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Research Article / Araştırma Makalesi

Assessing Foreign Exchange Gains and Losses: A Comparative Analysis of Participation and Conventional Banks in Türkiye

Yousef Ahmed [a]

ABSTRACT

Purpose – Foreign exchange transactions significantly impact the financial performance of banks, necessitating efficient management of open foreign currency positions. This study aims to compare foreign exchange gains and losses between participation and conventional banks in Türkiye to determine whether these differences stem from the bank type or specific operational conditions.

Design/data/methodology – The study adopts a comparative approach, analyzing the net open currency positions and the use of hedging instruments by participation and conventional banks. Financial data from the 2023 annual reports of the banks included in the study sample were examined to enhance result reliability.

Findings – The findings reveal that foreign exchange gains and losses are not inherently related to the bank type. Both participation and conventional banks utilize similar hedging instruments to mitigate exchange rate fluctuations. Instead, these gains and losses are primarily driven by each bank's approach to managing foreign exchange activities, including trading strategies, foreign currency investments, and risk mitigation mechanisms.

Originality/value – This study contributes to the literature by providing empirical evidence that foreign exchange performance in banks is shaped more by operational strategies than by the classification of the bank as participation or conventional.

Keywords: Foreign Exchange Gains, Foreign Exchange Losses, Participation Banks, Conventional Banks

Döviz Kârları ve Zararlarının Değerlendirilmesi: Türkiye'deki Katılım ve Geleneksel Bankaların Karşılaştırmalı Analizi

ÖZET

Amaç – Döviz işlemleri, bankaların finansal performansı üzerinde önemli bir etkiye sahiptir ve açık döviz pozisyonlarının etkin yönetimini gerektirir. Bu çalışma, Türkiye'deki katılım bankaları ile geleneksel bankalar arasındaki döviz kazançlarını ve kayıplarını karşılaştırarak, bu farklılıkların banka türünden mi yoksa her bankanın özel operasyonel koşullarından mı kaynaklandığını belirlemeyi amaçlamaktadır.

Tasarım/veri/metodoloji – Çalışma, katılım ve geleneksel bankaların net açık döviz pozisyonlarını ve korunma araçlarını analiz eden karşılaştırmalı bir yaklaşım benimsemektedir. Sonuçların güvenilirliğini artırmak amacıyla, araştırma örneklemine dahil edilen bankaların 2023 yılı yıllık raporlarında yer alan finansal veriler incelenmiştir.

Bulgular – Bulgular, döviz kazançları ve kayıplarının banka türüyle doğrudan ilişkili olmadığını ortaya koymaktadır. Katılım bankaları ve geleneksel bankalar, döviz kuru dalgalanmalarına karşı korunmak için benzer finansal araçları kullanmaktadır. Bunun yerine, söz konusu kazanç ve kayıpların esas olarak her bankanın döviz işlemlerini yönetme biçimi, ticaret stratejileri, yabancı para yatırımları ve risk azaltma mekanizmaları gibi operasyonel yaklaşımlarına bağlı olduğu tespit edilmiştir.

Özgünlük/değer – Bu çalışma, bankaların döviz performansının, banka türünden ziyade operasyonel stratejiler tarafından şekillendiğine dair ampirik kanıt sunarak literatüre katkı sağlamaktadır.

Keywords: Döviz Kârları, Döviz Zararları, Katılım Bankaları, Geleneksel Bankalar

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[a] Istanbul University, yabed.1990@gmail.com, İstanbul, Türkiye;
Sorumlu Yazar: Yousef Ahmed, yabed.1990@gmail.com

1. Introduction

Foreign exchange activities constitute a fundamental pillar of banking operations, particularly in the areas of international remittances, financing support, and trade transactions conducted in various foreign currencies. Additionally, foreign exchange serves as a viable investment tool through which banks can generate profits. However, regardless of whether a bank is a participation or a conventional institution, exposure to foreign exchange risk remains inevitable. Market fluctuations can turn a seemingly profitable transaction at the time of contract into a loss upon execution due to adverse currency movements. The significance of this study lies in its comprehensive analysis of foreign exchange gains and losses in Turkish banks and their potential association with the type of bank—participation or conventional. While both bank types engage in foreign exchange activities, participation banks are required to operate within the framework of Sharia-compliant financial transactions. Unlike conventional banks, which widely utilize forward contracts, participation banks rely on promissory forward sales agreements. Similarly, instead of issuing letters of guarantee through interest-based loans, participation banks adopt Islamic financing models such as Murabaha and Musharakah to facilitate the remaining financial obligations of traders.

