FMOLS: $\beta = 0.578$, $p < 0.001$; DOLS: $\beta = 0.544$, $p < 0.001$), suggesting that commercial banks were able to preserve or enhance profitability during inflationary periods, possibly through adjustments in lending rates, interest margins, and asset pricing strategies.

Finally, Gross Domestic Product (GDP) growth exhibited a positive and statistically significant association with commercial bank performance under both estimation techniques (FMOLS: $\beta = 0.118$, $p = 0.005$; DOLS: $\beta = 0.133$, $p < 0.001$). This finding indicates that improved macroeconomic performance enhances banking sector profitability by increasing economic activity, expanding credit demand, and improving borrowers' repayment capacity.

Overall, the FMOLS and DOLS estimations produce remarkably consistent evidence regarding the long-run determinants of commercial bank performance in Zimbabwe. Capital adequacy, operating efficiency, money supply, inflation, and economic growth all contribute positively to bank profitability, whereas shadow banking exerts a significant negative influence. Liquidity, although positively associated with profitability, does not emerge as a statistically significant predictor. The close correspondence between the FMOLS and DOLS estimates reinforces the robustness of the findings and provides compelling empirical support for the development of an inclusive and sustainable banking regulatory framework that strengthens prudential capital requirements while extending regulatory oversight to the shadow banking sector. Such a framework would minimise regulatory arbitrage, enhance financial stability, and promote sustainable commercial bank performance.

FMOLS and DOLS Model for Return on Equity (ROE)

The results of the panel regression model for the estimation of the Return on Equity using FMLOS and DOLS are presented in Table 3.

Table 3: FMOLS and DOLS Model for Return on Equity (ROE)

FMOLS					DOLS				
Var	β	SE	t	p	Var	β	SE	t	p
car	0.036	0.010	3.541	0.005	car	0.028	0.013	2.039	0.044
cir	0.003	0.001	1.854	0.065	cir	0.007	0.003	2.239	0.027
liquidity	0.012	0.004	2.919	0.004	liquidity	0.018	0.006	2.939	0.004
sb	-1.152	0.132	-8.700	0.000	sb	-1.287	0.222	-5.796	0.000
m3	1.461	0.112	13.031	0.000	m3	1.342	0.090	14.847	0.000
inflation	0.576	0.030	19.006	0.000	inflation	0.541	0.030	17.897	0.000
gdp	0.132	0.041	3.177	0.002	gdp	0.147	0.043	3.415	0.001
R ²	0.560				R ²	0.719			
R ² adj	0.513				R ² adj	0.529			
S.E.	1.101				S.E.	1.083			
LRV	1.238				LRV	0.734			

Sample: 2009-2022; Periods included: 14; Cross-sections included: 13

Table 3 presents the long-run estimation results for Return on Equity (ROE) using the Fully Modified Ordinary Least Squares (FMOLS) and Dynamic Ordinary Least Squares (DOLS) estimators. Both models produced statistically reliable estimates, although the DOLS specification exhibited superior explanatory

power. The FMOLS model explained 56.0% of the variation in ROE ($R^2 = 0.560$), whereas the DOLS estimator increased the explanatory power to 71.9% ($R^2 = 0.719$). The higher explanatory capacity and lower standard error reported under DOLS further justify its adoption as the preferred estimator following the identification of endogeneity during the diagnostic analysis. Nevertheless, the similarity of coefficient signs and statistical significance across both estimators demonstrates the robustness and stability of the long-run relationships.

Consistent with the ROA estimations, Capital Adequacy Ratio (CAR) exerted a positive and statistically significant influence on shareholders' returns under both FMOLS ($\beta = 0.036, p = 0.005$) and DOLS ($\beta = 0.028, p = 0.044$). These findings suggest that stronger prudential capital regulation enhances shareholder value by improving institutional stability, strengthening market confidence, and increasing banks' capacity to undertake profitable lending and investment activities. The consistency of this relationship across both profitability indicators confirms that capital adequacy remains a critical determinant of commercial bank performance within Zimbabwe's banking sector.

