ATATÜRK ÜNİVERSİTESİ YAYINLARI
ATATURK UNIVERSITY PUBLICATIONS

Research Article *Araştırma Makalesi* DOI: 10.5152/TBE.2023.22098

Effects of Off-Balance Sheet Items on the Financial Performance of Turkish Deposit Banks

Bilanço Dışı Kalemlerin Türk Mevduat Bankalarının Finansal Performansı Üzerine Etkileri

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ABSTRACT

In the study, the effects of off-balance sheet items on the performance of deposit banks operating in the Turkish banking sector were examined. In the study, a data set of 17 deposit banks operating uninterruptedly in Turkey between 2010 and 2021 was created. In the study, the return on assets ratio and return on equity ratio, which are performance indicators, were used as dependent variables, while the independent variables were guarantee and surety, commitments, derivative financial instruments, and escrow and pledged assets obtained from the balance sheets of sample banks. The models created with the data set of the study were estimated by the system dynamic panel data analysis method. According to the findings obtained as a result of the estimation, while derivative financial instruments have a negative effect on the performance of deposit banks, the results of the performance-enhancing effect of trust and pledged assets have been obtained.

JEL Codes: G17, G21, G32

Keywords: Bank performance, off-balance sheet items, shadow banking

ÖZ

Çalışmada bilanço dışı kalemlerin, Türk Bankacılık sektöründe faaliyet gösteren mevduat bankalarının performanslarına etkileri incelenmiştir. Çalışmada 2010 ile 2021 dönemleri arasında Türkiye'de kesintisiz faaliyet gösteren 17 mevduat bankasının verileri veri seti oluşturulmuştur. Çalışmada performans göstergeleri olan aktif karlılık oranı ve özsermaye karlılık oranı bağımlı değişken olarak kullanılırken bağımsız değişkenler örneklem bankalarının bilançolarından elde edilen garanti ve kefalet, taahhütler, türev finansal araçlar ve emanet ve rehinli kıymetler kullanılmıştır. Çalışmanın veri seti ile oluşturulan modeller, sistem dinamik panel veri analizi (SGMM) yöntemi ile tahmin edilmiştir. Tahmin sonucunda elde edilen bulgulara göre türev finansal araçların mevduat bankalarının performansına negatif etkisi bulunurken emanet ve rehinli kıymetlerin ise performansı arttırıcı etkisi olduğu sonuçları elde edilmiştir.

JEL Kodları: G17, G21, G32

Anahtar Kelimeler: Banka performansı, bilanço dışı kalemler, gölge bankacılık

**Introduction

The most important function of banks is to collect funds and make these funds available to those who request them. However, apart from their basic functions, banks also actively operate in financial markets with different products and transactions. As a result of the increasing importance of the finance sector for countries and sectors, banks, which are the most important institutions of the financial sector, has strategic importance in both micro and macro terms. The fact that the asset size of the banks in Turkey has been higher than the country's GDP since 2013 shows this importance (Yetiz, 2016). The increase in volatility in financial markets also highlights the risk factor. This situation highlights hedging products. Shadow banking, where hedging products are used, has gained importance (Oktar & Eroğlu, 2015. p. 308). Shadow banks are financial institutions that do not exchange cash, do not have any actual branches, operate like the activities of banks, borrow and lend money like banks collect

**The study is the developed and expanded version of the paper titled "The Effects of Shadow Banking on the Performance of Turkish Deposit Banks" presented orally at the 25th Finance Symposium.

Geliş Tarihi/Received: 13.01.2023
Kabul Tarihi/Accepted: 11.05.2023
Yayın Tarihi/Publication Date: 06.06.2023

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Cite this article as: Büyükoğlu, B., Şit, A., & Doğan Başar, B. (2023). Effects of off-balance sheet items on the financial performance of Turkish deposit banks. *Trends in Business and Economics*, 37(3), 197-205.

deposits and provide loans, and invest but are not bound by legal regulations such as banks that are active in the sector (Oktar & Eroğlu, 2015. p. 310; Roubini & Mihm, 2011. p. 85).

