International Journal of Finance and Banking Research
2024, Vol. 10, No. 4, pp. 65-74
https://doi.org/10.11648/j.ijfbr.20241004.11

SciencePG
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Research Article

Macroeconomic Factors Influencing Deposit Mobilization of Commercial Banks

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Abstract

Deposit mobilization plays a vital role in the operations of commercial banks, facilitating financial intermediation and fostering economic development. This study delves into the impact of key macroeconomic factors on the deposit mobilization performance of commercial banks within the context of a developing economy. Through the application of panel data regression analysis, the research explores the dynamics between deposit mobilization and various macroeconomic variables, including inflation, interest rates, real GDP, exchange rates, monetary supply, and GDP per capita. The results indicate that both inflation and the monetary supply (measured by the M2/GDP ratio) exert a statistically significant negative effect on deposit mobilization. Furthermore, the investment deposit ratio also demonstrates a notable negative relationship with deposit mobilization. Conversely, GDP per capita shows a marginally significant positive correlation with deposit mobilization. The study includes a thorough descriptive analysis of the macroeconomic environment, assessing trends in inflation, exchange rates, real GDP growth, interest rates, and the expansion of money supply. This contextual review highlights a mixed macroeconomic landscape characterized by both favorable and adverse factors, which likely impact the deposit mobilization performance of commercial banks. The findings from this research offer valuable insights for policymakers and stakeholders within the banking sector. By informing the development of strategic initiatives aimed at promoting financial inclusion, enhancing asset-liability management practices, and bolstering the resilience of the banking system, stakeholders can effectively address the identified macroeconomic determinants influencing deposit mobilization.

Keywords

Deposit Mobilization, Macroeconomic Factors, Financial Inclusion, Economic Development

1. Introduction

The mobilization of deposits by commercial banks is a crucial aspect of financial intermediation and the development of the banking sector [33]. Deposit mobilization (DM) not only provides banks with a stable source of funding for their lending activities but also enables them to channel funds to productive investment opportunities, thereby promoting economic growth [1]. However, the deposit mobilization performance of commercial banks can be influenced by various macroeconomic factors, such as inflation, real GDP growth, interest rates, exchange rates, and financial depth (as measured by the M2 to GDP ratio).

Modigliani and Brumberg introduced the Life-Cycle Hypothesis (LCH), which posits that individuals plan their consumption and savings based on lifetime income rather than

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Received: 4 August 2024; **Accepted:** 3 September 2024; **Published:** 23 September 2024

current income. This theory suggests that consumers seek to maximize their utility over time by balancing consumption and savings to address future needs [20]. Okeahalam further explores how economic factors such as interest rates, inflation, and income levels affect the willingness of individuals and businesses to deposit funds in banks [28].

Theoretically, high and volatile inflation can undermine the savings and investment decisions of economic agents, thus hampering the ability of banks to mobilize deposits [4]. Conversely, sustained economic growth is expected to increase the demand for banking services and promote financial deepening [15]. Interest rates play a crucial role in the deposit mobilization and lending activities of banks, as per the loanable funds theory [17]. Exchange rate stability can enhance the confidence of economic agents in the banking system and promote financial intermediation [14]. Finally, a higher M2 to GDP ratio is associated with greater financial depth and the ability of the banking sector to mobilize deposits and channel funds to productive investment opportunities [12].

Empirical studies have also explored the relationship between these macroeconomic factors and deposit mobilization. For instance, Naceur, S. B., found a negative relationship between inflation and banking sector development in the Middle East and North Africa region [21]. Odhiambo, N. M., showed that economic growth has a positive impact on the development of the banking sector in South Africa [26]. Olokoyo, F. O., found a positive relationship between interest rates and deposit mobilization in Nigeria [29]. Akinlo, A. E., & Lawal, Q. A., demonstrated that exchange rate volatility has a negative impact on the development of the banking sector in Nigeria [2]. Siddik, M. N. A., Kabiraj, S., & Joghee, S., found a positive relationship between the M2 to GDP ratio and deposit mobilization in Bangladesh [32].