Similarly, operating efficiency, measured by the Cost-to-Income Ratio (CIR), maintained a positive and statistically significant relationship with ROE in both estimators (FMOLS: $\beta = 0.003, p = 0.065$; DOLS: $\beta = 0.007, p = 0.027$). Although the magnitude of the coefficients remains relatively small, the findings indicate that improvements in operational efficiency translate into higher returns to shareholders. Efficient cost management enables commercial banks to maximise earnings from available resources while strengthening long-term financial sustainability.

Unlike the ROA estimations, liquidity emerged as a statistically significant determinant of ROE in both FMOLS ($\beta = 0.012, p = 0.004$) and DOLS ($\beta = 0.018, p = 0.004$). The stronger effect on ROE suggests that maintaining adequate liquidity enhances shareholder returns by improving banks' ability to meet financial obligations, exploit lending opportunities, and respond effectively to changing market conditions. This result reflects the importance of prudent liquidity management within Zimbabwe's volatile financial environment, where maintaining depositor confidence remains fundamental to banking sector stability.

The findings further identify shadow banking as the most important adverse determinant of commercial bank performance. Both FMOLS ($\beta = -1.152, p <$

0.001) and DOLS ($\beta = -1.287, p < 0.001$) reveal a statistically significant negative association between shadow banking and ROE. Together with the corresponding ROA results, this provides compelling evidence that the expansion of non-bank financial intermediation undermines the profitability of regulated commercial banks. The findings suggest that shadow banking diverts deposits and lending opportunities away from commercial banks while creating opportunities for regulatory arbitrage that weaken the effectiveness of prudential supervision. The consistency of this relationship across both profitability measures provides strong empirical justification for extending regulatory oversight beyond traditional banking institutions to encompass functionally equivalent financial intermediaries.

The macroeconomic variables also produced stable and theoretically consistent results across both estimators. Broad money supply (M3) remained positively associated with ROE (FMOLS: $\beta = 1.461$; DOLS: $\beta = 1.342$, both $p < 0.001$), indicating that monetary expansion supports banking sector profitability by increasing liquidity and stimulating credit creation. Likewise, inflation maintained a strong positive relationship with shareholder returns (FMOLS: $\beta = 0.576$; DOLS: $\beta = 0.541$, both $p < 0.001$), suggesting that commercial banks successfully adjusted lending rates and interest margins during inflationary periods, thereby preserving profitability despite broader macroeconomic instability. Finally, GDP growth exhibited a positive and statistically significant effect under both estimators (FMOLS: $\beta = 0.132, p = 0.002$; DOLS: $\beta = 0.147, p = 0.001$), confirming that improved macroeconomic performance stimulates banking profitability through increased investment activity, higher credit demand, and improved loan repayment capacity.

Taken together, the ROA and ROE estimations present a remarkably consistent picture of the determinants of commercial bank performance in Zimbabwe. Capital adequacy, operating efficiency, money supply, inflation, and GDP growth consistently enhance financial performance, whereas shadow banking persistently weakens profitability across both accounting measures. Although liquidity contributes positively to both ROA and ROE, its influence is considerably stronger for shareholder returns than for asset returns. The consistency of the findings across FMOLS and DOLS demonstrates that the observed relationships are not estimation-specific but represent stable long-run characteristics of Zimbabwe's banking sector.

Discussion

The principal contribution of this study lies in demonstrating that the financial performance of Zimbabwean commercial banks is jointly determined by prudential regulation, shadow banking, institutional efficiency, and macroeconomic conditions rather than by banking regulation in isolation. The findings validate the conceptual framework developed in this study, which proposed that the interaction between regulatory factors, financial intermediation structures, institutional characteristics and macroeconomic fundamentals shapes commercial bank performance. More importantly, the consistency of the coefficients across both the FMOLS and DOLS estimators confirms that the observed relationships represent stable long-run structural relationships rather than temporary statistical associations. Given that the DOLS estimator was adopted after the diagnostic tests identified endogeneity and cointegration, the convergence of both estimators considerably strengthens the robustness and credibility of the empirical evidence. The findings therefore provide empirical confirmation of the research proposition advanced in the Introduction that understanding commercial bank performance in Zimbabwe requires simultaneous examination of banking regulation and shadow banking within a fragmented regulatory environment rather than treating the two sectors independently.

