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Currency Depreciation Erodes Profitability and Challenges Liquidity Management in Turkish Islamic Banks: A VAR Model Analysis

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Abstract: Currency depreciation, particularly in emerging markets, poses significant challenges to financial institutions, including Islamic banks. This study investigates the impact of currency depreciation on the financial performance of Islamic banks in Turkey from 2015 to 2023 using a Vector Autoregression (VAR) model. The analysis focuses on key profitability and liquidity ratios, such as Return on Assets (ROA), Return on Equity (ROE), and liquidity indicators. The findings reveal that currency depreciation exerts a negative impact on profitability metrics, with varying effects on liquidity management across the banks. Despite the Sharia-compliant financial structures, which emphasize asset-backed financing and risk-sharing, Islamic banks in Turkey exhibited vulnerability to currency volatility. The research highlights the need for enhanced risk management strategies, particularly in developing Sharia-compliant hedging mechanisms to mitigate currency risks. These results provide important insights for policymakers and financial institutions to improve the resilience of Islamic banks during episodes of economic instability.

Keywords: Currency Depreciation, Islamic Banks, Financial Performance, Profitability Ratios, Vector Autoregression (VAR) Model.

انخفاض قيمة العملة يؤدي إلى تآكل الربحية ويشكل تحديات لإدارة السيولة في البنوك الإسلامية التركية: تحليل نموذج القيمة القابلة للتغيير

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المستخلص: يُشكّل انخفاض قيمة العملة، لا سيما في الأسواق الناشئة، تحدياتٍ كبيرةً للمؤسسات المالية، بما فيها البنوك الإسلامية. تبحث هذه الدراسة في تأثير انخفاض قيمة العملة على الأداء المالي للبنوك الإسلامية في تركيا خلال الفترة من ٢٠١٥ إلى ٢٠٢٣ باستخدام نموذج الانحدار التلقائي المتجهي (VAR). يُركز التحليل على مؤشرات الربحية والسيولة الرئيسية، مثل العائد على الأصول (ROA)، والعائد على حقوق الملكية (ROE)، ومؤشرات السيولة. تكشف النتائج أن انخفاض قيمة العملة يُؤثر سلبًا على مقاييس الربحية، مع تأثيرات متفاوتة على إدارة السيولة في مختلف البنوك. على الرغم من الهياكل المالية المتوافقة مع الشريعة الإسلامية، والتي تُركز على التمويل المدعوم بالأصول وتقاسم المخاطر، أظهرت البنوك الإسلامية في تركيا ضعفًا في مواجهة تقلبات أسعار العملات. تُسلّط الدراسة الضوء على الحاجة إلى استراتيجيات مُحسّنة لإدارة المخاطر، لا سيما في تطوير آليات تحوّط متوافقة مع الشريعة الإسلامية للتخفيف من مخاطر العملات. تُقدّم هذه النتائج رؤىً مهمةً لصانعي السياسات والمؤسسات المالية لتحسين مرونة البنوك الإسلامية خلال فترات عدم الاستقرار الاقتصادي.

الكلمات المفتاحية: انخفاض قيمة العملة، البنوك الإسلامية، الأداء المالي، نسب الربحية، نموذج الانحدار الذاتي المتجهي (VAR).

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Introduction

During the last decade, Turkey has faced persistent economic volatility, with the depreciation of the Turkish Lira (TRY) becoming a central issue, particularly between 2015 and 2023. The rapid decline of the TRY against major currencies, especially the US Dollar (USD), was largely attributed to political uncertainty, inflationary pressures, and external financial shocks (Yildirim, 2020). Such developments have had widespread implications for the Turkish economy, with the banking sector being among the most affected due to its central role in sustaining financial stability (Yelghä, 2020). Within this context, Islamic banking has emerged as a growing component of Turkey's financial system, serving customers who seek Sharia-compliant products. Unlike conventional banks, Islamic banks avoid interest-based transactions and instead rely on profit-sharing, leasing, and asset-backed financing structures (Faheem et al, 2024). These unique features raise important questions about how Islamic banks absorb and respond to macroeconomic shocks, such as currency depreciation, compared with conventional banks (Bilgin, 2020).

The decline of the Turkish Lira has created significant challenges for financial institutions by reshaping cost structures, constraining profitability, and exerting pressure on liquidity management (Kazak et al., 2025). While prior studies have examined the broader impact of exchange rate volatility on Turkish banks, relatively little research has focused on Islamic banks, despite their increasing importance in the sector. This gap underscores the need for further investigation into the resilience of Islamic banks to macroeconomic instability and the implications of exchange rate movements for their financial performance (Hadi, 2022).

This study aims to explore the relationship between currency depreciation and the financial performance of Islamic banks in Turkey from 2015 to 2023. It will specifically analyze how currency depreciation affects the profitability of these banks and evaluate the impact of currency fluctuations on their liquidity ratios to assess their ability to meet short-term obligations. The research will also provide insights to help policymakers and financial institutions develop strategies to mitigate the adverse effects of currency depreciation.

To guide the research, the following questions are posed:

1. How has currency depreciation impacted the profitability of Islamic banks in Turkey between 2015 and 2023?
2. What is the effect of currency depreciation on the liquidity ratios of Islamic banks during this period?

The study will test the following hypotheses:

- H1: Currency depreciation negatively impacts the profitability ratios of Islamic banks.
- H2: Currency depreciation does not significantly influence the liquidity ratios of Islamic banks.

This study contributes to the existing literature by providing a focused analysis of how currency depreciation affects Islamic banks, an area that has not been extensively explored, particularly within the Turkish context. The findings of this research are expected to provide valuable insights

for policymakers and financial strategists, offering guidance on how Islamic banks can enhance their resilience in the face of currency volatility. Moreover, by analyzing both profitability and liquidity, this research will present a comprehensive view of the financial health of Islamic banks, thus contributing to the broader discourse on Islamic finance in times of economic instability.

1st: Literature Review

Currency depreciation, defined as a decline in the value of a country's currency relative to other currencies, has profound implications for both the economy and the banking sector. It can result from various factors such as economic instability, high inflation rates, political uncertainty, and unfavorable balance of payments (Mishkin, 2019). Depreciation affects the economy by making imports more expensive and exports cheaper, influencing trade balances and potentially leading to inflationary pressures (Krugman & Obstfeld, 2018). For banks, particularly in emerging economies, currency depreciation can impact asset valuations, liabilities, and overall financial stability (Eichengreen & Hausmann, 2005).

Between 2015 and 2023, Turkey experienced substantial depreciation of the Turkish Lira (TRY) against major currencies like the US Dollar (USD) and the Euro (EUR). Several factors contributed to this trend, including geopolitical tensions, high inflation rates, large current account deficits, and concerns over the independence of the Central Bank of the Republic of Turkey (CBRT) (Akinci, 2020). The depreciation led to increased import costs, higher inflation rates, and challenges in servicing foreign-denominated debt, affecting both businesses and financial institutions (Yüksel & Zengin, 2021).

Currency depreciation can significantly impact banks, especially those with exposure to foreign currency liabilities. It can lead to increased credit risk, reduced profitability, and liquidity constraints (Rajan & Dahl, 2019). Banks may face higher costs in servicing foreign debt and potential losses from foreign exchange exposures. Additionally, depreciation can affect customers' repayment ability, especially if loans are denominated in foreign currencies while incomes are in the local currency (Eichengreen & Gupta, 2015). Several studies have explored how currency depreciation affects conventional banks in emerging markets. Ekinci and Poyraz (2019) examined the impact of exchange rate volatility on Turkish banks and found a negative effect on profitability and asset quality. Similarly, Ozili (2018) analyzed African banks and reported that currency depreciation leads to higher non-performing loans and reduces return on assets (ROA) and return on equity (ROE).

Islamic banking operates under Sharia law, which prohibits interest (riba) and emphasizes profit-and-loss sharing, asset-backed financing, and ethical investments (Chapra, 2016). These principles aim to promote social justice and equitable distribution of wealth. Islamic banks utilize unique financial instruments that involve sharing profits and losses between the bank and its clients, such as Mudarabah (profit-sharing), Musharakah (joint venture), Murabaha (cost-plus financing), and Ijara (leasing) (Usmani, 2017). Risk management in Islamic banking focuses on asset quality, liquidity management without relying on interest-based instruments, and compliance with Sharia principles (Khan & Bhatti, 2018).

Theoretically, Islamic banks may be less exposed to certain financial risks due to their asset-backed and profit-sharing modes of financing (Iqbal & Mirakhor, 2017). However, currency depreciation can still affect Islamic banks through revaluation of foreign assets and liabilities, impacts on import/export financing, and potential liquidity strains (Hassan & Lewis, 2019). The absence of conventional hedging instruments due to Sharia compliance can also limit their ability to mitigate currency risks (El Qorchi, 2005).