The title "Macroeconomic Factors Influencing Deposit Mobilization of Commercial Banks" reflects the focus of this study on the role of key macroeconomic variables, such as inflation, real GDP growth, interest rates, exchange rates, and financial depth (as measured by the M2 to GDP ratio), in shaping the deposit mobilization performance of commercial banks. The inclusion of GDP per capita and the investment-to-deposit ratio further enhances the comprehensiveness of the analysis, as these factors can also influence the savings and investment decisions of economic agents, which in turn impact the ability of banks to mobilize deposits.

By incorporating both theoretical underpinnings and empirical evidence, this study builds on the existing literature by providing a comprehensive analysis of the macroeconomic determinants of deposit mobilization using a panel dataset of commercial banks. The findings offer insights for bank management and policymakers seeking to promote a stable and well-capitalized banking sector.

Contribution and Significant of the Study

This research on the determinants of deposit mobilization in the banking sector is significant for several reasons:

1. *Enhancing Financial Inclusion:* Successful deposit mobilization is crucial for banks to perform their function as financial intermediaries, facilitating the flow of funds from savers to borrowers and supporting the overall growth of the financial sector. By identifying the key factors influencing deposit mobilization, banks and policymakers can create strategies and policies aimed at promoting financial inclusion and expanding banking services, especially in underserved communities and among marginalized groups.
2. *Supporting Economic Growth:* The study identifies factors that enhance domestic savings mobilization, providing insights for policymakers and banks to facilitate productive investments and support economic development.
3. *Informing Regulatory Frameworks:* Findings can guide the creation of regulatory policies that promote savings and investments, ultimately strengthening the financial sector.
4. *Enhancing Bank Competitiveness:* Understanding deposit mobilization determinants helps banks attract and retain customers, improving their competitiveness and sustainability, especially in developing economies.
5. *Advancing Knowledge:* This study contributes to academic literature on deposit mobilization and provides practical insights for bank managers and policymakers, enabling evidence-based decision-making.

Overall, the significance of this research study lies in its potential to inform and support the development of a more robust, inclusive, and efficient banking sector, which is essential for fostering economic growth, financial stability, and sustainable development in developing and emerging economies.

2. Theoretical Literature Review

2.1. Major Theories of Deposit Behavior

2.1.1. The Life-Cycle Hypothesis (LCH)

The life-cycle hypothesis, developed by Modigliani, F. et al. and Ando, A. et al., suggests that individuals make savings and consumption decisions based on their lifetime income and wealth [3, 19]. According to this theory, individuals save during their working years to smooth their consumption over their lifetime, and then draw down their savings during retirement. This theory implies that deposit behavior is influenced by factors such as age, income, and wealth.

2.1.2. The Permanent Income Hypothesis (PIH)

The permanent income hypothesis, proposed by Friedman, M., posits that individuals base their consumption decisions on their expected long-term or "permanent" income, rather than their current income [10]. This means that individuals save

when their current income is above their permanent income and not-save when their current income is below their permanent income. The implication for deposit behavior is that individuals are more likely to save and hold deposits when their permanent income is high relative to their current income.

2.1.3. The Buffer-Stock Theory of Saving

The buffer-stock theory of saving, developed by Carroll, C. D. & Deaton, A., suggests that individuals hold a stock of liquid assets, such as bank deposits, to protect against unexpected income shocks [5, 6]. According to this theory, individuals save a portion of their income to build up a buffer stock of savings, which they can draw upon when necessary. This theory implies that deposit behavior is influenced by factors such as income uncertainty and precautionary motives.

2.1.4. The Behavioral Life-Cycle Hypothesis (BLCH)

The behavioral life-cycle hypothesis, introduced by Shefrin, H. M., & Thaler, R. H., integrates aspects of the life-cycle hypothesis with principles from behavioral economics [31]. This theory posits that individuals may experience issues with self-control and mental accounting biases that impact their saving and deposit behaviors. For instance, people might categorize specific deposits as either "current income" or "wealth," which can affect their inclination to withdraw or spend those funds.

2.1.5. The Agency-Based Theory of Deposit Behavior

The agency-based theory of deposit behavior, developed by Diamond, D. W., focuses on the role of banks in providing liquidity insurance to depositors [9]. According to this theory, banks can offer deposit contracts that allow depositors to withdraw their funds whenever they need to, while also investing in long-term, illiquid assets. This theory suggests that deposit behavior is influenced by factors such as the perceived stability of the banking system and the availability of deposit insurance.