The positive and statistically significant influence of the CAR on both ROA and ROE supports the Theory of Financial Regulation, which argues that prudential regulation exists because banking markets are characterised by information asymmetry, moral hazard, adverse selection and systemic externalities that private markets cannot efficiently internalise (Stigler, 1971; Llewellyn, 1999; Financial Stability Board [FSB], 2016). The findings further suggest that stronger capital adequacy requirements enhance institutional resilience by strengthening banks' capacity to absorb unexpected losses, improving depositor confidence and reducing insolvency risk, thereby enhancing both asset utilisation and shareholder returns. These findings reinforce the argument advanced in the Introduction that Zimbabwe's post-crisis banking reforms were designed to restore confidence following recurrent banking failures that exposed weaknesses in prudential supervision, liquidity management, corporate governance and financial discipline (Dzingirai & Katuka, 2014; Dzomira, 2014; Chidziva, 2016; Mlambo & Masiyandima, 2020; Nyaude, 2021). They equally validate the background discussion that amendments to the Banking Act, the strengthening

of the Reserve Bank of Zimbabwe's supervisory mandate and the establishment of the Deposit Protection Corporation progressively enhanced institutional resilience through stronger prudential oversight (Nhavira et al., 2013; Dzapasi, 2020; RBZ, 2022; Ncube & Chitimira, 2025).

Thus, the findings are consistent with an expanding body of scholarly evidence demonstrating that stronger prudential regulation improves commercial bank performance through enhanced solvency, reduced financial distress, stronger depositor confidence and sustainable credit creation (Mayes & Stremmel, 2012; Chavarrín, 2015; Albulescu, 2015; Rahman et al., 2015; Torbira et al., 2016; Abdul, 2017; Oino, 2017; Mathuva, 2019; Dao, 2020; Margono et al., 2020; Nayak, 2021). The studies collectively suggest that capital adequacy should be viewed not merely as a statutory compliance requirement but as a strategic governance instrument that strengthens banking sector resilience and improves long-term institutional sustainability. The present study extends this literature by demonstrating that regulatory effectiveness depends not only on the level of capital regulation but also on the coherence of the wider supervisory architecture within which commercial banks operate. The findings also directly address the gap identified in the literature review, namely that previous studies have largely examined banking regulation and commercial bank performance independently while paying limited attention to the interaction between prudential regulation, shadow banking and fragmented supervisory arrangements within developing economies (FSB, 2016; Feve et al., 2019; Mugobo & Mutize, 2019). The evidence therefore suggests that regulatory architecture is as important as regulatory intensity in explaining banking sector performance.

Nevertheless, the findings diverge from studies reporting that stringent prudential regulation suppresses bank profitability by increasing compliance costs and constraining lending (Gausi & Grima, 2020; Bala-Keffi et al., 2020; Li & Li, 2021; Nsanyan et al., 2021). Rather than indicating inconsistency, this divergence appears to reflect contextual differences between mature and financially fragile banking systems. Zimbabwe's banking sector has historically operated under prolonged macroeconomic instability characterised by hyperinflation, exchange-rate volatility, declining public confidence, liquidity shortages and repeated episodes of institutional failure. Under the conditions, stronger prudential regulation appears to generate confidence effects that outweigh the compliance costs associated with higher capital requirements. Within fragile financial systems, prudential regulation performs a broader developmental function by strengthening institutional credibility, restoring

market confidence and reinforcing financial stability. The finding contributes to the growing literature suggesting that the effectiveness of banking regulation remains contingent upon institutional quality, macroeconomic stability and regulatory coherence rather than capital requirements alone (Kiplagat, 2020; Korneev et al., 2023).