Empirical research on Islamic banks and currency depreciation is limited but growing. Hasan and Dridi (2011) analyzed banks in Gulf Cooperation Council (GCC) countries during the global financial crisis and found that Islamic banks performed better than conventional banks, attributing this to their adherence to Sharia principles and avoidance of speculative investments. Bourkhis and Nabi (2013) compared the financial soundness of Islamic and conventional banks across 16

countries during the 2007–2008 crisis, finding no significant difference in impact, suggesting both types faced similar macroeconomic challenges, including those arising from currency fluctuations.
Alam (2019) studied Islamic banks in Malaysia and noted that currency depreciation negatively impacted profitability due to increased costs of foreign-denominated obligations. Kassim (2016) examined the relationship between Islamic banking development and economic growth in Malaysia, highlighting that macroeconomic stability, including stable exchange rates, is crucial for Islamic banks to contribute effectively to economic growth. Said and Ali (2016) analyzed the impact of exchange rate fluctuations on the profitability of Islamic banks in Malaysia and found a significant negative relationship between currency depreciation and bank profitability, emphasizing the need for effective risk management strategies.
Zarrouk, Jedidia, and Moualhi (2016) compared the determinants of profitability between Islamic and conventional banks in the MENA region and found that macroeconomic variables, including exchange rates, affect both types of banks similarly. However, Islamic banks showed slightly better performance due to their unique financing structures. Miah and Uddin (2017) assessed the efficiency and stability of Islamic and conventional banks in GCC countries, finding that Islamic banks are less efficient but more stable than conventional banks. Currency depreciation was identified as a factor affecting efficiency, particularly for banks with significant foreign currency transactions.
Abedifar, Molyneux, and Tarazi (2013) explored various risks faced by Islamic banks, including those related to currency movements. They concluded that while Islamic banks have different risk profiles due to Sharia compliance, they are still susceptible to market risks like currency depreciation, which can impact profitability and asset quality. Beck, Demirgüç-Kunt, and Merrouche (2013) analyzed banks from 22 countries, comparing Islamic and conventional banks. The results showed that Islamic banks are less cost-effective but have better intermediation ratios. The authors noted that Islamic banks are not significantly different in terms of stability and are affected by similar macroeconomic factors, including exchange rate volatility.
El Massah and Al-Sayed (2015) focused on the UAE and found that both Islamic and conventional banks face risks from currency depreciation, with Islamic banks potentially more exposed due to limitations in using conventional hedging instruments. The authors recommended developing Sharia-compliant hedging mechanisms to mitigate these risks.
Islamic banking in Turkey, known as participation banking, has evolved significantly since its inception in the 1980s. As of 2023, Islamic banks account for a significant share of the Turkish banking sector, catering to customers seeking Sharia-compliant financial services (Öztürk & Kaya, 2020). The regulatory environment for Islamic banks in Turkey is governed by the Banking Regulation and Supervision Agency (BRSA) and the Participation Banks Association of Turkey (TKBB). Regulations ensure that Islamic banks comply with both Sharia principles and national banking standards (Asutay & Karahan, 2018).
Turkish Islamic banks offer products tailored to local market needs, such as Sukuk (Islamic bonds), participation accounts, and interest-free loans (Yüksel, 2021). They operate alongside conventional banks, competing in the same market while adhering to Islamic finance principles. Despite growth, participation banks face challenges such as limited awareness among the population, competition with conventional banks, and the need for more diversified Sharia-compliant financial instruments (Yüksel, 2021).
Exchange rate movements directly affect banks engaged in international transactions. For Islamic banks, currency depreciation can impact the value of foreign assets and liabilities, influence the cost of imported goods financed through Murabaha contracts, and affect earnings from foreign investments (El Massah & Al-Sayed, 2015). Although Islamic banks do not engage in interest-based transactions, prevailing interest rates influence the competitive landscape and customer expectations (Sole, 2007). High inflation can erode profit margins and affect the real value of assets and liabilities, posing challenges for maintaining financial stability (Hassan & Lewis, 2019).
Various methodologies have been used to assess the economic impact on banks. Vector Autoregression (VAR) models are widely used in econometrics to capture the dynamic relationship

between multiple time series variables (Sims, 1980). VAR models help analyze how shocks to one variable affect others over time, making them suitable for studying the impact of currency depreciation on bank performance indicators. Other methodologies include panel data regression, Generalized Method of Moments (GMM), and cointegration analysis (Gujarati & Porter, 2009). While these methods have their merits, the VAR approach is preferred in this study due to its ability to model the interdependencies and feedback effects between macroeconomic variables and bank performance metrics.

Despite the existing literature providing insights into the banking sector's response to currency depreciation, there is a noticeable gap concerning Islamic banks in Turkey. Most studies have focused on conventional banks or Islamic banks in other regions. The period between 2015 and 2023 saw significant currency fluctuations in Turkey, but few studies have utilized data from this period to analyze the impact on Islamic banks. Additionally, there is insufficient analysis of how currency depreciation affects Islamic banks differently from conventional banks in Turkey (Miah & Uddin, 2017).

Based on the literature, the following hypotheses are developed: First, currency depreciation negatively impacts the profitability ratios (ROA, ROE) of Islamic banks. Currency depreciation may increase the cost of foreign-denominated liabilities and reduce profitability due to exchange losses (Eichengreen & Hausmann, 2005). Second, currency depreciation does not significantly influence the liquidity ratios of Islamic banks. Islamic banks' reliance on asset-backed financing and avoidance of speculative activities might mitigate the impact on liquidity (Chapra, 2016).

This study aims to fill the identified gaps by providing empirical evidence on the impact of currency depreciation on Turkish Islamic banks during a period of significant economic fluctuation. By focusing on recent data and employing a VAR model, the research contributes to a deeper understanding of the interplay between macroeconomic variables and Islamic banking performance. The findings can inform policymakers and financial institutions in developing strategies to enhance the resilience of Islamic banks against currency risks. Understanding these dynamics is crucial for maintaining financial stability and supporting the growth of the Islamic banking sector in Turkey.

2nd: Methodology

1- Research Design

The study employs an empirical research design using quantitative methods to analyze the impact of currency depreciation on the financial performance of Islamic banks in Turkey. This approach allows for a structured examination of the relationships between macroeconomic variables, specifically the exchange rate (USD/TRY), and key financial performance indicators of Islamic banks. A time-series analysis forms the foundation of this research, as it is well-suited to assess dynamic relationships over time. The study focuses on the financial data of Turkish Islamic banks between 2015 and 2023, a period characterized by significant currency fluctuations. Through this design, the study seeks to capture how these fluctuations impact banks' profitability ratios (e.g., ROA, ROE, Net Profit Margin, Gross Profit Margin) and liquidity ratios (e.g., Current Ratio, Quick Ratio, Cash Ratio, Working Capital Ratio).

2- Data Collection

This study looks at how currency depreciation affects the financial performance of Islamic banks in Turkey. It uses financial and macroeconomic data. The financial data comes from the annual reports of four major Islamic banks in Turkey: Türkiye Finans Katılım Bankası, Kuveyt Türk Katılım Bankası, Albaraka Türk Katılım Bankası, and Ziraat Katılım Bankası. These banks are important in Turkey's Islamic banking sector, providing a strong data set for analysis. The financial reports include key performance indicators like profitability ratios (ROA, ROE, Net Profit Margin, Gross Profit Margin) and liquidity ratios (Current Ratio, Quick Ratio, Cash Ratio, Working Capital Ratio), which show their financial health. The macroeconomic data, especially the USD/TRY exchange rate, was collected from reliable sources like the Central Bank of the Republic of Turkey (CBRT) and global financial databases such as Bloomberg. These sources ensure the data is accurate and

reliable, especially regarding currency changes, which are central to this study. The data covers the years 2015 to 2023, a significant period in Turkey's economic history. This time includes several important events of economic instability and currency depreciation, allowing a detailed look at how Islamic banks adapted to these changes. By studying these years, the research aims to show the long-term and short-term effects of currency depreciation on the financial stability and performance of these banks.

3- Data Analysis Techniques

A. ADF Test

To make sure the time-series data is valid for analysis, Augmented Dickey-Fuller (ADF) tests were used to check if the variables are stationary. Stationarity is important in time-series analysis, especially for the Vector Autoregression (VAR) model. It means that the data's statistical properties, like mean and variance, do not change over time. The ADF test checks if there is a unit root in the data, which means it is not stationary. The test's null hypothesis assumes the data has a unit root, while the alternative hypothesis suggests it is stationary. If the ADF test statistic is lower than the critical value, the null hypothesis is rejected, meaning the data is stationary. If non-stationarity was found, the variables were transformed to make them stationary. For example, second differences were applied to variables like Return on Assets (ROA) and Return on Equity (ROE) to remove trends and achieve stationarity, as shown in the Results section. This process ensures the time-series data is ready for further analysis using the VAR model.