These major theories of deposit behavior provide a theoretical foundation for understanding how individuals and households make decisions about holding bank deposits, and how these decisions are influenced by a variety of economic, demographic, and institutional factors.

2.2. Theoretical Factors Affecting Bank Deposit Mobilization

2.2.1. Interest Rates (IR)

The theory of loanable funds suggests that higher deposit interest rates can incentivize economic agents to hold more bank deposits, thereby increasing the deposit mobilization capacity of commercial banks [17]. Higher lending rates can also encourage savings and discourage borrowing, leading to an increase in deposit mobilization [29].

2.2.2. Inflation (INF)

The Barro, R. J., model and the work of Mishkin, F., suggest that high and volatile inflation can erode the real value of savings and reduce the purchasing power of economic agents, discouraging them from holding bank deposits, thereby negatively affecting deposit mobilization [4, 18].

2.2.3. Real GDP Growth (RGDP)

The theoretical framework of financial development and economic growth, as proposed by Levine, R., suggests that sustained economic growth can promote financial deepening and increase the demand for banking services [15]. As the economy expands, households and businesses are more likely to have surplus funds, which they may choose to deposit with commercial banks, thereby enhancing the deposit mobilization capacity of the banking sector [12].

2.2.4. Exchange Rate (EXR)

The theory of financial intermediation, as articulated by Kiyota, H., suggests that exchange rate stability can enhance the confidence of economic agents in the banking system and promote financial intermediation, including deposit mobilization [14]. Stable exchange rates can reduce the perceived risk associated with holding bank deposits, particularly in the case of foreign currency-denominated deposits [2].

2.2.5. M2 to GDP Ratio (M2GDP)

The theoretical relationship between the M2 to GDP ratio and deposit mobilization is based on the concept of financial depth, as discussed by [8]. A higher M2 to GDP ratio indicates greater financial depth, which is associated with the ability of the banking sector to mobilize deposits and channel funds to productive investment opportunities [12].

2.2.6. GDP per Capita (GDPCAP)

The theoretical relationship between GDP per capita and deposit mobilization is grounded in the idea that higher levels of economic development are associated with increased savings and the demand for banking service [8]. As GDP per capita rises, households and businesses are more likely to have surplus funds, which they may choose to deposit with commercial banks [23].

2.2.7. Investment-to-Deposit Ratio (IDR)

The theoretical underpinning of the investment to-deposit ratio and its relationship with deposit mobilization is based on the efficient allocation of financial resources, as discussed by [8]. A higher investment-to-deposit ratio indicates that banks are effectively channeling their mobilized deposits into productive investment opportunities, which can enhance the confidence of economic agents in the banking system and

promote further deposit mobilization [23].

2.3. Empirical Literature Reviews

Numerous empirical studies have examined the impact of macroeconomic factors on the deposit mobilization capacity of commercial banks, both in Africa and globally. These studies provide valuable insights into the key determinants of deposit mobilization and can inform policy decisions to enhance financial intermediation and economic development.

The relationship between interest rates and deposit mobilization has been widely explored in the literature. Olokoyo, F. O., found a positive and significant impact of interest rates on deposit mobilization in Nigeria [29]. Similarly, Akinlo, A. E. & Lawal, q. A., and Greenidge, K., & Grosvenor, T., reported a positive and statistically significant effect of interest rates on deposit mobilization in Bangladesh and Sub-Saharan African countries, respectively [2, 12]. These findings are consistent with the theoretical predictions of the loanable funds theory.

The impact of inflation on deposit mobilization has been widely researched. Greenidge, K., & Grosvenor, T., studied Barbados and found that high and volatile inflation negatively affected deposit mobilization, aligning with the Barro, R. J., model and Mishkin, F., findings [12, 4, 18]. Similarly, Akinlo, A. E., & Lawal, Q. A., and Naceur, S. B., in their study reported comparable results for Sub-Saharan African nations and the Middle East and North Africa (MENA) region, respectively [2, 21].