Perhaps the most important contribution of the study concerns the role of shadow banking. Across both profitability measures and both long-run estimators, shadow banking consistently exerted a statistically significant negative influence on commercial bank performance. Unlike earlier studies that primarily emphasised the role of shadow banking in expanding financial inclusion, diversifying funding sources and improving access to credit (Gebauer & Mazelis, 2018; Ilesanmi & Tewari, 2019), the present findings demonstrate that within Zimbabwe's fragmented regulatory architecture these benefits are outweighed by the adverse consequences of regulatory arbitrage, supervisory asymmetry and competitive distortions. As argued in the Background section, Zimbabwe continues to regulate commercial banks, capital market institutions and insurance institutions through separate supervisory authorities despite increasing functional convergence between these financial intermediaries (Dzapasi, 2020; Mugobo & Mutize, 2019; RBZ, 2022). Economically, similar financial activities remain subject to fundamentally different prudential standards, encouraging financial intermediation to migrate towards less regulated institutions. The findings therefore empirically confirm the concerns expressed by the Financial Stability Board (2016), Huang (2018), Sun (2019), Yang et al. (2019) and Thiemann (2018) that fragmented supervisory systems create opportunities for regulatory arbitrage, weaken macroprudential oversight and increase systemic interconnectedness.

The findings also offer important theoretical insights into the relationship between the Theory of Financial Regulation, Capture Theory, Public Interest Theory and Private Interest Theory discussed in the literature review. Whereas Public Interest Theory assumes that regulation corrects market failures for the benefit of society (Hantke-Domas, 2003), Capture Theory argues that regulatory institutions frequently evolve in ways that leave important segments of financial markets beyond effective supervision (Stigler, 1971; Cohen & Sundararajan, 2015; Omran & El-Galfy, 2014). The persistence of the negative influence of shadow banking suggests that regulatory fragmentation itself has become a source of systemic financial risk. The findings, therefore, extend existing theory by demonstrating that regulatory effectiveness depends not only on

the intensity of prudential supervision but also on institutional coordination and functional integration across the entire financial system. This represents an important theoretical contribution because it shifts attention from regulating institutions to regulating financial activities according to their underlying risks, consistent with the growing international movement towards activity-based and risk-based regulation advocated by the Financial Stability Board (2016), Feve et al. (2019) and Mugobo and Mutize (2019).

The positive relationships observed for operating efficiency, money supply, inflation and GDP growth further reinforce the multidimensional explanation of banking performance proposed in the conceptual framework. Operating efficiency improved both ROA and ROE, confirming that prudent cost management remains fundamental to sustainable profitability irrespective of regulatory conditions. Likewise, broad money supply positively influenced banking performance by expanding liquidity, supporting financial intermediation and facilitating credit creation, while GDP growth enhanced profitability through increased investment activity, stronger loan demand and improved repayment capacity. Inflation similarly exhibited a positive relationship with banking performance, suggesting that Zimbabwean commercial banks successfully adjusted lending rates, interest margins and pricing strategies sufficiently to preserve profitability during inflationary periods. Collectively, these demonstrate that prudential regulation operates within a broader macroeconomic ecosystem where institutional regulation, monetary policy and economic growth interact to shape banking sector performance. The observation directly supports the conceptual framework advanced in this study, which positioned banking regulation, shadow banking, institutional characteristics and macroeconomic fundamentals as mutually reinforcing determinants of commercial bank performance rather than isolated explanatory variables.

From a policy perspective, the empirical findings provide justification for transitioning from Zimbabwe's existing institution-based supervisory architecture towards an integrated activity- and risk-based regulatory framework. As demonstrated throughout the Background section, the current silo approach allocates supervisory responsibilities according to institutional categories despite increasing convergence between commercial banks and shadow banking institutions (Dzapasi, 2020; RBZ, 2022; Ncube & Chitimira, 2025).