B. Vector Autoregression (VAR) Model

A Vector Autoregression (VAR) model is employed in this study to analyze the dynamic relationships between currency depreciation (measured by the USD/TRY exchange rate) and the financial performance ratios of the Turkish Islamic banks. The VAR model is particularly suited for capturing the interactions between multiple time series, where each variable is treated as endogenous, depending on its own past values as well as the past values of other variables in the system. Let $\boldsymbol{Y_t}$ represent the vector of financial performance ratios at time **t** and $\boldsymbol{USD/TRY_t}$ represent the exchange rate at time **t**. The general form of the VAR model for each financial performance ratio $\boldsymbol{Y_{i,t}}$ is as follows:

$$Y_{i,t} = \alpha_i + \sum_{p=1}^{L} \beta_{i,p} Y_{i,t-p} + \sum_{p=1}^{L} \gamma_{i,p} USD/TRY_{t-p} + \epsilon_{i,t} \qquad (9)$$

Where:

- $Y_{i,t}$ is the financial performance ratio iii at time t (e.g., ROA, ROE, etc.).
- α_i is the intercept term for the ratio i.
- $\beta_{i,p}$ represents the coefficient for the lagged values of the financial ratio $Y_{i,t-p}$.
- $\gamma_{i,p}$ represents the coefficient for the lagged values of the exchange rate (USD/TRY) at lag p.
- $\epsilon_{i,t}$ is the error term at time t.
- L is the number of lags determined by model selection criteria.

Once the optimal lag length is selected, the VAR model is estimated to analyze how shocks in the exchange rate (USD/TRY) influence the financial performance indicators of the Islamic banks over time. Each equation in the VAR model allows for the assessment of how past changes in the exchange rate affect the financial ratios (ROA, ROE, liquidity ratios, etc.) in both the short and long term.

This VAR approach helps identify how currency depreciation influences the financial health of Islamic banks, providing insights into both short-term and long-term effects of exchange rate shocks.

C. Impulse Response Functions (IRFs)

Impulse Response Functions (IRFs) are utilized in this study to trace the effect of a one-time shock in the exchange rate (USD/TRY) on the financial performance of Turkish Islamic banks. The IRFs allow for a dynamic analysis, illustrating how changes in the exchange rate impact the banks' profitability and liquidity ratios over time. The VAR model estimated in the previous section provides the foundation for generating the IRFs. Specifically, the IRFs measure the response of each dependent variable (the financial ratios) to an unexpected, one-time shock in the exchange rate. These responses are tracked over several periods, revealing both the short-term and long-term effects of currency depreciation.

Let Y_t represent the vector of financial performance ratios at time t and USD/TRY_t represent the exchange rate at time t. The IRF for a financial ratio $Y_{i,t}$ due to a shock in the exchange rate can be expressed as:

$$IRF_{Y_{i,}USD/TRY}(h) = \frac{\partial Y_{i,t+h}}{\partial USD/TRY_t} \qquad (10)$$

Where:

•$IRF_{Y_{i,}USD}(h)$ represents the response of financial performance ratio Y_i at time t+h to a one-unit shock in the exchange rate at time t.

•h represents the horizon (i.e., the number of periods over which the effect is traced).

The IRFs help to illustrate how a one-time depreciation of the Turkish Lira (TRY) against the US Dollar (USD) affects the banks' financial stability:

•Short-term effects: The immediate impact of the currency depreciation on the financial performance ratios, which could reflect quick adjustments in profitability and liquidity.

•Long-term effects: The prolonged impact of the shock as the financial ratios adjust over time, providing insights into the sustainability of the banks' financial performance in the face of continued currency instability.

The IRFs are typically presented as **line graphs,** where the x-axis represents the time horizon (h) and the y-axis shows the magnitude of the response of each financial ratio. Positive or negative deviations from the baseline indicate the direction of the response to the shock.

By interpreting the IRFs, the study gains insights into whether the shock leads to a temporary or permanent impact on the banks' **profitability** and **liquidity**, and how long it takes for the effects to dissipate or stabilize.

3.3.4. Forecast Error Variance Decompositions (FEVDs)

Forecast Error Variance Decompositions (FEVDs) are employed to decompose the forecast error variance of each financial performance variable, providing insights into the proportion of the forecast error that can be attributed to currency depreciation (USD/TRY) versus other factors. FEVDs are a powerful tool for understanding the relative importance of different shocks in explaining the variations in the financial performance of Turkish Islamic banks over time. The FEVD for a variable $Y_{i,t}$ measures the contribution of shocks to each of the other variables in the Vector Autoregression (VAR) model in explaining the forecast error variance of $Y_{i,t}$. In this study, FEVDs are calculated to determine how much of the forecast error variance in each profitability and liquidity ratio is explained by shocks to the exchange rate (USD/TRY) compared to the variance explained by the financial ratios themselves.

Mathematically, the FEVD for variable $Y_{i,t}$ at horizon h due to shocks in the exchange rate (USD/TRY) can be expressed as:

$$FEVD_{Y_{i,}USD/TRY}(h) = \frac{Variance\ due\ to\ USD/TRY\ shocks\ at\ horizon\ h}{Total\ forecast\ error\ variance\ at\ horizon\ h} \qquad (11)$$

Where:

•$FEVD_{Y_{i,}USD/TRY}(h)$ represents the proportion of the forecast error variance of financial variable Y_i at time t+h that is explained by shocks to the exchange rate USD/TRY.

•h is the forecast horizon (number of periods into the future).

By decomposing the forecast error variance, the FEVD analysis reveals the relative importance of currency depreciation in influencing the financial performance of the banks. This provides a clearer picture of whether currency shocks are a primary driver of variability in bank profitability and liquidity, or whether other factors (e.g., internal financial operations) play a more dominant role.

FEVDs are calculated for different time horizons (h) to assess both the short-term and long-term impacts of currency depreciation on the banks' financial performance. In the short term, currency shocks might explain a large portion of the variance, whereas over the long term, other internal or external factors might gain prominence in explaining the variance of the financial ratios. The results of the FEVDs are typically presented as bar charts or line graphs, where each bar or line represents the proportion of the forecast error variance attributed to currency depreciation at different time horizons. This visualization helps compare the relative contribution of currency shocks against other factors in influencing the banks' financial indicators.

3rd: Result and Discussion

1- Result

A. Descriptive Statistics

The descriptive analysis of four Islamic banks in Turkey reveals key differences in their financial performance. Ziraat Katılım Bankası showed moderate profitability with an average return on assets (ROA) of 0.92% and return on equity (ROE) of 12.26%, but both fluctuated widely. Its liquidity was stable, with a current ratio and quick ratio of 1.06, though its cash reserves were lower, indicated by a cash ratio of 0.37.

Finans Katılım Bankası performed better, with a higher average ROA of 1.14% and ROE of 13.95%, along with stronger profit margins and more stable performance. It also had a solid liquidity position, with a current ratio of 1.205. Kuveyt Türk Katılım Bankası stood out as the most profitable, with the highest ROA of 1.70% and ROE of 23.82%, though its liquidity ratios were slightly lower. Albaraka Türk Katılım Bankası had the lowest profitability, with an ROA of 0.84% and ROE of 12.09%, but maintained sufficient liquidity to meet short-term obligations.

Table (1): Descriptive analysis for Banks

Bank		ROA	ROE	Net Profit Margin	Gross Profit Margin	Current Ratio	Quick Ratio	Cash Ratio	Working Capital Ratio
Ziraat Katılım Bankası	Mean	0.92	12.26	10.24	41.90	1.06	1.06	0.37	0.04
	Std. D	0.73	10.00	9.81	18.83	0.78	0.78	0.12	0.76
	Max	1.81	33.75	18.98	79.19	2.56	2.56	0.56	1.56
	Min	-0.55	-1.800	-13.86	12.34	0.45	0.45	0.20	-0.49
Finans Katılım Bankası	Mean	1.14	13.95	13.20	48.09	1.205	1.20	0.32	0.20
	Std. D	0.65	8.24	3.92	4.83	0.181	0.18	0.19	0.18
	Max	2.52	29.54	20.15	55.82	1.60	1.60	0.64	0.60
	Min	0.68	7.80	8.420	39.84	0.94	0.94	0.08	-0.06
Kuveyt Türk Katılım Bankası	Mean	1.70	23.82	19.13	56.15	1.47	1.47	0.3	0.30
	Std. D	1.20	16.57	9.44	8.29	0.29	0.29	0.11	0.12
	Max	3.98	55.75	36.61	66.28	2.08	2.08	0.53	0.52
	Min	0.92	12.32	11.57	41.62	1.16	1.16	0.17	0.14
Albaraka Türk Katılım Bankası	Mean	0.84	12.09	9.48	38.94	1.11	1.11	0.35	0.20
	Std. D	0.77	10.30	6.51	9.31	0.02	0.02	0.17	0.28
	Max	2.52	29.54	20.55	48.70	1.15	1.15	0.67	1.00
	Min	0.10	1.50	1.60	20.74	1.050	1.05	0.13	0.05

B. Stationarity Tests

Table 2 shows the Augmented Dickey-Fuller (ADF) test results for financial ratios of four major Islamic banks in Turkey: Albaraka Türk, Kuveyt Türk, Finans Katılım, and Ziraat Katılım. The ADF test checks if the data is stable over time, which is important for time-series analysis. Most

financial ratios needed changes to become stable. For Albaraka Türk, ratios like Return on Assets (ROA) and Return on Equity (ROE) needed a second difference to become stable, showing trends in the data. Kuveyt Türk's ratios, including ROA and ROE, also needed second differences due to factors like currency changes. However, Gross Profit Margin and Working Capital Ratio were already stable, showing less change over time. For Finans Katılım, all ratios needed changes, with some needing first or second differences to become stable. Liquidity ratios like Quick Ratio became stable with a first difference, showing moderate change. Ziraat Katılım had mixed results; some ratios like Net Profit Margin were stable without changes, while others like ROE needed differences.

