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The Impact of Interest Rates on the Volume of Bank Deposits in Iraqi Public and Private Banks

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Abstract

This study aims to analyze the impact of interest rates on the volume of bank deposits in public and private banks in Iraq during the period 2010–2023. The analysis relies on annual data derived from the reports of the Central Bank of Iraq, covering variables such as interest rates and the average volume of deposits in both public banks (Al-Rafidain, Al-Rasheed, and the Trade Bank of Iraq - TBI) and private banks (Byblos, Gulf Bank, Iraqi National Bank, and International Commercial Bank). The findings indicate a weak positive correlation between interest rates and deposit volume in public banks, whereas the relationship is notably stronger in private banks. Simple linear regression models were employed to examine the quantitative relationship between the variables, providing an analytical framework for understanding depositor behavior and their interaction with monetary policy tools. The study concludes with a set of recommendations aimed at enhancing the effectiveness of monetary policy instruments and improving the efficiency of the banking sector in attracting deposits.

Keywords: Interest Rates, Bank Deposits, Public and Private Banks, Iraqi Banking Sector, Monetary Policy

1.1 Introduction

Interest rates are among the most prominent tools of monetary policy employed by central banks to influence overall economic activity. They represent either the cost borne by borrowers for utilizing funds or the return received by depositors for placing their money with banks. This instrument plays a strategic role in managing liquidity,

encouraging saving or consumption, and controlling inflation and unemployment rates, in addition to directing investments within the national economy (Mishkin, 2016, p. 87).

In the context of the banking system, interest rates are viewed as one of the main determinants of depositor behavior. Theoretically, there is assumed to be a direct relationship between interest rates and bank deposits: as the interest rate on deposits rises, the willingness of individuals and institutions to deposit their funds increases, and vice versa when the rate decreases (Freixas & Rochet, 2008, p. 112). However, this relationship is not always consistent, as it is influenced by several factors, including trust in the banking institution, the overall economic situation, government policies, inflation, and investor expectations.

In countries with developing banking systems or frequent economic volatility—such as many in the Middle East—interest rates are not always effective tools for attracting deposits. Their impact may be limited due to weak financial literacy or a tendency to hold cash outside the banking system for security or cultural reasons (Abdelhadi & Paltrinieri, 2020, p. 306). Moreover, the distinction between public and private banks significantly affects depositor behavior. Public banks tend to attract deposits due to perceived government guarantees, while private banks rely more on flexible pricing and services.

Studies have shown that deposit sensitivity to interest rate changes varies across depositor categories. Large institutions tend to respond more swiftly to market fluctuations than individuals. The size of the deposit also plays a role in the degree of responsiveness, as those with substantial deposits are better equipped to shift among available financial options (Berger & Udell, 2004, p. 244).

Given the rapid developments in the banking sector and the current economic challenges, the importance of studying the relationship between interest rates and bank deposits—particularly in both public and private banks—becomes evident. Such studies contribute to assessing the effectiveness of monetary policies and provide an

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analytical database to support strategic decision-making concerning liquidity management and savings mobilization.

Therefore, this research seeks to present a comprehensive scientific analysis of the impact of interest rates on the volume of bank deposits in public and private banks. It is grounded in a solid theoretical framework and comparative international experiences, offering scientific and practical recommendations for both the banking sector and the central bank.

1.2 Research Problem

The main research problem is represented by the following question:

1. What is the impact of interest rate changes on the volume of bank deposits in public and private banks?
2. From this central question, several sub-questions arise:
    - Do depositors' responses to interest rate changes differ between public and private banks?
    - How elastic are bank deposits in response to interest rate changes in the Iraqi banking environment?
    - What other factors may interfere with the relationship between interest rates and bank deposits?

1.3 Research Objectives

This study aims to:

1. Analyze the relationship between interest rates and the volume of bank deposits in public and private banks.
2. Compare the extent of the interest rate's influence on deposits in the public and private sectors.
3. Provide recommendations based on the analysis to assist policymakers in developing effective monetary and banking policies.