Based on the findings, the regulatory asymmetry weakens commercial bank profitability while simultaneously increasing systemic financial vulnerability. The Unified Regulatory Framework (Figure 2) was proposed in this study, which emerged directly from the econometric evidence rather than merely from theoretical reasoning.

By integrating macroprudential regulation, market conduct supervision, coordinated risk monitoring, proportionate oversight of shadow banking institutions and greater institutional coordination, the framework directly addresses the structural weaknesses identified. It equally aligns Zimbabwe's regulatory trajectory with international developments such as the Twin Peaks approach adopted in South Africa, Australia, the Netherlands and New Zealand, where supervision focuses on financial functions and systemic risks rather than institutional categories alone (Schoemaker & Véron, 2021; FSB, 2016).

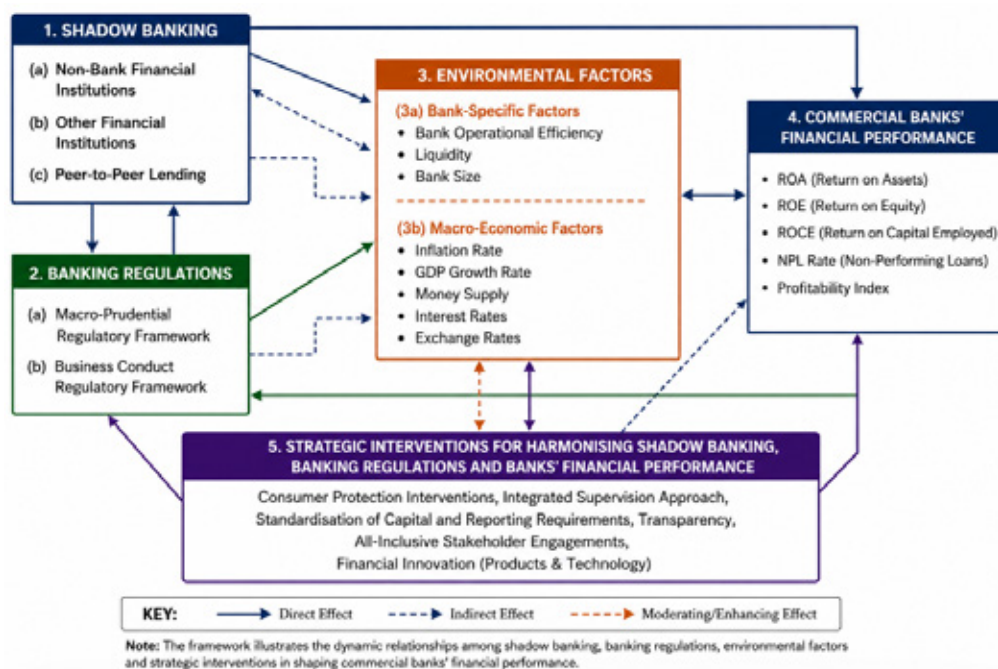


Figure 2: The Unified Regulatory Framework

Source: Author compilation

The Unified Regulatory Framework (URF) (Figure 2) was derived from the empirical findings, conceptual framework, and reviewed literature of this paper. It integrates the statistically significant determinants of commercial

banks' financial performance identified through the FMOLS and DOLS estimations into a coherent regulatory model for strengthening banking sector resilience in Zimbabwe. The framework responds directly to the study's principal finding that while prudential banking regulation, particularly capital adequacy, significantly enhances commercial bank performance, the expansion of shadow banking exerts a persistent negative influence through regulatory arbitrage, fragmented supervision and increased systemic risk. Consequently, the framework shifts regulatory emphasis from institution-based supervision towards an integrated activity- and risk-based regulatory architecture that harmonises oversight across conventional and shadow banking institutions.