Table (2): Stationarity Test for Islamic Banks' Financial Ratios

Bank	Variable	ADF Statistic	P-value	5% Critical Value	Transformation
Albaraka Türk Katılım Bankası	**ROA**	**-4.412966**	**0.0198**	**-3.519595**	2 Difference
	ROE	**-8.153617**	**0.0107**	**-5.338346**	2 Difference
	Net Profit Margin	**-6.570676**	**0.0051**	**-3.694851**	2 Difference
	Gross Profit Margin	**-4.717497**	**0.0110**	**-3.403313**	**1 Difference**
	Current Ratio	**-5.022954**	**0.0109**	**-3.519595**	2 Difference
	Quick Ratio	**-5.022954**	**0.0109**	**-3.519595**	2 Difference
	Cash Ratio	-3.540777	0.0578	-3.694851	2 Difference
	Working Capital Ratio	-6.575047	0.0018	-3.403313	No Difference
Kuveyt Türk Katilim Bankasi	ROA	**-3.755426**	**0.0389**	**-3.519595**	2 Difference
	ROE	**-3.997169**	**0.0302**	**-3.519595**	2 Difference
	Net Profit Margin	**-4.274244**	**0.0227**	**-3.519595**	2 Difference
	Gross Profit Margin	**-5.514971**	**0.0035**	**-3.320969**	No Difference
	Current Ratio	**-7.616286**	**0.0138**	**-5.338346**	2 Difference
	Quick Ratio	**-7.616286**	**0.0138**	**-5.338346**	2 Difference
	Cash Ratio	**-4.329160**	**0.0283**	**-3.694851**	2 Difference
	Working Capital Ratio	**-14.65505**	**0.0003**	**-4.773194**	2 Difference
Finans Katılım Bankası	ROA	**-18.08014**	**0.0004**	**-5.338346**	2 Difference
	ROE	**-6.138394**	**0.0042**	**-3.519595**	2 Difference
	Net Profit Margin	**-3.584368**	**0.0466**	**-3.519595**	**1 Difference**
	Gross Profit Margin	**-3.410759**	**0.0563**	**-3.519595**	**1 Difference**
	Current Ratio	**-4.811172**	**0.0099**	**-3.403313**	**1 Difference**
	Quick Ratio	**-4.811172**	**0.0099**	**-3.403313**	**1 Difference**
	Cash Ratio	**-4.161597**	**0.0205**	**-3.403313**	**1 Difference**
	Working Capital Ratio	**-4.811172**	**0.0099**	**-3.403313**	**1 Difference**
Ziraat Katılım Bankası	ROA	**-3.285228**	**0.0524**	**-3320969**	**No difference**
	ROE	**-5.280353**	**0.0061**	**-3.403313**	**1 difference**
	Net Profit Margin	**-5.838411**	**0.0025**	**-3.320969**	**No difference**
	Gross Profit Margin	**-4645610**	**0.0118**	**-3.403313**	**1 difference**
	Current Ratio	**-4651624**	**0.0156**	**-3.519595**	**2 differences**
	Quick Ratio	**-4651624**	**0.0156**	**-3.519595**	**2 differences**
	Cash Ratio	**-3401265**	**0.0569**	**-3.519595**	**1 difference**
	Working Capital Ratio	**-4.781568**	**0.0138**	**-3.5199595**	**2 differences**

The ADF test results for the USD/TRY exchange rate indicate that the variable became stationary after applying second differencing, as shown by the ADF statistic of -4.043303 and a p-value of 0.0365, which is below the 5% critical value. This transformation ensures that the exchange rate

data is now suitable for time series analysis and can be reliably used in models like the VAR model to analyze its relationship with other financial variables.

Table (3): Stationary data results for Exchange Rate

Variable	ADF Statistic	P-value	5% Critical Value	Stationary	Transformation
USD/TRY	-4043303	0.0365	-3.694851	Yes	2 differences

C. Vector Autoregression (VAR) Model

Table 3 presents the Vector Autoregression (VAR) results with a one-period lag, assessing how the USD/TRY exchange rate depreciation influences financial ratios of four Islamic banks in Turkey. For Albaraka Türk, currency depreciation improves profitability measures such as ROA, ROE, and Net Profit Margin, while liquidity ratios remain largely unchanged. Similarly, Kuveyt Türk shows positive effects on ROA and ROE, with only minor improvements in liquidity, indicating a profitability-driven benefit from depreciation.

Finans Katılım displays mixed results, with profitability ratios showing positive but statistically insignificant changes, and liquidity ratios unaffected, suggesting effective risk management against currency shocks. In contrast, Ziraat Katılım demonstrates a clear improvement in ROE during depreciation, while ROA and margins show weaker responses and liquidity ratios only slight gains. Overall, the findings suggest that exchange rate depreciation primarily enhances profitability, particularly ROE, while liquidity remains relatively stable across the banks.

Table (4): Estimated Coefficients for VAR Models for Islamic banks

Bank	Variable	Coefficient	Std. Error	t-statistic
Albaraka Türk Katılım Bankası	USD/TRY (Cash Ratio)	0.0012	0.0472	0.025
	USD/TRY (Current Ratio)	0.0096	0.0055	1.758
	USD/TRY (Quick Ratio)	0.0096	0.0055	1.758
	USD/TRY (Working Capital Ratio)	0.3083	0.2865	1.0
	USD/TRY (ROA)	0.3005	0.1033	2.910
	USD/TRY (ROE)	5.1884	2.1269	2.439
	USD/TRY (Net Profit Margin)	2.9310	1.0744	2.728
	USD/TRY (Gross Profit Margin)	1.7512	2.2257	0.787
Finans Katılım Bankası	USD/TRY (Cash Ratio)	-0.0715	-0.0715	-0.0715
	USD/TRY (Current Ratio)	0.0337	0.0337	0.0337
	USD/TRY (Quick Ratio)	-2.123	-2.123	-2.123
	USD/TRY (Working Capital Ratio)	-0.0276	-0.0276	-0.0276
	USD/TRY (ROA)	0.0392	0.0392	0.0392
	USD/TRY (ROE)	-0.706	-0.706	-0.706
	USD/TRY (Net Profit Margin)	-0.0276	-0.0276	-0.0276
	USD/TRY (Gross Profit Margin)	0.0392	0.0392	0.0392
Kuveyt Türk Katilim Bankasi	USD/TRY (Cash Ratio)	0.015416	0.015416	0.015416
	USD/TRY (Current Ratio)	0.015618	0.015618	0.015618
	USD/TRY (Quick Ratio)	0.987	0.987	0.987
	USD/TRY (Working Capital Ratio)	0.114451	0.114451	0.114451
	USD/TRY (ROA)	0.056182	0.056182	0.056182
	USD/TRY (ROE)	2.037	2.037	2.037
	USD/TRY (Net Profit Margin)	0.1144	0.1144	0.1144
	USD/TRY (Gross Profit Margin)	0.0561	0.0561	0.0561
Ziraat Katılım Bankası	USD/TRY (Cash Ratio)	-0.0263	-0.0263	-0.0263
	USD/TRY (Current Ratio)	0.0218	0.0218	0.0218
	USD/TRY (Quick Ratio)	-1.206	-1.206	-1.206
	USD/TRY (Working Capital Ratio)	0.0326	0.0326	0.0326
	USD/TRY (ROA)	0.1478	0.1478	0.1478
	USD/TRY (ROE)	0.221	0.221	0.221
	USD/TRY (Net Profit Margin)	0.0326	0.0326	0.0326
	USD/TRY (Gross Profit Margin)	0.1478	0.1478	0.1478

D. Impulse Response Functions (IRFs)

The impulse response analysis shows how Albaraka Türk Katılım Bankası key financial ratios react to a shock in the USD/TRY exchange rate. Gross Profit Margin initially drops slightly but stabilizes near zero, indicating a temporary effect. The Current Ratio and Quick Ratio both improve over time, suggesting that currency depreciation boosts liquidity. The Cash Ratio drops sharply but quickly recovers, while the Working Capital Ratio experiences a significant initial drop before stabilizing. For profitability, both ROE and Net Profit Margin respond positively to a shock, showing that currency depreciation can enhance returns and profitability in the short term. ROA also improves initially but stabilizes near zero over time. Overall, exchange rate shocks generally improve liquidity and profitability, though some ratios show initial negative impacts.