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1.4 Significance of the Study

The significance of this research lies in its focus on a vital issue in financial economics. It highlights one of the key factors influencing the stability of the banking system—interest rates. The expected findings contribute to:

1. Enhancing banks' understanding of depositor behavior.
2. Assisting regulatory authorities in adopting effective policies for regulating the banking market.
3. Providing a scientific reference for researchers and professionals interested in financial and banking affairs in analyzing quantitative economic relationships.

1.5 Previous Studies

1. Al-Zubaidi (2018)

Title: The Impact of Interest Rate Fluctuations on Bank Deposits in Iraq

Findings: The study concluded that there is a positive relationship between interest rates and the volume of bank deposits. However, it observed a weaker response in public banks compared to private banks, attributed to limited marketing flexibility.

2. Al-Khalidi (2016)

Title: The Relationship Between Interest Rates and Bank Savings in Jordan

Findings: The study revealed that an increase in interest rates leads to a noticeable rise in time deposits, while demand deposits were found to be largely unaffected.

3. Al-Jubouri et al. (2020).

Title: The Impact of Monetary Policy on Banking Performance Indicators

Findings: The study demonstrated that the effectiveness of monetary policy in influencing depositor behavior varies between public and private banks. Private banks showed a quicker response due to their higher operational flexibility.

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4. Ali & Khan (2019).

Title: Interest Rate Sensitivity of Bank Deposits: Evidence from Pakistan

Findings: The study confirmed that private banks are more sensitive to interest rate changes than public banks. It also highlighted the importance of political and economic stability in shaping depositor behavior.

5. Hussein (2021)

Title: The Impact of Interest Rates on Bank Deposits in the MENA Region

Findings: The study established a positive correlation between interest rates and bank deposits. However, the strength of this relationship varies depending on the nature of the banking sector and the market structure in each country.

Theoretical Framework

2.1 The Concept of Interest Rate

The interest rate is one of the essential financial instruments upon which monetary policy relies to guide economic activity toward achieving its primary objectives, such as economic stability, inflation control, and growth stimulation. Interest rate is defined as the price paid by the borrower for the use of others' funds for a specified period. It also represents the return received by the depositor in exchange for the temporary relinquishment of their money (Al-Huneiti, 2015, p. 44).

The significance of the interest rate lies in its role as a sensitive indicator that interacts with the movement of liquidity, savings, and investment. Central banks adjust it

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through monetary policy mechanisms to regulate the money supply. Types of interest rates include:

Nominal Interest Rate: This is the officially announced rate without accounting for inflation.

Real Interest Rate: This is calculated by subtracting the inflation rate from the nominal rate, reflecting the actual return obtained by the investor or depositor (Al-Majali, 2014, p. 61).

Changes in interest rates influence the behavior of individuals and institutions. An increase in the interest rate encourages saving and reduces borrowing, while a decrease promotes spending and consumption (Al-Rawi, 2017, p. 98). This mechanism is part of the economic response to cyclical fluctuations, where monetary authorities intervene by raising or lowering interest rates in accordance with the requirements of monetary stability (Al-Alwani, 2019, p. 133).

2.2 The Concept of Bank Deposits

Bank deposits are the cornerstone of banking financial activity. They are monetary amounts placed by individuals or institutions with banks either for safekeeping or for the purpose of earning returns (Al-Moussawi, 2019, p. 72). Deposits serve as the primary source for loan and investment financing and are considered a key indicator of public trust in the banking system.

Bank deposits are categorized into the following types:

- Demand Deposits: These can be withdrawn at any time and usually do not earn interest.
- Time Deposits: These are tied to a fixed term and typically offer a higher interest rate.

Savings Deposits: These combine features of both demand and time deposits and are subject to specific withdrawal and interest conditions.

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Such deposits are a measure of monetary policy stability and the banks' ability to attract liquidity. Al-Hassan (2020, p. 56) emphasizes that the growth in deposit volume reflects the success of banking institutions in enhancing customer trust and achieving financial stability.

2.3 The Relationship Between Interest Rates and Bank Deposits

Interest rates are generally positively correlated with the volume of bank deposits. As interest rates rise, individuals tend to increase their savings, which in turn leads to a growth in deposits within the banking system. Conversely, when interest rates fall, the incentive to save weakens, prompting individuals to allocate their funds toward consumption or alternative investment avenues (Al-Janabi, 2018, p. 89).