Banks utilize foreign currencies as an investment tool through trading, capitalizing on exchange rate differentials to enhance liquidity and financial stability. However, severe and unexpected currency fluctuations can result in substantial losses, adversely impacting the overall financial standing of a bank. Thus, banks must employ efficient forecasting techniques to predict currency movements accurately and adopt appropriate hedging strategies to protect their open positions from adverse exchange rate fluctuations. Additionally, bank governance should implement effective strategies that ensure bank staff is adequately trained and equipped to leverage technology in forecasting currency trends and making sound investment decisions. Risk assessment measures should be integrated to enhance institutional awareness and mitigate exposure to potential financial risks across all relevant departments.

Banks adopt different strategies to manage exchange rate fluctuations. Some institutions fully hedge all their foreign currency positions. Others apply selective hedging, covering only specific exposures and deliberately leaving some positions unhedged in order to benefit from potential favorable exchange rate movements. In the context of Türkiye, selective hedging strategies may prove ineffective or even risky, given the country's status as an emerging market and the significant volatility of the Turkish lira against major currencies such as the U.S. dollar and the euro. For this reason, Turkish banks—both participation and conventional—employ diverse hedging mechanisms to mitigate foreign exchange risk, particularly financial derivatives such as forward contracts and foreign currency swaps.

This study aims to determine the extent to which foreign exchange gains and losses are associated with the type of bank (participation or conventional) by analyzing financial data extracted from the 2023 annual reports of five participation banks and five conventional banks in Türkiye. To enhance the reliability of the findings, the study will also evaluate the foreign exchange open positions of these banks and their utilization of hedging instruments against currency risk. The study is structured into five sections. The study is structured into five sections. The first section introduces the research background, objectives, and significance. The second section presents a concise literature review, the third section covers the dataset, methodology, findings, and analysis, while the fourth section discusses the results and the fifth section outlines the conclusions and recommendations. This research contributes to a deeper understanding of the primary factors driving foreign exchange gains and losses in participation and conventional banks, facilitating the identification of weaknesses that may have led to losses or lower-than-expected profits. The study offers valuable insights for policymakers, supporting informed decision-making regarding foreign currency investments and risk management strategies. The findings provide theoretical and practical contributions, aiding financial institutions in refining their foreign exchange operations and improving their risk mitigation frameworks.

2. Literature Review

The existing literature includes numerous studies that examine foreign exchange transactions and associated risks in participation and conventional banks in Türkiye, either separately or through comparative analysis. These studies have highlighted the extent of exposure to foreign exchange risk, the hedging mechanisms employed, and the similarities and differences in practical implementation between these two banking models.

Özulucan and Deran (2009) conducted a comparative analysis of participation and conventional banks in terms of banking services and accounting practices using a descriptive-analytical approach. The study found that participation banks engage in many of the same banking activities as conventional banks, such as leasing and financing, but employ different methodologies to align with interest-free Islamic finance principles. The study also concluded that participation banks serve both as an alternative to conventional banks and as a complement to them, contributing to the depth and diversity of the financial market.

Özsöz et al., (2015) explored the determinants of foreign currency lending by Turkish banks, with a focus on the potential risks to the Turkish banking system arising from exposure to exchange rate fluctuations and default risks during the period between 2003 and 2009. The study found that deposit dollarization is the most significant driver of loan dollarization in Türkiye. Furthermore, it highlighted that larger banks generally have a higher tendency to extend loans in foreign currencies.

Khediri et al. (2015) examined risk management practices in Malaysian Islamic banks. Although Islamic instruments provided some hedging capacity, the study found them to be less flexible and less effective than conventional derivatives in volatile market environments.

Yüksel et al., (2016) examined the factors influencing the foreign exchange position decisions of participation banks, using annual data from four participation banks in Türkiye for the period between 2005 and 2015. The study employed the Panel Logit model to derive its findings. The results revealed that participation banks tend to maintain long foreign exchange positions when they achieve high profitability, whereas they prefer short positions when the country's international reserves and stock market index increase. Additionally, participation banks tend to hold more foreign currency assets than liabilities during periods of economic stability.