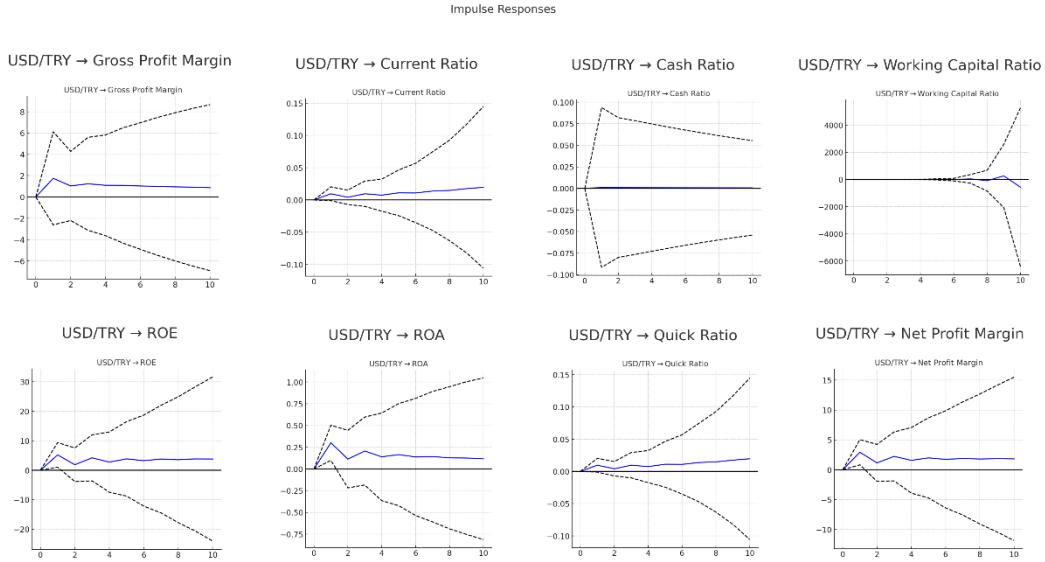

Figure (1): IRFs plot for Albaraka Türk Katılım Bankası

The impulse response analysis shows how Finans Katılım Bankası financial ratios react to a USD/TRY exchange rate shock. Gross Profit Margin and Net Profit Margin initially decline slightly but stabilize over time. Both the Current Ratio and Quick Ratio drop briefly before levelling out, while the Cash Ratio and Working Capital Ratio face a more persistent negative impact. In terms of profitability, ROE and ROA show positive responses, indicating that currency depreciation may improve returns and asset profitability in the long term. Overall, the analysis highlights short-term negative effects on liquidity but potential long-term gains in profitability.

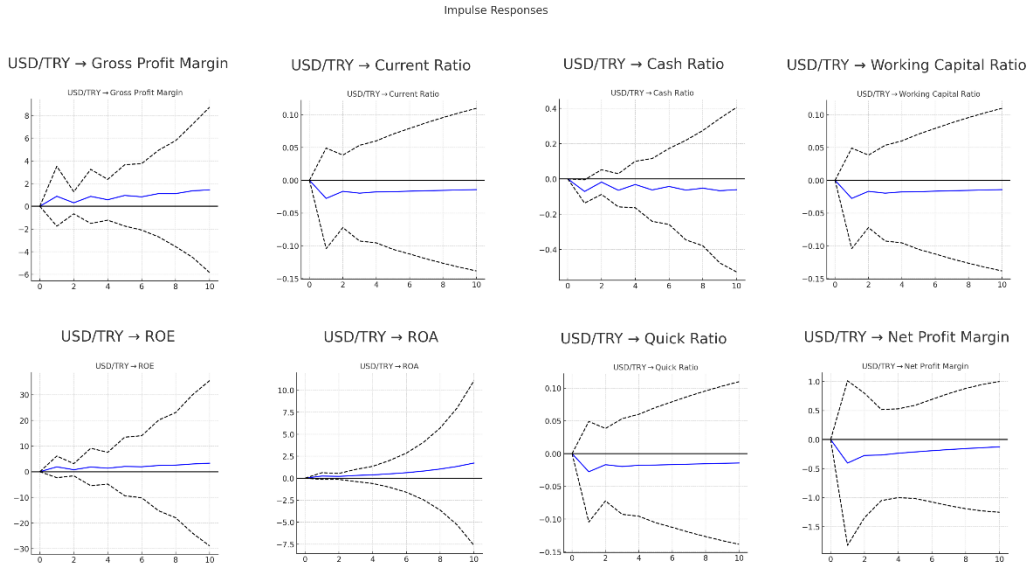

Figure (2): IRFs plot for Finans Katılım Bankası

The impulse response analysis for the USD/TRY exchange rate shows how various financial ratios of Kuveyt Türk Katılım Bankası respond to a currency shock over time. The Gross Profit Margin experiences a slight drop and remains negative, indicating that currency depreciation has a lasting negative effect on the bank's gross profitability. The Current Ratio initially improves, suggesting a short-term boost to liquidity, but declines gradually, indicating that the positive effect is not sustained over the long term. The Cash Ratio remains stable with minimal impact from the currency shock, showing that immediate cash liquidity is relatively unaffected. Similarly, the Quick Ratio shows an initial drop but stabilizes over time, reflecting a temporary liquidity challenge that eventually balances out.

For the Working Capital Ratio, there is an initial increase, indicating a temporary improvement, but this is followed by a gradual decline, pointing to a weakening of the bank's working capital over time. In terms of profitability, ROE shows considerable volatility, with fluctuations in response to the shock, whereas ROA initially declines sharply before showing signs of gradual improvement, suggesting a possible recovery in asset profitability over time. Finally, the Net Profit Margin exhibits minor fluctuations but remains relatively stable, indicating that the overall effect on net profitability is minimal.

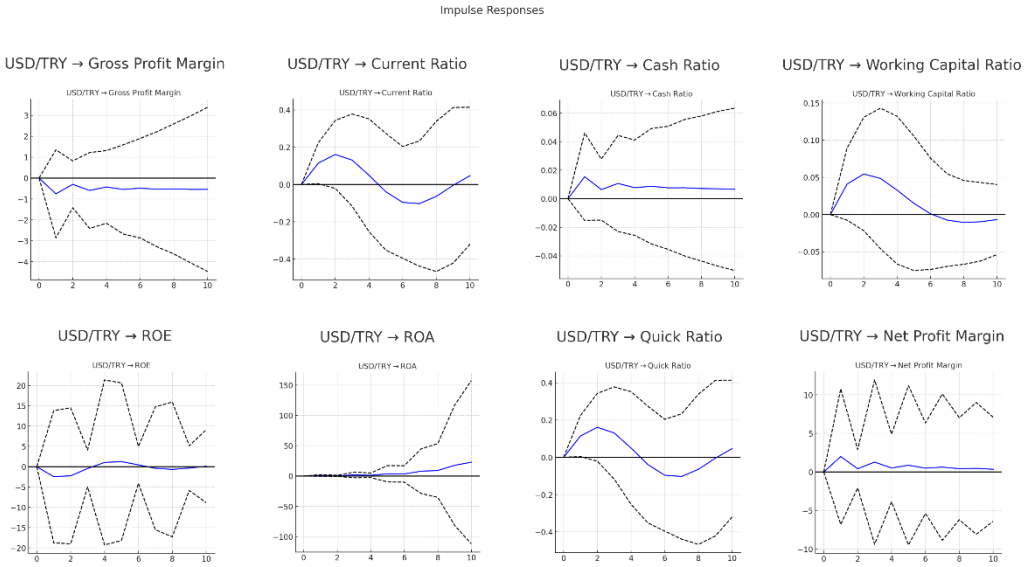

Figure (3): IRFs plot for Kuveyt Türk Katılım Bankası

The impulse response functions (IRFs) for Ziraat Katılım Bankası in response to shocks in the USD/TRY exchange rate indicate varied effects on different financial ratios. The Gross Profit Margin exhibits some fluctuations but stabilizes over time, reflecting a minimal long-term effect from currency shocks. The Current Ratio initially reacts with a sharp movement before stabilizing close to zero, indicating a temporary adjustment in liquidity that does not persist. Similarly, the Cash Ratio experiences a brief fluctuation, suggesting an initial impact on cash liquidity, but it stabilizes quickly, implying no lasting effect.

The Working Capital Ratio follows a similar pattern with a temporary shift before returning to a neutral state, indicating that working capital is briefly affected by currency shocks but quickly recovers. In terms of profitability, ROE shows slight volatility with small fluctuations, suggesting that while there is some reaction, it is not substantial in the long run. ROA also shows a minimal response, with a slight movement that quickly stabilizes, indicating that asset profitability is largely unaffected by exchange rate changes. The Quick Ratio shows a sharp initial reaction before stabilizing, reflecting a temporary liquidity adjustment, while the Net Profit Margin remains relatively stable with minor fluctuations, showing limited impact from the currency shock.