Shadow banking is a banking system that consists of off-balance sheet transactions and provides advantages such as legal arbitrage, tax arbitrage, and additional funding to the banking system. As a result of some legal regulations regarding banks, shadow banking has come to the fore due to some constraints in the profit margins of the banks, the decrease in their profitability, the decrease in competitive advantage, the more preferable corporate investment, and the secured borrowing (Doruk, 2014; Haltom, 2010). In the shadow banking system, some securitized bonds are shown on the balance sheets of banks. For this reason, the term off-balance sheet items are used instead of shadow banking in the next part of the study, since derivatives, trust, and pledged assets, which are included in shadow banking, are thought to affect the balance sheet. Because while shadow banking is the items that do not affect the balance sheet, it would be more reasonable to use the expression of off-balance sheet items, which can also be expressed as off-balance sheet accounts, since there is an item that partially affects the balance sheet (Doruk, 2014. p. 33).

Off-balance sheet transactions affect the balance sheet through profit/loss, which is not included in the balance sheet but is included in the Equity group. Off-balance sheet transactions are divided into two foreign resource instruments (loan commitments and letters of credit) and derivative products (within the scope of hedging). Even securitizations (securitization) are included in this classification in some studies. It can be said that banks may prefer off-balance sheet transactions to avoid legal restrictions, tax avoidance, new products, create new resources, earn commission income, respond positively to customer requests, increase capital adequacy, and keep up with the competition (Aydın, 2000. p. 66; Jagtiani et al., 1995. pp. 647-658).

According to the August 2022 data announced by the BDDK (Banking Regulation and Supervision Agency) as the last updated data, off-balance sheet items belonging to the banking sector are 2,287,102 million TL in Non-Cash Loans and Liabilities. As for commitments, it has reached 12,323,231 million TL in total, including 10,036,129 million TL. The fact that this figure is very close to the total assets of the banking sector reveals the importance of off-balance sheet transactions for the banking sector in Turkey (BDDK, 2022).

In this study, the effect of off-balance sheet items on the financial performance of banks in Turkey was investigated. The reason why Turkey was chosen as a sample country is that it has a developed banking system among developing countries. The data set of the study was formed from annual data between the 2010 and 2021 periods. When looking at the relationship between off-balance sheet transactions and bank's performance in Turkey, it generally covers the period before the pandemic period. The fact that this study also covers the pandemic period reveals the originality of the study. The fact that some businesses default on their loan debts during the pandemic period increases the importance of Guarantee and Surety (GA) and Commitments (TAA) for banks. In the study, the return on assets (ROA) and return on equity (ROE) of sample banks were used as dependent variables, and Guarantee and Surety (GK), Commitments (TAA), Derivative Financial Instruments (TF), Trust and Pledged Securities (ER) were used as independent variables. The data set was created with the deposit bank operating in Turkey, whose data can be accessed in the panel section. System Generalized Moments (SGMM) were used as a method. It is expected that the results to be obtained from the study will guide the researchers who will conduct research on this subject and the banking sector in Turkey.

Literature

Off-balance sheet items were first used by McCulley (2007). It has started to be pronounced frequently by politicians. Pozsar was the first to express the term off-balance sheet items in written form (Ağırman, 2013). Recently, studies in this field have been increasing day by day. When the literature is examined, the current studies on the subject are summarized below.

In the study conducted by Okur et al. in 2018, the concept of "off-balance sheet items" was emphasized and they stated that mortgage-based shared interest-free finance models could also be evaluated within the scope of off-balance sheet items. However, they stated that leaving the institutions that implement the mortgage-based shared interest-free finance model out of strict control may cause unfair competition within the sector. At the same time, they stated that companies using these models should be evaluated like financial institutions and that they see the necessity of being audited by public institutions as a need for the healthy and smooth functioning of the financial system. Fang et al. (2020), on the other hand, examined the effect of collateral in the off-balance sheet items system, based on evidence from China's entrusted loan market (2004–2014). The results of the analysis show that, for entrusted loan off-balance sheet items, lenders demand collateral from observably riskier borrowers to control post-contractual discord, and the lender selection effect is particularly strong for foreign collateral. Aldasoro et al. in their work in 2020 took the situation to another dimension and found that cross-border connections between banks and nonbank financial institutions at a global level have tended to increase in recent years. The authors also underline that the financial market turmoil caused by the COVID-19 shock has exposed several security vulnerabilities related to cross-border connections between banks and non-bank financial institutions.