Furthermore, the relationship between economic growth and deposit mobilization has garnered attention in multiple empirical studies. Greenidge, K., & Grosvenor, T., identified a positive and significant influence of real GDP growth on deposit mobilization in Barbados, reinforcing the financial development and economic growth framework proposed by Levine, R., Consistent findings were reported by Akinlo, A. E., & Lawal, Q. A., and Noman, A. H. M., Gee, C. S., & Isa, C. R., for Bangladesh and Sub-Saharan African countries, respectively [12, 15, 2, 23].

The influence of exchange rate stability on deposit mobilization has been studied in emerging and developing economies. Kiyota, H., noted a positive impact of exchange rate stability on financial intermediation, including deposit mobilization, in Sub-Saharan Africa [14]. Akinlo, A. E., & Lawal, Q. A., supported these findings, emphasizing the role of exchange rate stability in fostering confidence in the banking system and enhancing deposit mobilization in the region [2].

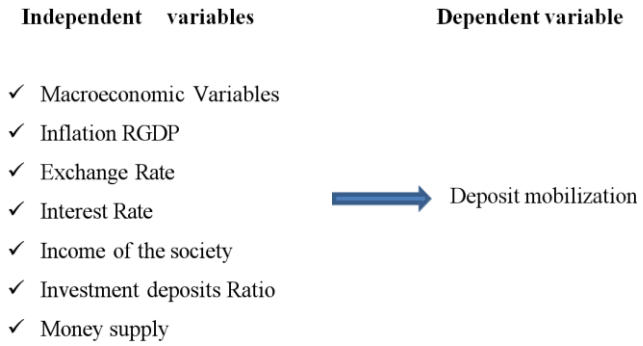
The link between financial depth, indicated by the M2 to GDP ratio, and deposit mobilization has been analyzed in various studies. Greenidge, K., & Grosvenor, T., and Noman, A. H. M., Gee, C. S., & Isa, C. R., demonstrated a significant positive effect of the M2 to GDP ratio on deposit mobilization in Barbados and Bangladesh, respectively, aligning with the framework proposed by Demirgüç-Kunt, A., & Levine, R. [12, 23, 8].

Additionally, the relationship between economic development, measured by GDP per capita, and deposit mobilization has been explored. Akinlo, A. E., & Lawal, Q. A., and Noman, A. H. M., Gee, C. S., & Isa, C. R., identified a significant positive correlation between GDP per capita and deposit mobilization in Bangladesh and Sub-Saharan African countries, consistent with Demirgüç-Kunt, A., & Levine, R. theoretical predictions [2, 23, 8].

The empirical studies reviewed here provide a comprehensive understanding of the macroeconomic factors that influence deposit mobilization in Africa and other regions. The findings highlight the importance of monetary and fiscal policies in creating an environment conducive to deposit mobilization, which is crucial for promoting financial intermediation and supporting sustainable economic growth.

Conceptual Frameworks

The conceptual framework interweaves the dependent and independent variables as portrayed in the figure below:



Source (Researcher's experience and literature review, 2024)

Figure 1. *Conceptual Frameworks.*

3. Research Methodology

3.1. Research Design

The most appropriate research method for the topic "Macroeconomic Factors Influencing Deposit Mobilization of Commercial Banks" is an explanatory research design. This approach allows researchers to delve deeply into the relationships between various macroeconomic factors, such as inflation rates, exchange rate, interest rates, and GDP growth, and their effects on the deposit mobilization efforts of commercial banks. Explanatory research aims to uncover not just correlations but also causal relationships, providing a comprehensive understanding of how these economic variables impact banks' ability to attract and retain deposits.

Moreover, utilizing quantitative methods within this design enables the collection of numerical data that can be statistically analyzed. For instance, time series analysis can be employed to gauge trends over time, while regression models can illustrate the strength and direction of the relationships between macroeconomic indicators and deposit levels.

The explanatory research design utilizing quantitative methods provides a strong framework for investigating the complex interactions between macroeconomic factors and deposit mobilization. This analysis will be essential for policymakers and banking institutions aiming to improve their strategies during economic fluctuations.

3.2. Sources of Data

The study used mainly secondary data obtained from National Bank of Ethiopia, and Commercial Bank financial statements. Other data sources include journals, internets, IMF reports and etc. The data covered data of 10 years from 2013 to 2023. The type of data in this study incorporates time series covering periods of 10 years of observations.