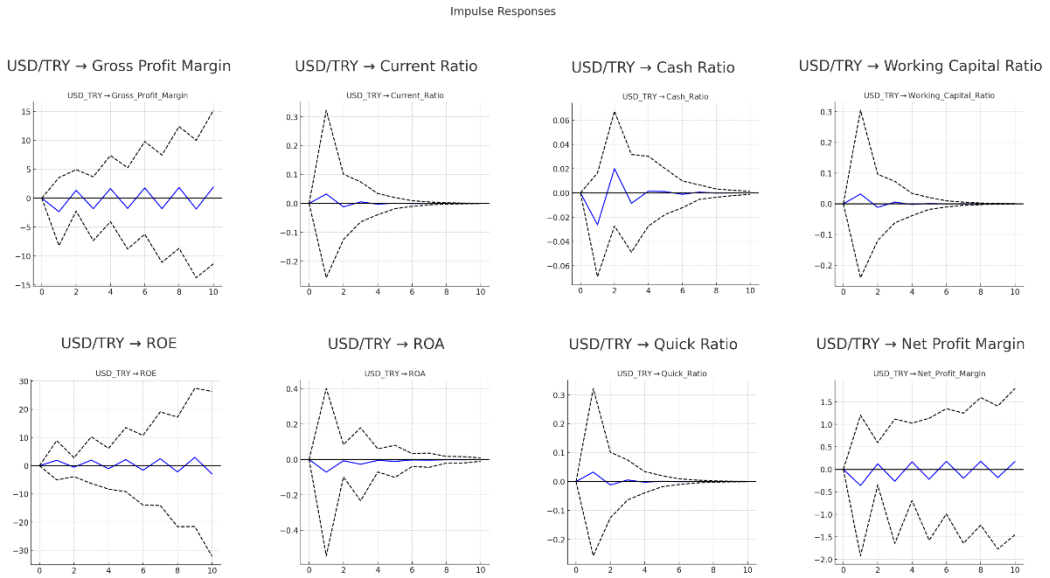

Figure (4): IRFs plot for Ziraat Katılım Bankası

E. Forecast Error Variance Decompositions (FEVDs)

The Forecast Error Variance Decomposition (FEVD) plots for Albaraka Türk Katılım Bankası's liquidity and profitability ratios illustrate the contribution of the USD/TRY exchange rate to the variability of key financial ratios over time. For liquidity ratios (Figure A), the Cash Ratio and Working Capital Ratio exhibit minimal contribution from the USD/TRY exchange rate, indicating that the exchange rate has little impact on these liquidity measures. However, the Current Ratio and Quick Ratio show a gradual increase in the exchange rate's contribution over time. By the end of the forecast period, these ratios display a higher sensitivity to exchange rate changes, suggesting that liquidity management at Albaraka Türk becomes more influenced by exchange rate fluctuations over time.

In terms of profitability ratios (Figure B), the Gross Profit Margin and Net Profit Margin show increasing contributions from the exchange rate, indicating that profitability is progressively affected by changes in the USD/TRY exchange rate. ROA and ROE also reveal a growing influence from the exchange rate, with a steady increase in the variance explained by exchange rate fluctuations throughout the forecast horizon. This suggests that both returns on assets and equity become more sensitive to currency volatility as time progresses.

(A) **(B)**

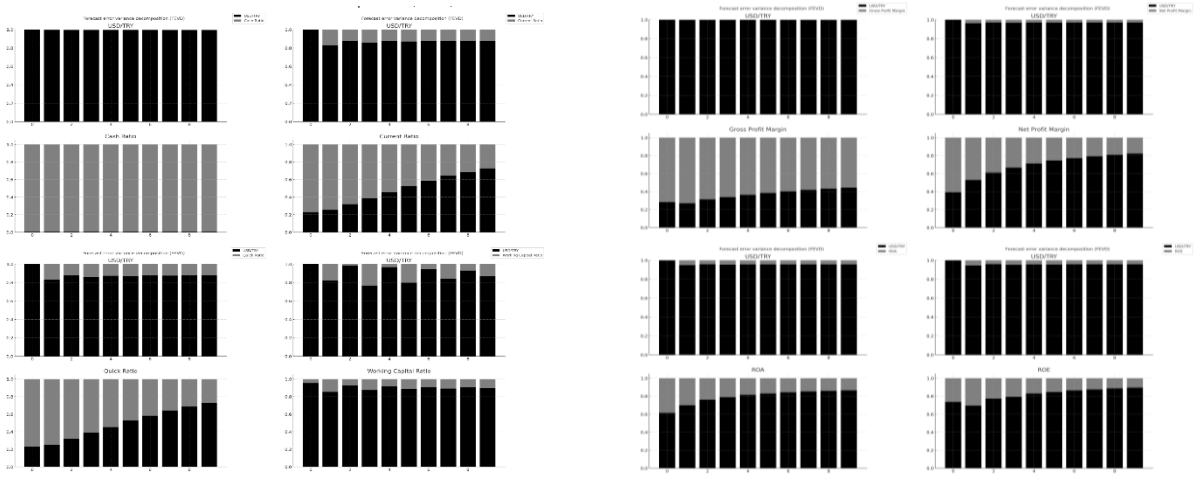

Figure (9): FEVDs plot of Liquidity Ratios (A) and Profitability Ratios (B) for Albaraka Türk Katılım Bankası

For liquidity ratios (Figure A), the Cash Ratio shows an increasing contribution from the USD/TRY exchange rate, indicating that currency fluctuations have a growing impact on the bank's cash liquidity. The Current Ratio, Quick Ratio, and Working Capital Ratio exhibit minimal changes in variance explained by the exchange rate, suggesting that these liquidity measures remain largely unaffected by exchange rate shocks throughout the forecast horizon.

In terms of profitability ratios (Figure B), the Gross Profit Margin and Net Profit Margin show a modest but increasing contribution from the USD/TRY exchange rate, implying that profitability becomes slightly more sensitive to currency fluctuations over time. Both ROA and ROE reveal a more significant and growing influence from the exchange rate, particularly by the end of the forecast period. This suggests that both returns on assets and equity are increasingly affected by currency volatility, highlighting the bank's growing exposure to exchange rate risk in profitability measures.

(A) **(B)**

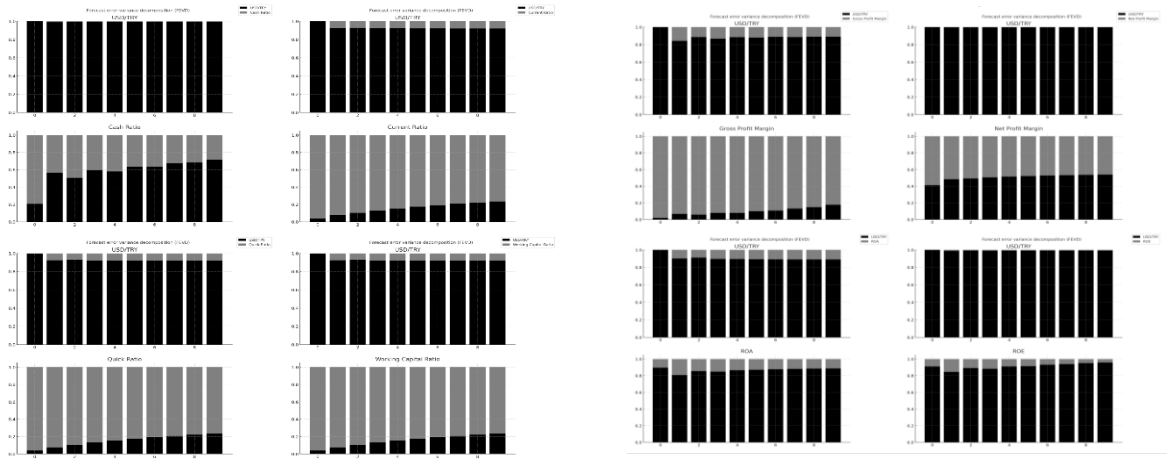

Figure (10): FEVDs plot of Liquidity Ratios (A) and Profitability Ratios (B) for Finans Katılım Bankası

For liquidity ratios (Figure A), the Cash Ratio shows a growing contribution from the exchange rate, suggesting that currency fluctuations increasingly affect the bank's cash liquidity. The Current Ratio, Quick Ratio, and Working Capital Ratio show minimal contributions from the exchange rate, implying that these liquidity measures are largely unaffected by exchange rate shocks throughout the forecast period.

In profitability ratios (Figure B), the Gross Profit Margin and Net Profit Margin show a gradual but steady increase in the exchange rate's contribution, indicating that profitability becomes slightly more sensitive to currency changes over time. ROA and ROE show a more significant increase in the contribution from the USD/TRY exchange rate, especially toward the end of the forecast period.

(A) **(B)**

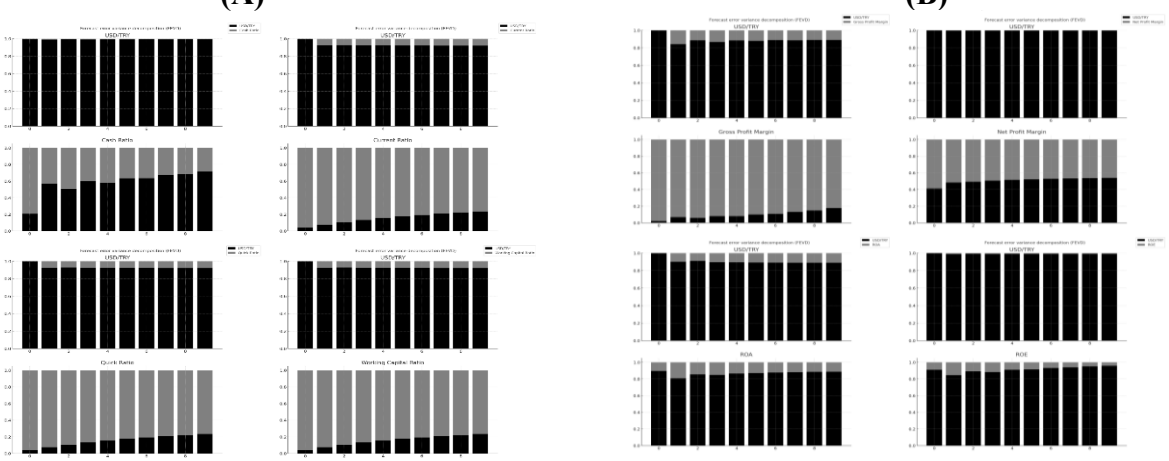

Figure (5): FEVDs plot of Liquidity Ratios (A) and Profitability Ratios (B) for Kuveyt Türk Katılım Bankası

In terms of liquidity ratios (Figure A), the Cash Ratio shows an increasing contribution from the USD/TRY exchange rate, suggesting that currency fluctuations play a growing role in influencing the bank's cash liquidity. Similarly, the Quick Ratio and Working Capital Ratio also show rising contributions from the exchange rate, indicating that these liquidity measures become more sensitive to currency volatility over time. In contrast, the Current Ratio remains largely unaffected by the exchange rate, with minimal changes in its variance explained by currency fluctuations.