Gökçe (2017) investigated the impact of exchange rate fluctuations on the balance sheets of privately owned banks in Türkiye using the quantile regression method. The study selected the US dollar as the reference currency due to its widespread global adoption. The results indicated a statistically significant and positive relationship between exchange rate fluctuations and non-performing loans, though the financial implications of this relationship were negative.

Alev and Özçiçek (2019) analyzed the impact of exchange rate fluctuations on the profitability of commercial banks in Türkiye from the first quarter of 2003 to the third quarter of 2018. Using econometric estimation models, the study concluded that the real exchange rate has a statistically significant positive effect on net interest margin, average return on assets, and average return on equity in banks.

Altın (2019) analyzed exchange rate risk in the Turkish banking sector based on open foreign currency positions and exchange rate movements recorded in balance sheets. The study indicated that fluctuations in foreign currency positions increase financial burdens on banks, making exchange rate risk management essential for maintaining the stability of the Turkish banking sector.

Al Rahahleh et al. (2019) provided a comprehensive review of recent developments in risk management within Islamic finance. Their study highlighted the unique challenges faced by Islamic banks, particularly the limited availability of Shariah-compliant hedging instruments. This limitation affects their ability to manage financial risks, including those related to foreign exchange exposure, in comparison to conventional banks.

Mansour and Doğukanlı (2019a) investigated Islamic hedging instruments in participation banks in Türkiye to mitigate exchange rate risk during 2017. Data was collected through surveys targeting senior management at five participation banks in Türkiye. The results indicated that Murabaha agreements are the most commonly used Islamic contracts. Additionally, the study found that Islamic financial contracts involving high levels of risk, such as Mudarabah and Musharakah, are applied to a lesser extent in participation banks.

Mansour and Doğukanlı (2019b) conducted a comparative study on exchange rate risk management in participation (Islamic) and conventional banks in Türkiye. Primary data was collected through questionnaires from five participation banks, while secondary data was gathered from the financial reports of 39 conventional banks. The study revealed that participation banks are more exposed to exchange rate risk compared to conventional banks and that Islamic swap contracts are the most significant hedging instrument used in participation banks.

Kisman (2020) conducted a comparative study on risk management practices between Islamic and conventional banks, highlighting that Islamic bank face unique challenges in managing foreign exchange risk due to Shariah compliance constraints. The study emphasized that limitations on the use of conventional hedging instruments place Islamic banks at a disadvantage when managing volatility in currency markets.

Hatipoğlu (2021) analyzed the impact of exchange rate volatility on loan growth in participation banks operating in Türkiye. The study used the GARCH model to derive the exchange rate volatility series and employed a simple linear regression model to examine the relationship. The findings revealed that exchange rate volatility reduces loan growth in participation banks.

Elçiçek (2024) examined the impact of exchange rate fluctuations on deposit bank lending in the Turkish banking sector during the period from May 2013 to May 2023 using the ARDL bounds test approach. The study found that deposit bank loans are positively affected by fluctuations in the US dollar exchange rate but negatively affected by fluctuations in the euro exchange rate in the long run. In the short run, however, the results indicated that deposit bank loans are negatively influenced only by fluctuations in the euro exchange rate.

The literature review highlights the importance of foreign exchange activities as a central component of banking operations in both participation and conventional banks. While both banking models are involved in most foreign exchange-related activities, participation banks follow different execution methods due to their obligation to comply with Islamic finance principles. Additionally, prior studies have demonstrated that exchange rate fluctuations affect the financial standing of banks and may lead to substantial losses, which can hinder banking operations. As a result, various techniques are employed to predict exchange rate movements accurately and assess the potential risks they pose. Moreover, risk management programs are established to implement appropriate hedging instruments to cover open foreign currency positions. The reviewed studies also identified that participation banks in Türkiye are more exposed to foreign exchange risk than conventional banks. Furthermore, they revealed that both types of banks primarily use currency swap instruments as a key method for hedging against foreign exchange risk. However, none of the previous studies examined whether foreign exchange gains or losses are linked to the type of bank, whether participation or conventional, which is the research gap this study aims to address.