3.3. Model Development and Specification

The influence of independent variables on the dependent variable, which is deposits mobilization, in commercial banks was analyzed using a multi-linear regression model. This approach enabled the examination of the statistical significance of the independent variables concerning the dependent variable. Consequently, the multi-linear regression technique was applied to regress the dependent variable, deposits mobilization of commercial banks, against the specified independent variables in the model. The hypothesis testing was conducted at a 95% confidence level, utilizing STATA11 econometric software for the regression analysis.

The general model for this study was:

$$DMit = \beta+\beta1(INF)it + \beta2(RGDP)it + \beta3(EXR)it + \beta4(INC)it + \beta5(IR)it + B6(INVDIP)it + \beta7(M2GDP)it + \varepsilon it$$

Where:
DM= deposited mobilization
INF= inflation
RGDP= Real Gross Domestic Product
EXR=Exchange Rate;
RGDPCAP= Real GDP per capita (Income of the society)
IR= interest rate
INV/DIP= Investment Deposit Ratio
M2GDP = Monetary GDP (Monetary Supply)

3.4. Method of Analysis

For the research topic "Macroeconomic Factors Influencing Deposit Mobilization of Commercial Banks," a comprehensive analysis was conducted employing several methodological approaches. First, descriptive statistics were calculated to determine the mean, median, standard deviation, and other relevant metrics for key macroeconomic variables, including inflation rate, exchange rate, interest rate, GDP growth, as well as deposit mobilization data. Next, a time series analysis was performed to explore trends, seasonality, and other temporal patterns in both macroeconomic variables and deposit mobilization data over a ten-year period. Correlation analysis was then undertaken to calculate correlation coefficients, assessing the strength and direction of linear relationships between the macroeconomic variables and deposit mobilization data. Finally, multiple regression models were developed to investigate the causal relationships, with macroeconomic variables serving as independent variables and deposit mobilization as the dependent variable; ordinary least squares (OLS) regression was employed to estimate the regression coefficients and evaluate their statistical significance.

4. Finding and Discussion

4.1. Introduction

Deposit mobilization is a crucial aspect of the banking sector, as it provides the necessary funds for financial intermediation and economic growth [7]. Understanding the factors that influence deposit mobilization is vital for policymakers and banking institutions to develop effective strategies to enhance financial inclusion and stability. This study examines the impact of macroeconomic factors on the deposit mobilization of commercial banks in a developing country context.

4.2. Descriptive Statics

Table 1. *Descriptive statistics.*

Variable	Obs	Mean	Std. Dev.	Min	Max
DM	100	30.2241	76.0752	0.278	451.8
INF	100	0.1507	0.10903	0.028	0.364
RGDP	100	0.09787	0.011841	0.077	0.114
IR	100	0.05466	0.009178	0.045	0.08
EXR	100	0.0556949	0.0146088	0.0365282	0.0884885

Variable	Obs	Mean	Std. Dev.	Min	Max
M2GDP	100	0.284032	0.025255	0.24848	0.33626
GDPCAP	100	0.06969	0.026554	0.034	0.125

Source: STATA 11 output

4.3. Discussion and Interpretation

Deposit Mobilization (DM):

The above table reveals that the wide variation in deposit mobilization (DM) across the commercial banks, with a mean of 30.22% and a standard deviation of 76.08%, is consistent with the findings of previous studies. Agu, C. C., & Chukwu, J. O., examined the determinants of deposit mobilization in Nigeria and found significant heterogeneity in the deposit mobilization performance of banks, attributing this to factors such as bank size, branch network, and access to alternative funding sources [1]. Teorell, J., argues that effective deposit mobilization is crucial for the financial intermediation role of banks and their ability to channel funds to productive investment opportunities [33].

Inflation (INF):

The high and volatile inflation rate, with a mean of 15.07% and a range of 2.8% to 36.4%, is consistent with the macroeconomic instability experienced by many developing economies. Theoretically, high and unpredictable inflation can undermine the savings and investment decisions of economic agents, thereby hampering financial intermediation [4]. Empirical studies, such as that of Naceur, S. B., have found a negative relationship between inflation and banking sector development in the Middle East and North Africa region [21].