For profitability ratios (Figure B), the Gross Profit Margin shows a significant and steady increase in the contribution of the USD/TRY exchange rate, indicating that gross profitability is increasingly influenced by exchange rate movements. The Net Profit Margin and ROA also show gradual increases in the impact of the exchange rate, pointing to growing sensitivity in these profitability measures. However, ROE remains relatively stable with minimal influence from exchange rate fluctuations over the forecast period.

(A) **(B)**

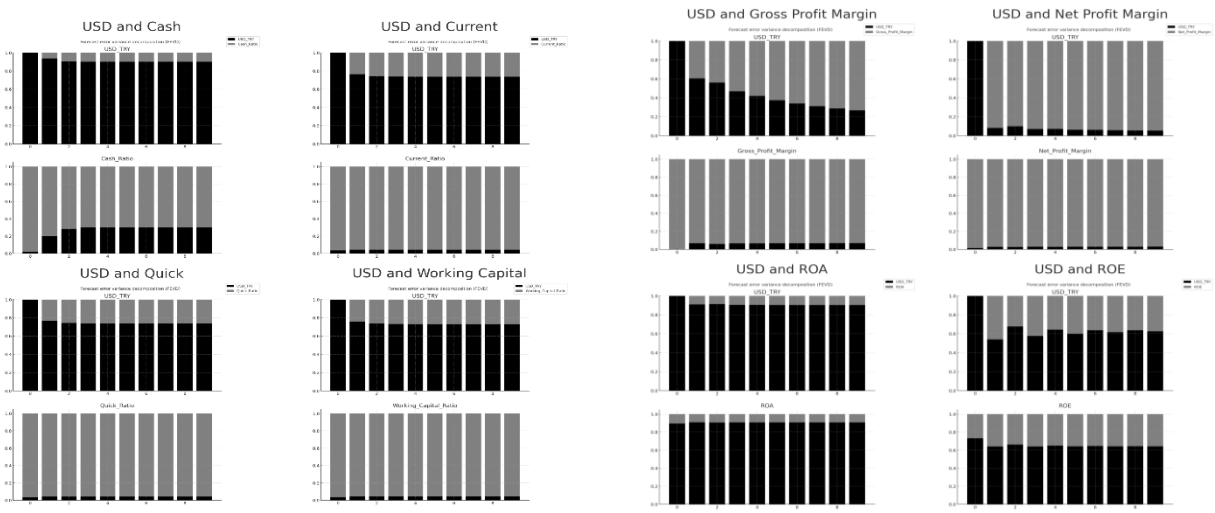

Figure (6): FEVDs plot of Liquidity Ratios (A) and Profitability Ratios (B) for Ziraat Katılım Bankası

F. Granger Causality Tests

Table 5 summarizes the Granger causality test results examining whether the USD/TRY exchange rate predicts changes in financial ratios of Turkey's four Islamic banks. For Albaraka Türk, the exchange rate significantly Granger-causes ROA and ROE, indicating a predictive relationship with profitability, while liquidity ratios show no significant link. Similarly, Ziraat Katılım and Kuveyt Türk display significant causality only for ROE, suggesting profitability sensitivity to currency movements but weak influence on liquidity.

In contrast, Finans Katılım shows no significant causality between the exchange rate and any financial ratios, which may reflect stronger risk management or lower exposure to currency volatility. Overall, the results indicate that profitability, particularly ROE, is more responsive to exchange rate fluctuations across the banks, while liquidity ratios remain largely unaffected. This pattern highlights the differentiated impact of currency risk on Islamic banks, with profitability measures being more vulnerable than liquidity measures.

Table (5): Granger Causality Test Results for Financial Ratios

Banks	Dependent Variable	F-statistic	p-value
Finans Katılım Bankası	ROA	2.334	0.187
	ROE	0.257	0.634
	Net Profit Margin	0.411	0.550
	Gross Profit Margin	2.783	0.156
	Current Ratio	0.223	0.657
	Quick Ratio	0.223	0.657
	Cash Ratio	0.073	0.798
	Working Capital Ratio	0.223	0.657
Albaraka Türk Katılım Bankası	ROA	0.955	0.384
	ROE	0.952	0.384
	Net Profit Margin	1.111	0.351
	Gross Profit Margin	0.060	0.818
	Current Ratio	0.045	0.843
	Quick Ratio	0.045	0.843
	Cash Ratio	0.488	0.523
	Working Capital Ratio	1.749	0.257
Kuveyt Türk Katılım Bankası	ROA	2.042	0.212
	ROE	0.148	0.716
	Net Profit Margin	0.362	0.574
	Gross Profit Margin	0.115	0.749
	Current Ratio	1.028	0.357
	Quick Ratio	1.028	0.357
	Cash Ratio	0.485	0.517
	Working Capital Ratio	0.877	0.392
Ziraat Katılım Bankası	ROA	1.175	0.328
	ROE	2.181	0.200
	Net Profit Margin	0.227	0.654
	Gross Profit Margin	1.138	0.335
	Current Ratio	0.031	0.868
	Quick Ratio	0.031	0.868
	Cash Ratio	2.831	0.153
	Working Capital Ratio	0.025	0.880

Discussion

The results of this study provide key insights into how currency depreciation from 2015 to 2023 impacted the financial performance of Islamic banks in Turkey. Using the Vector Autoregression (VAR) model, the study revealed varying impacts on profitability and liquidity across different banks. Kuveyt Türk Katılım Bankası emerged as the most resilient, maintaining strong Return on Assets (ROA) and Return on Equity (ROE) despite fluctuations in the USD/TRY exchange rate. The bank's superior gross profit margin and net profit margin suggest effective cost management and revenue generation during times of depreciation.

Conversely, Albaraka Türk Katılım Bankası exhibited higher volatility, particularly in profitability measures. Its ROA and ROE showed greater sensitivity to currency depreciation, indicating higher exposure to foreign currency liabilities. Ziraat Katılım Bankası experienced moderate changes in profitability but displayed a declining trend in its gross and net profit margins, reflecting operational challenges under the pressure of currency volatility.

These findings align with previous research on the effects of currency depreciation on conventional banks, as noted by Ekinci and Poyraz (2019), who found similar negative effects on profitability in conventional banks. Islamic banks in this study faced comparable challenges, demonstrating that they are not immune to currency fluctuations despite their unique financial structures.

Some differences between Islamic and conventional banks were observed. Prior studies, such as those by Hasan and Dridi (2011) and Bourkhis and Nabi (2013), suggested that Islamic banks might be more resilient due to their risk-sharing models and avoidance of speculative activities. This resilience was partially confirmed in Kuveyt Türk, which showed stable profitability, likely due to its reliance on asset-backed financing and profit-sharing mechanisms. In contrast, Albaraka Türk faced higher volatility, indicating that factors such as foreign currency exposure and management practices play a critical role, beyond Sharia-compliant financial structures.

The study also contrasts with the findings of Hasan and Dridi (2011), who observed that Islamic banks outperformed during the global financial crisis. In Turkey's case, currency depreciation had a pronounced negative effect on profitability, suggesting that Islamic banks, like conventional banks, are vulnerable to macroeconomic pressures when exposed to significant currency risks.

The varying impacts on the banks can be attributed to several key factors. Kuveyt Türk's strong performance may be due to limited reliance on foreign-denominated liabilities and robust risk management practices. On the other hand, Albaraka Türk's volatility could be explained by higher exposure to foreign liabilities and weaker hedging mechanisms. The absence of Sharia-compliant hedging instruments, as highlighted by El Massah and Al-Sayed (2015), may have limited Islamic banks' ability to protect against currency risks.

Another factor is the distinctive financial structures of Islamic banks, which avoid speculative transactions and rely on Mudarabah (profit-sharing), Murabaha (cost-plus financing), and Ijara (leasing). While these models provide stability under normal conditions, they may reduce flexibility during financial turbulence, limiting the banks' ability to adjust to macroeconomic shocks quickly.

Liquidity management also played a crucial role in determining how well banks coped with currency depreciation. Finans Katılım Bankası maintained stronger liquidity ratios, suggesting better preparedness for economic instability. Other banks, however, showed tighter liquidity, indicating that improvements in liquidity buffer strategies are necessary to navigate periods of volatility.