The framework comprises five interrelated components. The first captures the shadow banking system, represented by non-bank financial institutions, other financial intermediaries and peer-to-peer lending platforms, which increasingly undertake bank-like credit intermediation outside traditional prudential regulation. The second component comprises banking regulation, organised around macro-prudential supervision and market conduct regulation, reflecting the dual objectives of safeguarding financial stability while promoting market integrity and consumer protection. The third component incorporates bank-specific and macroeconomic factors, including operational efficiency, liquidity, inflation, GDP growth, money supply, interest rates and exchange rates, recognising the empirical finding that commercial bank performance is jointly influenced by institutional characteristics and the broader macroeconomic environment. The fourth component measures commercial banks' financial performance using multiple indicators, namely ROA, ROE, ROCE, NPL ratio and the Profitability Index, thereby providing a comprehensive assessment of banking sector performance.

The fifth component translates the empirical findings into strategic regulatory interventions designed to strengthen financial stability and minimise regulatory asymmetries. These interventions include integrated supervision across financial intermediaries, harmonised capital and reporting requirements, enhanced transparency and information sharing, consumer protection, inclusive stakeholder engagement and regulatory support for responsible financial innovation. Collectively, these interventions seek to reduce regulatory arbitrage, improve coordinated risk management and strengthen macroprudential oversight while preserving the developmental contribution of financial innovation and financial inclusion.

The proposed framework is founded on several assumptions necessary for its effective implementation. It assumes that bank holding structures and inter-company transactions are fully disclosed, with both on- and off-balance-sheet exposures accurately reflected in commercial banks' financial statements, thereby limiting opportunities for regulatory arbitrage and hidden risk accumulation. It further assumes that shadow banking institutions operate without implicit government guarantees or deposit insurance, preserving market discipline and ensuring that risks are appropriately priced. Finally, the framework presupposes that regulatory authorities possess adequate institutional capacity, supervisory authority, and access to reliable data to identify, monitor, and assess the size, interconnectedness, and systemic risks associated with shadow banking activities.

The framework is intended to guide implementation by financial sector regulators, particularly the Reserve Bank of Zimbabwe and other supervisory authorities responsible for non-bank financial institutions. Its implementation begins with recognising that shadow banking and commercial banking constitute an increasingly integrated financial ecosystem in which risks originating within one sector rapidly transmit to the other. Consistent with the empirical findings, regulatory attention should therefore extend beyond conventional banking institutions towards economically equivalent financial activities regardless of institutional form.

The framework advocates proportionate prudential requirements for shadow banking institutions, including minimum capital standards, liquidity requirements and standardised reporting obligations, to minimise systemic contagion and improve regulatory transparency. It further promotes coordinated supervision, integrated risk assessment and information sharing among financial regulators to reduce supervisory fragmentation and strengthen financial stability. Simultaneously, the framework recognises that regulation should facilitate rather than constrain financial innovation by encouraging responsible technological development, digital financial services and inclusive financial products within an appropriate prudential environment.

Implementation of the proposed framework is expected to produce a more coherent, integrated and resilient regulatory system capable of strengthening commercial bank performance while reducing systemic risks arising from shadow banking. By harmonising prudential oversight across functionally

similar financial intermediaries, the framework is expected to reduce regulatory arbitrage, improve supervisory coordination, strengthen depositor confidence and enhance the overall stability and sustainability of Zimbabwe's financial sector.

Notwithstanding these anticipated benefits, successful implementation depends on the availability of reliable supervisory data, effective inter-agency coordination and adequate institutional capacity. Particular challenges may arise in monitoring decentralised and technology-driven shadow banking activities, especially peer-to-peer lending platforms and other digital financial intermediaries whose transactions may remain partially outside conventional reporting systems. Addressing these limitations will require continuous regulatory innovation, improved data-sharing mechanisms and adaptive supervisory approaches capable of responding to the rapidly evolving financial landscape.

This study examined the effects of banking regulation and shadow banking on the financial performance of commercial banks in Zimbabwe and developed a Unified Regulatory Framework for strengthening financial sector stability. Using panel data from 13 commercial banks over the period 2009–2022 and employing both FMOLS and DOLS estimators, the study established that prudential banking regulation, proxied by the Capital Adequacy Ratio, exerts a positive and statistically significant influence on both Return on Assets and Return on Equity. Conversely, shadow banking consistently exhibited a significant negative effect on commercial bank performance, indicating that fragmented regulatory oversight facilitates regulatory arbitrage, weakens prudential supervision, and undermines banking sector stability. The findings further demonstrated that operational efficiency and favourable macroeconomic conditions, particularly money supply and economic growth, contribute positively to banking performance.