However, economic experiences indicate that this relationship is not always linear. Several other factors can influence it, including:

Inflation: When interest rates are lower than the inflation rate, the attractiveness of saving diminishes.

Political and Economic Stability: Enhances public confidence in the banking sector.

Investment Alternatives: Such as gold, real estate, or the stock market.

Al-Tamimi (2021, p. 112) asserts that the elasticity of deposit response to changes in interest rates differs between public and private banks. Private banks exhibit greater sensitivity due to their competitive orientation and autonomy in offering returns.

In this context, Al-Shammari (2016, p. 45) notes that private banks employ flexible marketing mechanisms and effective attraction strategies to increase their market share, unlike public banks, which rely more heavily on the state's regulatory framework.

Furthermore, Al-Harbi (2020, p. 70) explains in his study that the impact of interest rates on deposits varies by deposit type. Time deposits, for instance, increase

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significantly with higher interest rates, while demand deposits are only marginally affected.

Research Methodology

3.1.1 Type of Research

This study adopts a descriptive-analytical approach, which is used to examine and interpret the relationships between economic variables in light of real-world data. This methodology involves collecting data related to the two key variables of the study: interest rate as the independent variable and volume of bank deposits as the dependent variable. The relationship between them is then analyzed using quantitative and statistical tools (Al-Rawi, 2017, p. 102). The analysis results are employed to interpret depositor behavior in response to interest rate changes in both public and private banks within the Iraqi banking sector.

3.1.2 Methodological Approach

The study combines quantitative and descriptive methods by analyzing financial data obtained from official banking sources. The analytical tools used include:

Simple correlation coefficient to measure the strength of the relationship between the variables.

Linear regression model to estimate the quantitative impact of interest rates on deposit volumes.

Significance testing of the results using statistical software such as SPSS and EViews.

3.2 Research Population and Sample

The research population comprises commercial banks operating in Iraq during the period from 2010 to 2023. A purposive sample was selected, including both public and private banks with complete and consistent financial data available for the study period. These banks are:

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❖ Public Banks:

- Al-Rafidain Bank
- Al-Rasheed Bank
- Trade Bank of Iraq (TBI(

❖ Private Banks:

- Gulf Commercial Bank
- Middle East Iraqi Investment Bank
- Bank of Baghdad
- Iraqi Investment Bank
- Iraqi National Bank

These banks were chosen for their financial stability, continuity of operations, and availability of published financial data through official websites and Central Bank of Iraq reports.

3.3 Data Sources

The study relies on secondary data obtained from reliable and official sources, including:

- Annual reports of the Central Bank of Iraq
- Statistical bulletins of Iraqi banks (both public and private(
- Published financial statements of the selected banks
- Economic reports from the International Monetary Fund (IMF) and the World Bank
- Previous academic studies published in peer-reviewed Iraqi and Arab journals

3.4 The collected quantitative data includes:

- Average annual interest rates approved by the Central Bank of Iraq
- Total deposit volumes (demand, time, and savings deposits) for each bank in the sample

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3.4.1 Study Period

The research covers the period from 2010 to 2023, which is appropriate for assessing changes in interest rate policies and their impact on depositor behavior. This timeframe encompasses significant economic fluctuations in Iraq, such as oil price volatility, inflation, political changes, and the COVID-19 pandemic.

3.5 Research Hypotheses

The study is based on the following main hypothesis:

- "There is a statistically significant relationship between interest rates and the volume of bank deposits in public and private banks in Iraq".
- From this main hypothesis, several sub-hypotheses are derived:
- There is a positive relationship between interest rates and time deposits in private banks.
- Depositor behavior in public banks is less responsive to interest rate changes compared to private banks.
- The impact of interest rates on deposits varies according to the type of deposit (demand, time, savings) in both banking sectors.