2.1. Conceptual Framework

Drawing from the above literature, this study adopts a conceptual framework centered on the interaction between:

- Bank classification (participation vs. conventional)
- Foreign exchange exposure
- Hedging strategies and tools employed
- Resulting FX gains and losses

The framework posits that while participation banks face operational restrictions due to Islamic principles, both bank types operate in the same volatile macroeconomic environment and often utilize overlapping hedging instruments (e.g., swaps, forward contracts). Therefore, this study hypothesizes that operational strategy and risk management practices, rather than institutional form, are the primary determinants of FX performance.

3. Method

The data for all banks included in the study sample were obtained from the annual performance reports published on the official websites of each bank. This was done to examine whether there is a relationship between the type of bank (participation or conventional) and the foreign exchange gains or losses recorded. These values are represented within the unconsolidated income statement at the end of the financial period. The year 2023 is selected for analysis due to the extreme volatility experienced by the Turkish lira against major foreign currencies such as the U.S. dollar and the euro. The study sample consisted of five participation banks operating in Türkiye: Kuveyt Türk, Ziraat Participation Bank, Vakıf Participation Bank, Albaraka Türk, and Türkiye Finans. Additionally, the sample included five conventional banks in Türkiye: İşbank, Ziraat Bank, VakıfBank, Halkbank, and Yapı Kredi. These banks were selected because they represent the largest market share in their respective categories, demonstrate active engagement in foreign exchange operations, and include a mix of both state-owned and privately-owned institutions. This diversity enhances the representativeness and relevance of the findings.

To analyze the relationship between the type of bank (participation or conventional) and foreign exchange gains or losses, the Independent Samples t-test was employed, as it is widely used in financial and economic research to compare the means of two independent groups based on continuous variables (Brooks, 2014). This statistical procedure provides clear indications of whether a significant difference exists between the two groups. The analysis begins with data collection and classification into two separate groups: the first group represents the foreign exchange gains or losses of participation banks, while the second group represents those of conventional banks. Subsequently, the fundamental assumptions for conducting the t-test is examined. These assumptions require that the data follow a normal distribution and that the variances of the two groups are equal. The Shapiro-Wilk test is applied to assess normality, while the Levene's test is used to verify homogeneity of variances between the two groups. The t-value is calculated using the following equation:

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}} \quad (1)$$

Where $\bar{x}_1$ represents the mean foreign exchange gains or losses of participation banks, while $\bar{x}_2$ denotes the mean foreign exchange gains or losses of conventional banks. The terms s_1 and s_2 correspond to the variance in foreign exchange gains or losses for participation and conventional banks, respectively. Meanwhile n_1 and n_2 indicate the number of participation and conventional banks in the sample. The value of s, required to obtain the t-statistic, can be computed using the following equation:

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}} \quad (2)$$

Based on the independent samples t-test equation, the null hypothesis (H_0) and the alternative hypothesis (H_1) are formulated. The null hypothesis (H_0) states that there is no significant difference between the mean foreign exchange gains or losses of participation and conventional banks. Conversely, the alternative hypothesis (H_1) suggests that there is a significant difference between the two groups. To determine whether the type of bank—participation or conventional—affects foreign exchange gains or losses, these hypotheses are tested using the t-test. After performing the test, the p-value is calculated based on the Student t-distribution, which is the underlying distribution associated with the independent samples t-test when sample sizes are small and population variances are unknown. This distribution helps interpret the statistical significance of the results. If p-value > 0.05, this indicates that there is no statistical evidence to suggest that the type of bank affects foreign exchange gains or losses. In this case, the observed differences in gains or losses may be attributed to other factors. Conversely, if p-value < 0.05, the difference between the two groups is statistically significant, indicating that the type of bank influences foreign exchange gains or losses.

To enhance the reliability of the t-test results, additional analyses will be conducted on on-balance-sheet and off-balance-sheet foreign exchange positions, as well as the net short position in foreign currencies. Additionally, the financial derivatives used for hedging foreign exchange risks will be examined. These data points may help explain some of the factors influencing foreign exchange gains or losses. This analysis will be performed individually for each bank and then comparatively between participation and conventional banks to assess whether these factors are associated with foreign exchange gains or losses. The findings from this additional analysis will serve to either support or challenge the conclusions drawn from the t-test results.