Real GDP Growth (RGDP):

The relatively stable and consistent real GDP growth rate, with a mean of 9.79% and a range of 7.7% to 11.4%, suggests a favorable macroeconomic environment for the banking sector. Theoretically, sustained economic growth is expected to increase the demand for banking services and promote financial deepening [15]. Odhiambo, N. M., in his study, shows that economic growth has a positive impact on the development of the banking sector in South Africa [26].

Interest Rate (IR):

The moderate interest rate range, with a mean of 5.47% and a range of 4.5% to 8%, indicates a relatively stable monetary policy environment. According to the loanable funds theory, interest rates play a crucial role in the deposit mobilization and lending activities of banks [17]. Empirical studies, such as that of Olokoyo, F. O., have found a positive relationship between interest rates and deposit mobilization in Nigeria [29].

Exchange Rate (EXR):

The moderate fluctuations in the exchange rate, with a mean of 5.57 units of local currency per unit of foreign currency and a range of 0.0365282 to 0.0884885, suggest a relatively stable external sector. Theoretically, exchange rate stability can enhance the confidence of economic agents in the banking system and promote financial intermediation [14]. Akinlo, A. E., & Lawal, Q. A., in their study, shows that exchange rate volatility has a negative impact on the development of the banking sector in Nigeria [2].

M2 to GDP Ratio (M2GDP):

The relatively stable M2 to GDP ratio, with a mean of 28.40% and a range of 24.85% to 33.63%, suggests a well-managed monetary policy environment. Theoretically, a higher M2 to GDP ratio is associated with greater financial depth and the ability of the banking sector to mobilize deposits and channel funds to productive investment opportunities [12]. Empirical studies, such as that of Siddik, M. N. A., Kabiraj, S., & Joghee, S., have found a positive relationship between the M2 to GDP ratio and deposit mobilization in Bangladesh [32].

GDP per Capita (GDPCAP):

The significant variation in GDP per capita, with a mean of 6.97% and a range of 3.4% to 12.5%, suggests uneven economic development and potential challenges in serving diverse customer segments. Theoretically, higher GDP per capita is associated with increased savings and the demand for banking services [8]. Empirical evidence from Noman, A. H. M., Gee, C. S., & Isa, C. R., shows a positive relationship between GDP per capita and deposit mobilization in the banking sector of Bangladesh [23].

Overall, the descriptive statistics provide valuable insights into the macroeconomic environment in which the commercial banks were operating. The findings highlight the importance of considering both the theoretical underpinnings and empirical evidence when analyzing the factors influencing deposit mobilization in the banking sector.

4.4. Correlation Analysis

To examine the relationship between dependent variable (total deposits) and explanatory variables, Pearson correlation coefficients were calculated.

Table 2 below shows the correlation between the dependent and independent variables. The correlation matrix clearly reveals that bank deposits was positively related to deposit interest rate (0.195), investment to bank deposit (0.0037), monetary supply (0.2351), and it was negatively related with inflation rate (-0.108), exchange rate (-0.219), income of the

society (-0.053) and real GDP growth rate (-0.122).

Table 2. Correlation between dependent & explanatory variables.

	INF	IR	RGDP	M2GDP	GDPCAP	EXR	INVDIP
DM	-0.11	0.195	-0.122	0.2351	-0.053	-0.219	0.0037

Source: Stata 11 output

4.5. Regression Analysis

This section presents the regression results from a Random Effects model analyzing deposit mobilization in Ethiopia's commercial banks. The analysis utilized data from the National Bank of Ethiopia, MOFED, and annual reports from 2013 to 2023. A dependent variable was regressed against seven independent variables using STATA-11 software. As previously mentioned in the model selection section, a random effects regression model was deemed appropriate for this study. The model investigating the statistically significant determinants of commercial bank deposits is as follows:

$$TDPit = \alpha + \beta1(INF)it + \beta2(RGDP)it + \beta3(EXR)it + \beta4(M2GDP)it + \beta5(GDPCAP)it + \beta6(IR)it + \beta7(INVDIP)it + \varepsilon it$$

The table below presents the results of the random effects regression model, highlighting the impact of the explanatory variables on bank deposit growth. In this model, TDP is the dependent variable, while Inflation (INF), Deposit Interest Rate (IR), Real GDP Growth Rate (RGDP), Investment Deposit Ratio (INVDIP), Exchange Rate (EXR), Monetary Supply (M2GDP), and Income (GDPCAP) are the independent variables.