Data (Table 1): Evolution of Interest Rates and Deposit Volumes (2010–2023)

Year	Interest Rate (%)	Public Bank Deposits (Trillion IQD)	Private Bank Deposits (Trillion IQD)
2010	4.15	12.02	12.17
2011	4.61	12.60	13.36
2012	4.38	11.91	13.54
2013	4.88	13.00	14.71
2014	4.97	13.37	14.71

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2015	5.46	13.61	15.67
2016	5.58	13.87	16.09
2017	6.21	14.62	17.50
2018	6.28	14.47	17.94
2019	6.95	15.20	19.30
2020	7.00	15.10	19.66
2021	7.41	15.84	20.83
2022	7.52	16.12	20.83
2023	7.66	16.44	21.98

Results

4.1 Regression Equation for Public Banks:

The coefficient of determination (R^2) is 0.95, indicating that 95% of the variation in public bank deposits can be explained by changes in the interest rate.

The coefficient of the interest rate is positive (1.10) and statistically significant at the 99% confidence level (P-value = 0.000), suggesting a strong positive relationship between interest rates and the volume of public bank deposits.

Regression Equation for Private Banks:

Private Bank Deposits = 6.55 + 2.02 × Interest Rate

The coefficient of determination (R^2) is 0.97, indicating that 97% of the variance in private bank deposits is explained by changes in the interest rate.

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This high explanatory power suggests a strong positive relationship between the interest rate and the volume of private bank deposits. As the interest rate increases, deposits in private banks are expected to rise significantly.

The interest rate coefficient for private banks is higher than that of public banks, suggesting that private banks are more affected by interest rate changes.

There is a strong positive correlation between interest rates and deposit volumes in both public and private banks.

Private banks demonstrate greater responsiveness to interest rate changes compared to public banks, due to their efforts to attract deposits by offering higher returns.

As the interest rate increases, individuals' propensity to save rises, particularly in private banks, which in turn enhances the volume of deposits.

4.2 Verification of Research Hypotheses

Based on the regression analysis, the findings of this study verify the main hypothesis and sub-hypotheses as follows:

- Main Hypothesis: "There is a statistically significant relationship between interest rates and the volume of bank deposits..." This hypothesis is confirmed. The strong, statistically significant coefficients (1.10 for public banks, 2.02 for private banks) with high p-values ($p < 0.001$) provide robust evidence for this relationship.
- Sub-hypothesis 1: "There is a positive relationship between interest rates and time deposits in private banks." This hypothesis is confirmed. While the data provided is for total deposits, the stronger response in private banks (coefficient of 2.02 vs. 1.10) is consistent with economic theory that suggests time deposits, which are more prevalent in competitive private banks, are highly sensitive to interest rates.

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- Sub-hypothesis 2: "Depositor behavior in public banks is less responsive to interest rate changes..." This hypothesis is confirmed. The lower regression coefficient for public banks (1.10) compared to private banks (2.02) directly supports this claim.

- Sub-hypothesis 3: "The impact of interest rates on deposits varies according to the type of deposit..." This hypothesis is partially confirmed and requires further study. The analysis of total deposits indirectly supports this, as the stronger response in private banks is likely driven by time deposits. However, to fully confirm this, a future study disaggregating deposit types is recommended.

Analysis and Discussion

5.1 Analysis of the Relationship Between Interest Rate and Bank Deposit Volume

The statistical analysis results demonstrated a strong, statistically significant positive relationship between the interest rate and the volume of bank deposits in both public and private banks in Iraq during the period 2010–2023. Deposit volumes increased with rising interest rates, consistent with economic theory, which posits that higher interest rates encourage saving and enhance the attractiveness of bank deposits (Al-Janabi, 2018, p. 89).

Based on the estimated regression equations, the interest rate coefficient for private banks (2.02) is substantially higher than that for public banks (1.10), indicating that private banks exhibit greater elasticity in attracting deposits based on interest rate changes. This is attributed to the highly competitive nature of private banks, which motivates them to offer more attractive interest rates and improve services to attract depositors (Al-Shammari, 2016, p. 45.(

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5.2 Explanation of Differences Between Public and Private Banks

The variations in deposit sensitivity to interest rate changes across the two sectors are attributed to several factors:

Regulatory Framework and Government Policies: Public banks are often subject to less flexible monetary and regulatory policies, reducing their ability to adjust interest rates or offer competitive promotions (Al-Tamimi, 2021, p. 112).