4. Findings

In this study, to determine the t-value for the independent samples t-test, the foreign exchange gains/losses data were obtained from the 2023 annual reports of the targeted banks. These values are presented in the following table:

Table 1. Foreign Exchange Gains or Losses of the Targeted Banks for the Year 2023

Participation Banks	Foreign Exchange Gain/Loss (Thousand TRY)	Conventional Banks	Foreign Exchange Gain/Loss (Thousand TRY)
Kuveyt Türk	(1,283,974)	İş Bankası	10,937,764
Ziraat Participation	1,471,762	Ziraat Bankası	34,363,315
Vakıf Participation	745,139	VakıfBank	13,230,626
Albaraka Türk	2,542,892	Halkbank	(48,739,981)
Türkiye Finans	3,943,652	Yapı Kredi	(17,262,787)

Source: Annual Financial Reports of Banks for the Year 2023

Verifying the normal distribution of data is one of the fundamental assumptions for conducting the independent samples t-test. For this purpose, the Shapiro-Wilk test is utilized, following the equation:

$$W = \frac{(\sum_{i=1}^{n} a_i x_{(i)})^2}{(\sum_{i=1}^{n} (x_i - \bar{x})^2} \quad (3)$$

The W value representing the Shapiro-Wilk test was calculated for both the participation banks' dataset and the conventional banks' dataset. Additionally, the corresponding p-value for each W value was determined, as presented in the following table:

Table 2. Shapiro-Wilk Test for Participation and Conventional Banks' Datasets

Dataset	W Statistic (Shapiro-Wilk Test)	p-value
Participation Banks	0.9933	0.9898
Conventional Banks	0.9468	0.7146

Notes: W statistic from the Shapiro-Wilk test; p-values assess normality

Since the p-values (0.9898), (0.7146) > 0.05, it indicates that the foreign exchange gains and losses data for both participation and conventional banks follow a normal distribution. This validates the reliable application of the independent samples t-test. Additionally, verifying the equality of variances between the participation banks' dataset and the conventional banks' dataset is a fundamental assumption of the independent samples t-test. For this purpose, Levene's Test is applied according to the following equation:

$$W = \frac{(N-k)}{(k-1)} \frac{(\sum_{i=1}^{k} N_i (\bar{Z}i - \bar{Z})^2}{(\sum_{i=1}^{k} \sum_{j=1}^{Ni} (Z_{ij} - \bar{Z}i)^2} \quad (4)$$

The W statistic for Levene's Test was calculated for both the participation and conventional banks' datasets, and the corresponding p-value for the W statistic was determined, as presented in the following table:

Table 3. Levene's Test for Participation and Conventional Banks' Datasets

Levene's W Statistic	p-value
3.8906	0.0840

Notes: W statistic from Levene's test; p-value assesses the equality of variances

Since the p-value (0.0840) > 0.05, it indicates that the variances of foreign exchange gains and losses between participation and conventional banks are equal. This confirms the reliability of using the traditional Independent Samples t-Test under the assumption of equal variances. After verifying the key assumptions of the Independent Samples t-Test, the t-value was calculated using the corresponding equation previously referenced. Additionally, the p-value associated with the computed t-value was determined, as presented in the following table:

Table 4. Independent Samples t-Test for Participation and Conventional Banks' Data

t-Statistic (Independent Samples t-Test)	p-value
3.8906	0.0840

Notes: t-statistic from the t-test; p-value assesses mean difference significance

Since the p-value (0.8414) > 0.05, the (H_1) is rejected, indicating that there is no statistical evidence to suggest that the type of bank (participation or conventional) has an impact on foreign exchange gains or losses. Consequently, the differences in foreign exchange gains or losses between participation and conventional banks may be attributed to other factors.