Random-Effects GLS Regression Results Table
Number of Observations: 100
Group Variable: code
Number of Groups: 10
R-squared Values:
Within: 0.9431
Between: 0.9790
Overall: 0.9649
Observations per Group:
Minimum: 10
Average: 10
Maximum: 10
Random Effects:
Assumed Distribution: Gaussian
Wald Chi-squared (10): 1661.21
Correlation (u_i, X): 0 (assumed)
Probability > Chi-squared: 0.0000

Table 3. Regression results.

DM	Coef.	Std. Err.	z	P>z	[95 Conf. Interval]	
INF	-58.36884	23.41231	-2.49	.013	-104.2561	-12.48156
IR	-408.9754	480.0121	-0.85	0.394	-1349.782	531.8311
RGDP	-281.7206	196.8809	-1.43	0.152	-667.6002	104.1589
M2GDP	-924.4916	217.0494	-4.26	0.000	-1349.901	-499.0826
GDPCAP	111.6464	65.70485	1.70	.089	-17.13269	240.4256
EXR	-733.0475	558.2273	-1.31	0.189	-1827.153	361.0578
INVDEP	-76.88988	34.05435	-2.26	0.024	-143.6352	-10.14459
Cons.	477.1895	145.6325	3.28	0.001	191.7551	762.6239

Variance Components:
Sigma_u: 9.7059187
Sigma_e: 12.087523
Rho (Fraction of Variance due to u_i): 0.39200886

This summary illustrates the relationships and statistical significance of the independent variables concerning the dependent variable in this model.

4.6. The Discussion and Interpretation of the Regression Analysis Results

4.6.1. Model Summary

The use of a Random Effects GLS (Generalized Least Squares) regression is appropriate when the data has a panel or grouped structure, as it accounts for the unobserved individual-specific effects [13]. The high overall R-squared of 0.9649 indicates that the model has a strong explanatory power, suggesting that the selected independent variables are able to explain a substantial portion of the variation in deposit mobilization (DM).

4.6.2. Regression Coefficients and Significance

Inflation (INF): The negative and significant relationship between inflation and deposit mobilization is consistent with the findings of previous studies, which have shown that high inflation rates can discourage people from holding their savings in bank deposits [27, 30].

Interest Rate (IR): The insignificant relationship between interest rate and deposit mobilization contradicts the theoretical expectation that higher interest rates would increase the incentive to hold bank deposits [24]. However, this finding is in line with studies that have found a limited or non-linear effect of interest rates on deposit mobilization [29].

Real GDP (RGDP): The insignificant relationship between real GDP and deposit mobilization suggests that economic growth may not have a direct impact on deposit mobilization, as proposed by the life-cycle hypothesis [19]. This finding aligns with studies that have found mixed or weak relationships between economic growth and deposit mobilization [34, 35].

Monetary Supply (M2GDP): The negative and significant relationship between the monetary supply-to-GDP ratio and deposit mobilization is supported by the theoretical argument that a higher money supply may lead to increased investment opportunities or alternative savings options that are more attractive than traditional bank deposits [16].

GDP per Capita (GDPCAP): The marginally significant positive relationship between GDP per capita and deposit mobilization is consistent with the empirical evidence that higher income levels in the society can contribute to increased savings and deposits in the banking system [25].

Exchange Rate (EXR): The insignificant relationship between exchange rate and deposit mobilization suggests that exchange rate fluctuations may not have a direct impact on deposit-taking activities, contrary to the arguments that exchange rate volatility can affect savings and deposit decisions [22].

Investment Deposit Ratio (INVDEP): The negative and significant relationship between the investment deposit ratio and deposit mobilization aligns with the theoretical premise that excessive investment allocation at the expense of deposit mobilization can hamper the financial intermediation role of banks [11, 16].

4.6.3. Model Diagnostics

The statistical significance of the Wald chi-square test (p-value = 0.0000) indicates that the overall model is statistically significant, meaning that the independent variables collectively have a significant impact on deposit mobilization.