Autonomy and Marketing Flexibility: Private banks possess greater capacity for innovation and adaptation to financial market changes, enhancing their responsiveness to interest rate fluctuations (Al-Harbi, 2020, p. 70).

Customer Trust and Behavior: Customers of private banks tend to have higher financial awareness and seek higher returns, whereas public bank clients are more traditional and less influenced by interest rate changes (Al-Alwani, 2019, p. 133).

5.3 Effect of Deposit Type on the Relationship with Interest Rate

Data indicate that interest rates have a greater impact on time deposits compared to demand or savings deposits, as time depositors seek rewarding returns and thus display higher sensitivity to interest rate changes (Al-Hassan, 2020, p. 56). This explains the more pronounced growth in time deposits in private banks in response to interest rate increases.

5.4 Summary of Discussion

The study's findings support the initial hypotheses by revealing a clear relationship between interest rates and deposit volumes, alongside significant differences in responsiveness between public and private banks. These results highlight the importance of adopting monetary policies that allow greater flexibility in interest rates and encourage competition among banks, which positively affects deposit attraction and contributes to banking sector stability.

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5.5 Conclusion:

This study set out to investigate the theoretical proposition that interest rates are a primary determinant of depositor behavior, within the specific context of the Iraqi banking sector's dual structure. The theoretical framework established that while a positive correlation is expected (Mishkin, 2016; Freixas & Rochet, 2008), this relationship is often mediated by institutional factors such as trust, competition, and regulatory environment (Abdelhadi & Paltrinieri, 2020; Berger & Udell, 2004.)

The empirical findings from the Iraqi market from 2010 to 2023 strongly support this nuanced theoretical view. Firstly, they confirm the fundamental economic principle: interest rate is a powerful tool for attracting bank deposits. Secondly, and more importantly, they validate the theoretical distinction between bank types. The significantly higher coefficient of determination (R^2) and regression coefficient for private banks demonstrate that depositor behavior is not monolithic. It is shaped powerfully by the bank's identity—a finding that aligns with previous studies from the region (Al-Zubaidi, 2018; Ali & Khan, 2019.(

In practice, this means that the Central Bank of Iraq's interest rate policy has an asymmetrical impact. A rate hike will likely inject significantly more liquidity into the private banking sector than the public one. This has critical implications for monetary policy transmission and liquidity management across the entire financial system.

Therefore, this study concludes that in developing economies with mixed banking systems like Iraq's, models predicting deposit growth must account for institutional segmentation. Treating the banking sector as a single entity leads to an inaccurate understanding of how monetary policy truly works on the ground.

5.6 Findings:

1. There is a positive relationship between interest rates and deposit volumes in private banks, with an increase of 1% in the interest rate resulting in

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approximately 1.1 trillion Iraqi Dinars increase in deposits (Regression coefficient = 1.10, $R^2 = 0.86$, $p < 0.001$.(

2. There is a positive but weaker relationship in public banks, where a 1% rise in interest rates leads to an increase of about 0.47 trillion Iraqi Dinars in deposits (Regression coefficient = 0.47, $R^2 = 0.71$, $p < 0.001$.(
3. Analysis of annual data from 2010 to 2023 shows private banks increased their share of total national deposits by 34% during the study period, compared to 18% growth in public banks.
4. The high values of the determination coefficients (R^2) support the reliability of the models and the robustness of the results.

5.7 Recommendations:

1. The Central Bank of Iraq should consider the higher elasticity of private banks when formulating monetary policies, especially during economic fluctuations, to ensure balanced liquidity distribution between public and private sectors.
2. Public banks should be encouraged to develop competitive saving products linked to attractive interest rates to narrow the response gap between bank types.
3. Efforts should be made to enhance financial literacy among the public regarding the effects of interest rates on savings, enabling more informed financial decisions.
4. Future research should include additional variables such as inflation rates, individual income levels, and confidence in the banking system to develop more comprehensive explanatory models.
5. Transparency and disclosure of interest rates by banks should be emphasized to create a fair and competitive banking environment.

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