Foreign exchange transactions in banks are influenced by various factors, such as on-balance-sheet and off-balance-sheet positions, short open positions in foreign currencies, and the use of financial derivatives as hedging instruments against exchange rate fluctuations. These elements might have a direct impact on foreign exchange gains and losses, necessitating further examination to understand their effects. Evaluating these factors can enhance the credibility of the previous finding, which suggests that foreign exchange gains and losses are not inherently influenced by the bank type (participation or conventional). The following table presents the foreign currency positions of the banks included in the study sample:

Table 5. On-Balance-Sheet and Off-Balance-Sheet Foreign Currency Positions of the Banks

Bank	Net On-Balance-Sheet Position	Net Off-Balance-Sheet Position	Short Open Position
Participation Banks			
Kuveyt Türk	(21,084,887)	19,817,333	19,817,333
Ziraat Participation	661,349	(175,302)	(175,302)
Vakıf Participation	6,537,132	(6,043,477)	(6,043,477)
Albaraka Türk	(13,413,855)	14,293,480	14,293,480
Türkiye Finans	(5,061,196)	5,456,691	5,456,691
Conventional Banks			
İş Bankası	(118,193,952)	117,208,932	486,047
Ziraat Bankası	(174,580,984)	216,968,060	42,387,076
VakıfBank	(143,436,273)	143,547,619	111,346
Halkbank	(148,466,986)	154,563,632	6,096,646
Yapı Kredi	(162,394,046)	169,912,469	7,518,423

Source: Annual Financial Reports of Banks for the Year 2023

Table 5 presents the on-balance-sheet, off-balance-sheet, and resulting short open positions of the selected banks. The following analysis interprets these figures and discusses their implications for foreign exchange risk exposure.

Foreign Exchange Risk Management is a pivotal aspect of the financial performance of banks, as exchange rate fluctuations impact both on-balance-sheet and off-balance-sheet positions, thereby influencing the associated gains and losses (Saunders & Cornett, 2020). The net on-balance-sheet position refers to the difference between foreign currency-denominated assets and liabilities that are directly recorded in the bank's financial statements, reflecting the extent of the bank's exposure to exchange rate fluctuations through its conventional banking operations. On the other hand, the net off-balance-sheet position represents positions held by the bank in derivative instruments, forward contracts, or off-balance-sheet commitments, which are often employed as hedging mechanisms against exchange rate volatility. When both positions are combined, they result in the short open position, which serves as an indicator of the bank's overall exposure to foreign exchange risk after accounting for all financial instruments utilized both within and outside the balance sheet. The greater the short open position, the higher the bank's exposure to foreign exchange fluctuations, which may lead to either gains or losses, depending on the effectiveness of the adopted hedging strategies.

The data reveals significant variation in short open positions across banks, without a consistent pattern linking the type of bank to the level of risk exposure. For instance, Ziraat Bank (a conventional bank) exhibited the largest short open position at 42,387,076 (Ziraat Bankası, 2023), whereas Vakıf Katılım (a participation bank) had a relatively lower short open position of 493,655 (Vakıf Participation, 2023). Despite this, Ziraat Bank reported foreign exchange gains, while Kuveyt Türk (a participation bank), which had a smaller short open position, incurred actual losses (Kuveyt Türk, 2023). These findings indicate no direct relationship between the type of bank and the extent of foreign exchange risk exposure, as financial outcomes are primarily influenced by the policies and procedures governing foreign currency exposure management rather than the nature of the bank itself.

When analyzing banks that recorded foreign exchange losses, it becomes evident that these banks belong to both the participation and conventional banking systems, reinforcing the hypothesis that foreign exchange gains or losses are not contingent on the bank type but rather on how each institution manages its foreign exchange risk. For example, Kuveyt Türk, a participation bank, incurred losses despite having a relatively lower short open position (Kuveyt Türk, 2023), while Halkbank and Yapı Kredi, both conventional banks, also reported losses, despite variations in their short open positions (Halkbank, 2023; Yapı Kredi, 2023). Conversely, other banks, such as Ziraat Bank (conventional) and Türkiye Finans (participation), managed to maintain relative stability and generate profits despite being exposed to exchange rate fluctuations (Ziraat Bankası, 2023; Türkiye Finans, 2023). These findings underscore the critical role of risk management strategies and hedging mechanisms in determining financial performance, regardless of whether the bank operates under a participation or conventional banking model.

The analysis of on-balance sheet and off-balance sheet net positions reveals that some banks with negative on-balance-sheet positions attempted to offset their exposure through positive off-balance sheet positions; however, this approach was not always sufficient to prevent losses. For instance, Halkbank (a conventional bank) exhibited a negative on-balance-sheet position of (148,466,986) but sought to counterbalance this exposure with a positive off-balance sheet position of 154,563,632 (Halkbank, 2023). Despite this adjustment, the bank still incurred foreign exchange losses, indicating that achieving equilibrium between on-balance sheet and off-balance sheet positions does not necessarily ensure financial stability. Similarly, Kuveyt Türk (a participation bank) recorded a negative on-balance sheet position of (21,084,887) and a positive off-balance sheet position of 19,817,333 (Kuveyt Türk, 2023), yet it was unable to avoid losses. This suggests that foreign exchange position management involves more than merely balancing assets and liabilities—it also requires effective hedging strategies and proactive engagement with market fluctuations.