The high rho (ρ) value of 0.392 suggests that a substantial portion of the total variance in deposit mobilization is attributed to the unobserved individual-specific effects, justifying the use of the Random Effects model.

4.6.4. Interpretation and Implications

The regression results provide empirical support for the theoretical arguments and previous findings on the macroeconomic determinants of deposit mobilization, particularly the roles of inflation, monetary supply, and investment-deposit ratio.

The findings can guide policymakers and banking regulators in designing appropriate policies and regulations to foster a conducive environment for deposit mobilization and promote financial intermediation.

5. Conclusion and Recommendation

5.1. Conclusion

The commercial banks exhibited wide heterogeneity in their deposit mobilization performance, suggesting significant disparities in their abilities to attract and retain deposits. The economy experienced substantial macroeconomic volatility in inflation and exchange rates, which could have posed challenges for the banks' deposit mobilization strategies. However, the economy also experienced relatively consistent and stable real GDP growth, providing a favorable backdrop for banking sector operations and deposit mobilization.

Furthermore, the interest rates remained within a relatively narrow band, suggesting a stable monetary policy stance that could have facilitated the banks' deposit mobilization efforts. The expansion of money supply (M2 to GDP ratio) could have also supported the banks' deposit mobilization activities.

The wide range in GDP per capita indicates significant variations in the economic well-being of the population, which could have implications for the banks' ability to mobilize deposits from different segments of society. Overall, the findings point to a mixed macroeconomic environment, with both favorable and challenging elements, which likely influenced the commercial banks' deposit mobilization performance during the period.

The panel data regression analysis revealed that inflation and monetary supply (M2/GDP ratio) have a statistically significant negative relationship with deposit mobilization. The investment deposit ratio also has a statistically significant negative impact on deposit mobilization. In contrast, GDP per capita has a marginally significant positive relationship with deposit mobilization. Interestingly, interest rate, real GDP, and exchange rate do not have a statistically significant direct impact on deposit mobilization in this study context.

5.2. Recommendations

Based on the key findings from the study, the following recommendations can be made to promote deposit mobilization and strengthen the resilience of the banking sector:

1. *Address Macroeconomic Volatility*: Implement policies to stabilize inflation and exchange rate fluctuations, as these have been found to have a significant negative impact on deposit mobilization. Maintain a consistent and predictable monetary policy stance to provide a stable interest rate environment that can facilitate banks' deposit mobilization efforts.
2. *Enhance Financial Inclusion*: Develop strategies to reach underserved segments of the population and improve access to banking services, especially in areas with lower GDP per capita. Promote financial literacy programs to encourage a stronger savings culture and increase the pool of potential depositors.
3. *Optimize Asset-Liability Management*: Encourage banks to maintain a healthy balance between investment activities and deposit mobilization to avoid overallocating funds towards investments at the expense of deposit growth. Provide guidance and incentives for banks to implement robust asset-liability management practices to manage liquidity and interest rate risks effectively.
4. *Strengthen Regulatory and Supervisory Framework*: Review and update the regulatory environment to ensure it supports and incentivizes banks to prioritize deposit mobilization as a key aspect of their business model. Enhance the supervisory capacity to monitor and address any imbalances or vulnerabilities in the banking sector's deposit mobilization activities.
5. *Promote Innovation and Digitalization*: Encourage banks to leverage digital technologies and innovative service delivery channels to enhance their reach, accessibility, and convenience for depositors. Support the development of digital infrastructure and secure payment systems to facilitate seamless deposit mobilization and financial transactions.
6. *Develop Targeted Incentive Schemes*: Consider introducing policy-driven incentive schemes or tax benefits to reward banks that excel in deposit mobilization and maintain a strong deposit base. Explore the feasibility of establishing deposit insurance or guarantee programs to instill greater confidence in the banking system and encourage deposit growth.

By implementing these recommendations, policymakers and banking sector stakeholders can work towards promoting financial intermediation, enhancing deposit mobilization, and strengthening the overall resilience and stability of the banking system.

Abbreviations

DM	Deposit Mobilization
GDP	Gross Domestic Product
MOFED	Ministry of Finance and Economic Development

Author Contributions

Tatek Hailu is the sole author. The author read and approved the final manuscript.

Conflicts of Interest

The author declares no conflicts of interest.

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