The study, therefore, concludes that regulatory architecture is as important as regulatory intensity in determining banking sector performance. Strengthening prudential regulation alone is insufficient where shadow banking continues to operate outside comparable supervisory standards. Achieving an inclusive, resilient and sustainable banking sector requires an integrated activity- and risk-based regulatory framework capable of harmonising oversight across both conventional banking and shadow banking institutions while preserving financial innovation and financial inclusion.

Recommendations

The findings suggest several policy interventions for strengthening Zimbabwe's banking sector. First, the Reserve Bank of Zimbabwe, working together with the Securities and Exchange Commission of Zimbabwe and other financial regulators, should adopt and operationalise the proposed URF to transition from the current institution-based supervisory model towards an integrated activity- and risk-based regulatory framework that subjects economically equivalent financial activities to comparable prudential standards. Such an approach would minimise regulatory arbitrage and strengthen systemic financial stability.

Second, prudential regulation should be strengthened through the harmonisation of capital adequacy, liquidity, and regulatory reporting requirements across commercial banks and systemically important shadow banking institutions. This would require the development or amendment of legislation that empowers regulatory authorities to impose proportionate prudential requirements on shadow banking activities consistent with international standards advocated by the Bank for International Settlements (BIS) and the Financial Stability Board (FSB).

Third, regulatory authorities should establish integrated supervisory and information-sharing mechanisms that facilitate coordinated monitoring of risks across the entire financial system. Such coordination should include regular reporting by shadow banking institutions, consolidated risk assessment, enhanced transparency, and early-warning systems capable of identifying emerging systemic vulnerabilities before they threaten banking sector stability.

Finally, commercial bank management should continue strengthening operational efficiency and regulatory compliance while embracing responsible financial innovation. Given the positive influence of operational efficiency on profitability observed in this study, banks should improve cost management, maintain adequate capital buffers, and strengthen liquidity management without constraining innovation. At the same time, regulators should develop an enabling regulatory environment that supports technological innovation and financial inclusion while ensuring that innovation develops within an effective prudential and market conduct framework. Collectively, these measures would enhance commercial bank performance, strengthen financial resilience, and support sustainable economic development in Zimbabwe.

Further Research

This study focused on commercial banks operating in Zimbabwe and therefore provides opportunities for further research. Future studies should extend the analysis to other regulated financial institutions, including merchant banks, building societies, savings banks, microfinance institutions and insurance companies, to develop a more comprehensive understanding of how regulatory architecture influences the performance and stability of the broader financial sector.

Comparative studies involving other sub-Saharan African economies would also provide valuable insights into whether the relationships observed in Zimbabwe are context-specific or characteristic of developing financial systems with fragmented supervisory structures.

Future research should further refine the measurement of both banking regulation and shadow banking by incorporating additional prudential, market conduct and systemic risk indicators beyond capital adequacy and non-bank financial institution assets. Such multidimensional measures would facilitate a more nuanced assessment of the interaction between regulation, financial innovation and banking performance. In addition, future studies should report on the effectiveness of the proposed Unified Regulatory Framework using simulation models, policy experiments or cross-country empirical validation to determine its capacity to strengthen financial stability under different regulatory and macroeconomic conditions.

Finally, given the rapid digital transformation of financial services, future research should investigate how emerging technologies, including fintech, digital banking, artificial intelligence, blockchain, central bank digital currencies and decentralised finance (DeFi), are reshaping shadow banking activities and regulatory effectiveness. Such studies would facilitate the continuous refinement of the URF, ensuring that it remains responsive to evolving financial innovations while promoting an inclusive, resilient and sustainable banking system.

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