These findings align with the results of the independent samples t-test, which demonstrated no statistically significant relationship between bank type and foreign exchange gains or losses. This further confirms that differences in financial performance among banks do not stem from whether they operate under a conventional or participation banking model. Instead, performance variations are driven by the extent to which banks utilize financial instruments for hedging against exchange rate fluctuations, the degree of diversification in foreign currency-denominated assets and liabilities, and the effectiveness of risk management policies employed.

5. Conclusion and Recommendations

This study provides empirical evidence that foreign exchange performance in Turkish banks is driven more by internal strategies than by institutional classification. The findings of this study reveal that foreign exchange gains or losses in Turkish banks are not directly linked to the bank type, whether conventional or participation, but are primarily influenced by each bank's risk management strategies, foreign currency investment policies, and hedging approaches against exchange rate fluctuations. The results of the independent samples t-test indicated no statistically significant differences between participation and conventional banks in terms of foreign exchange gains or losses, suggesting that operational factors and the management of open positions play a more decisive role in determining financial outcomes. Furthermore, the analysis of short open positions demonstrated that banks incurring losses did not belong to a specific banking category. For instance, Kuveyt Türk (a participation bank), Halkbank (a conventional bank), and Yapı Kredi (a conventional bank) all reported foreign exchange losses, while other banks, both conventional and participation, achieved relative stability and profitability despite exposure to exchange rate fluctuations. This underscores the fact that risk management practices and decision-making regarding on-balance sheet and off-balance sheet positions are the key determinants of profit or loss, regardless of the bank type. Additionally, variations in short open positions between participation and conventional banks reflect differing institutional approaches to foreign exchange risk management. For example, Ziraat Bank (a conventional bank) recorded a significantly high short open position, whereas Vakıf Participation (a participation bank) had a relatively smaller short open position. However, these differences in short open positions did not have a direct impact on foreign exchange profitability or loss, further reinforcing the notion that individual bank strategies, rather than banking models, shape financial performance in the foreign exchange market.

These findings underscore the critical importance of financial and hedging policies adopted by banks in mitigating foreign exchange risks. The study highlights that the effective utilization of financial instruments such as forward contracts, financial derivatives, and foreign currency swaps can significantly reduce the impact of exchange rate fluctuations on banks' financial performance. Based on this, it is recommended that banks prioritize the development of more efficient hedging strategies, incorporating a diversified range of financial instruments and enhanced monitoring of short open positions to ensure financial stability amid the volatility of foreign exchange markets. Additionally, policymakers in the banking sector should closely monitor the influence of macroeconomic factors, such as foreign exchange reserves and global interest rates, on banks' risk management strategies, thereby enabling the formulation of more adaptive policies in response to global economic shifts.

Future research can broaden the scope of analysis by examining the impact of additional variables, such as changes in foreign exchange reserves, the volume of international capital flows, and liquidity levels, on banks' performance in the foreign exchange market. Moreover, future studies could explore the impact of regulatory changes and government policies related to the foreign exchange market on the performance of both conventional and participation banks, providing a deeper understanding of banking risk dynamics in emerging markets.

These results indicate that enhancing foreign exchange risk management is not solely about minimizing losses but also plays a crucial role in promoting financial stability and reducing fluctuations that may impact the banking sector and the broader economy. In this regard, banks should place a strong emphasis on advancing financial analysis models and risk management frameworks, not only to ensure compliance with regulatory standards but also to strengthen their competitiveness in the financial market. Overall, the study contributes valuable insights into the determinants of exchange rate performance in Turkish banks and emphasizes the central role of strategic risk management in enhancing resilience and financial soundness.

Conflict of interest

The author declares that there are no potential conflict of interest with respect to the research, authorship, and/or publication of this article.

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[a] Yousef Ahmed, http://orcid.org/0009-0008-1117-6841

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