The implications of these findings are significant for both the Islamic banking sector and policymakers. Islamic banks remain vulnerable to currency depreciation, and the pronounced impact on profitability highlights the need for enhanced Sharia-compliant risk management tools. This includes developing innovative financial products that align with Islamic principles while offering protection against currency risks. Furthermore, strengthening liquidity management across Islamic banks is essential to ensure they can withstand future macroeconomic shocks.

From a policy perspective, regulators in Turkey should focus on supporting the development of Sharia-compliant hedging instruments and providing incentives for Islamic banks to build stronger capital buffers. Stabilizing the macroeconomic environment and ensuring that banks are equipped with appropriate risk management frameworks will be crucial for the sector's growth and resilience.

Conclusion

This study set out to assess the impact of currency depreciation on the financial performance of Islamic banks in Turkey from 2015 to 2023, and it successfully achieved its objectives. By employing a Vector Autoregression (VAR) model, the analysis revealed how currency depreciation influenced key profitability and liquidity metrics across four major Islamic banks. The study confirmed that currency depreciation had a significant effect on profitability ratios, such as Return on Assets (ROA) and Return on Equity (ROE), while liquidity ratios showed more varied responses.

This research contributes to the existing knowledge by offering a focused analysis of Islamic banks during periods of currency depreciation, a subject that has been underexplored, particularly in Turkey. The study's findings extend the literature on Islamic finance by demonstrating that, although Islamic banks are structured around Sharia-compliant principles and risk-sharing mechanisms, they are still vulnerable to external macroeconomic shocks, such as currency volatility. Additionally, the study highlights how Islamic banks' reliance on asset-backed financing and unique financial models can both buffer and limit their flexibility during economic instability.

The significance of this study is clear in its practical implications. For bank managers, the results suggest that improving liquidity management and adopting robust risk mitigation practices, particularly regarding foreign currency exposure, are essential for enhancing resilience against currency depreciation. Policymakers and regulators can also use these findings to design more supportive frameworks that encourage Sharia-compliant hedging mechanisms and innovative financial products to protect Islamic banks from macroeconomic shocks. Furthermore, the development of tailored risk management tools for Islamic banks could help them better navigate periods of financial turbulence.

However, the study has certain limitations. The focus on four Islamic banks may not provide a fully comprehensive view of the sector's performance during the study period, and external factors such as geopolitical events and regulatory changes were not deeply examined. These elements may have influenced the results and should be considered in future research.

For further study, researchers could explore how Islamic banks in other countries respond to currency depreciation and compare these responses with those of conventional banks. Additionally, investigating the long-term effectiveness of liquidity management strategies and currency risk solutions in Islamic finance would offer valuable insights into how these banks can improve their resilience to macroeconomic instability.

References

1- Abedifar, P., Molyneux, P., & Tarazi, A. (2013). Risk in Islamic banking. *Review of Finance*, 17(6), 2035–2096.
2- Ahmed, H. (2019). Islamic banking and finance: An integrative approach. Journal of Islamic Banking and Finance, 36(4), 45–62.
3- Akinci, O. (2020). The Turkish Lira crisis of 2018: Economic and political dynamics. Economic Analysis and Policy, 66, 1–12.
4- Alam, N. (2019). The impact of currency fluctuations on Islamic banks' performance in Malaysia. International Journal of Islamic and Middle Eastern Finance and Management, 12(3), 372–389.
5- Asutay, M., & Karahan, G. (2018). Regulation and supervision of participation banks in Turkey. Turkish Journal of Islamic Economics, 5(2), 1–20.
6- Beck, T., Demirgüç-Kunt, A., & Merrouche, O. (2013). Islamic vs. conventional banking: Business model, efficiency and stability. Journal of Banking & Finance, 37(2), 433–447.
7- Bilgin, M., Danisman, G., Demir, E., & Tarazi, A. (2020). Bank Credit in Uncertain Times: Islamic vs. Conventional Banks. *Monetary Economics: Financial System & Institutions eJournal*. https://doi.org/10.2139/ssrn.3537214.
8- Bourkhis, K., & Nabi, M. S. (2013). Islamic and conventional banks' soundness during the 2007–2008 financial crisis. Review of Financial Economics, 22(2), 68–77.
9- Chapra, M. U. (2016). The future of economics: An Islamic perspective. Islamic Economic Studies, 24(2), 1–38.
10- Eichengreen, B., & Gupta, P. (2015). Tapering talk: The impact of expectations of reduced Federal Reserve security purchases on emerging markets. Emerging Markets Review, 25, 1–15.

11- Eichengreen, B., & Hausmann, R. (2005). Other people's money: Debt denomination and financial instability in emerging market economies. University of Chicago Press.
12- Ekinci, A., & Poyraz, G. (2019). The effects of exchange rate volatility on bank profitability: Evidence from Turkey. Journal of Economics, Finance and Accounting, 6(3), 244–253.
13- El Massah, S., & Al-Sayed, O. (2015). Risk management practices: A comparative analysis between Islamic banks and conventional banks in the UAE. International Journal of Economics and Financial Issues, 5(3), 566–571.
14- El Qorchi, M. (2005). Islamic finance gears up. Finance & Development, 42(4), 46–50.
15- Faheem, M., Zia, S., Raza, H., & Khan, A. (2024). Macroeconomic Indicators and Pakistan's Banking Industry's Shock Absorbing Capacity A Case Study of Conventional and Islamic Banks. *International Journal of Trends and Innovations in Business & Social Sciences*. https://doi.org/10.48112/tibss.v2i1.670.
16- Gujarati, D. N., & Porter, D. C. (2009). Basic econometrics (5th ed.). McGraw-Hill.
17- Hadi, D., Karim, S., Naeem, M., & Lucey, B. (2022). Turkish Lira crisis and its impact on sector returns. *Finance Research Letters*. https://doi.org/10.1016/j.frl.2022.103479.
18- Hasan, M., & Dridi, J. (2011). The effects of the global crisis on Islamic and conventional banks: A comparative study. Journal of International Commerce, Economics and Policy, 2(2), 163–200.
19- Hassan, K., & Lewis, M. (2019). Handbook of Islamic banking. Edward Elgar Publishing.
20- Iqbal, Z., & Mirakhor, A. (2017). Islamic finance: An international perspective. John Wiley & Sons.
21- Kazak, H., Akcan, A., Kılıç, C., & Kilicarslan, A. (2025). Profitability determinants in Turkish banking: comparing Islamic and conventional banks under inflation and bond rate effects. *Journal of Financial Regulation and Compliance*. https://doi.org/10.1108/jfrc-01-2025-0016.
22- Khan, T., & Bhatti, M. (2018). Islamic banking and finance: On its way to globalization. Managerial Finance, 44(6), 759–773.
23- Krugman, P., & Obstfeld, M. (2018). International economics: Theory and policy (11th ed.). Pearson.
24- Miah, M. D., & Uddin, H. (2017). Efficiency and stability: A comparative study between Islamic and conventional banks in GCC countries. Future Business Journal, 3(2), 172–185.
25- Mishkin, F. S. (2019). The economics of money, banking, and financial markets (12th ed.). Pearson.
26- Ozili, P. K. (2018). Banking stability determinants in Africa. International Journal of Managerial Finance, 14(4), 462–483.
27- Öztürk, M., & Kaya, T. (2020). Participation banking development in Turkey: A strategic overview. Journal of Islamic Economics and Finance, 6(1), 1–15.
28- Rajan, R., & Dahl, S. (2019). Exchange rate movements and banking sector performance: Evidence from developing economies. International Review of Economics & Finance, 61, 1–14.
29- Said, R. M., & Ali, H. S. (2016). An analysis on the relationship between currency exchange rate and Islamic banks' profitability in Malaysia. Journal of Islamic Economics, Banking and Finance, 12(1), 100–114.
30- Sims, C. A. (1980). Macroeconomics and reality. Econometrica, 48(1), 1–48.
31- Sole, J. (2007). Introducing Islamic banks into conventional banking systems. IMF Working Paper, WP/07/175.
32- TKBB (Participation Banks Association of Turkey). (2022). Participation banking statistics. Retrieved from TKBB Website
33- Usmani, M. T. (2017). An introduction to Islamic finance. Kluwer Law International.
34- Yelghä, A. (2020). The Effect of Exchange Rates on the Performance of the Banking Sector; The Case of Turkey (2007-2016). , 7, 69-87.
35- Yildirim, Z. (2020). External and Domestic Shocks, Exchange Rate, Country Risk Premia and Macroeconomic Conditions in Turkey. , 70, 73-112. https://doi.org/10.26650/ISTJECON2020-0002.
36- Yüksel, S. (2021). The development of Islamic banking in Turkey: Challenges and prospects. Journal of Islamic Economics, 13(2), 215–230.
37- Yüksel, S., & Zengin, S. (2021). An analysis of the Turkish Lira depreciation and its macroeconomic effects. Journal of Economic Policy Researches, 8(1), 45–62.
38- Zarrouk, H., Jedidia, K. B., & Moualhi, M. (2016). Is Islamic bank profitability driven by same forces as conventional banks? International Journal of Islamic and Middle Eastern Finance and Management, 9(1), 46–66.