Koyuncu and Yay (2020) investigated the effects of the functioning mechanisms of off-balance sheet items in the system and the financial products created through these mechanisms on the crises that occurred in the sample countries. In the study, eight sample countries, including Turkey, formed the data set with the data between 2010 and 2016 and determined that the activities of off-balance sheet items increased in monetary terms in other sample countries except for Mexico. Tursun (2021) stated in her study on savings-based interest-free finance systems (TDFFS) that TDFFS is becoming increasingly widespread and is considered alternative housing finance. In his study, by using the source research and secondary data about TDFFS, it was concluded that TDFFSs contain some economic and social risks in their current use, but offer an opportunity to obtain an alternative financing system by integrating factors such as legal regulation, supervision. Abad et al. (2022) examine the asset risks of EU banks against off-balance sheet items entities. The analysis results confirm that EU banks' exposure to off-balance sheet items establishments is global and spans regional and national borders. They also

Table 1.
Literature Review

Writer/Writers	Period	Sample	Purpose	Methodology	Conclusion
Okur et al.	2018	Turkey	The savings-based interest-free financing model, which is used as an alternative model in real estate financing and especially housing financing in Turkey, is examined.	Literature Review	This method, which is referred to as a mortgage-backed noninterest shared financing model in this study, is outside the regulations and controls in the banking sector. This situation poses a significant potential risk in terms of the country's economy. In this regard, regulatory authority is urgently required to make arrangements. Regulations should be in the areas of licensing and supervision in particular.
Fang et al.	2020	Chinese	Based on evidence from China's entrusted loan market (2004–2014), we examine the effect of collateral in the shadow banking system.	OLS Estimates	The results of the analysis show that, for entrusted loan off-balance sheet items, lenders demand collateral from observably riskier borrowers to control post-contractual discord, and the lender selection effect is particularly strong for foreign collateral.
Aldasoro et al.	2020	European banks and US	This Bulletin examines markets' assessment of banks' performance thus far. The focus is on stock prices, credit default swap (CDS) and bond spreads, and credit ratings.	Data Comparison	It has been determined that cross-border connections between banks and nonbank financial institutions at the global level have been increasing in recent years. The authors also highlight that the financial market turmoil caused by the COVID-19 shock has exposed several security vulnerabilities related to cross-border connections between banks and nonbank financial institutions.
Koyuncu and Yay	2020		The effect of the functioning mechanisms of the off-balance sheet items in the system and the financial products created through these mechanisms on the crises that occurred in the sample countries were investigated.	OLS Estimates	In other sample countries except for Mexico, it was determined that the activities of off-balance sheet items increased in monetary terms.
Tursun	2021	Turkey	It is aimed to determine the risks and opportunities of the system with the operating method of TDFFS, to use the system more effectively and to evaluate the activities of the company that implements the system.	Source Research	It has been revealed that TDFFSs in their current form contain economic and social risks, but offer an opportunity to obtain an effective alternative financing system with interventions such as integrating legal regulation, supervision, and insurance mechanisms into the system.
Abad et al.	2022	EU Banks	It examines the asset risks of EU banks against off-balance sheet assets.	OLS Gravity Model	The analysis results confirm that EU banks' exposure to off-balance sheet items establishments is global and spans regional and national borders.
Parnes	2022	US	Possible data manipulations of Off-Balance Sheet records of commercial banks are being investigated.	Multiple Methodologies	It was found to be partially consistent with Benford's law.
Zhang and Malikov	2022	US	It aims to provide new evidence on economies of scope in US commercial banking in the 2009–2018 post-crisis period.	Multiple Methodologies	Strong evidence has been found to support significantly positive economies of scope at banks of almost any size.

found that EU banks' risks to off-balance sheet items entities are concentrated by counterparty type, with around 65% of the risks borne by securitizations, mutual funds, and financial companies.

In the study, Parnes (2022) analyzed whether the off-balance sheet items of banks comply with Benford's law, and as a result of the study, he found that it partially complies with Benford's law. Zhang and Malikov (2022) analyzed the economies of scope in US commercial banking in the 2009-2018 post-crisis period. The study results provide strong evidence supporting significantly positive economies of scope in banks of almost any size.

The literature summary is shown in Table 1.

In terms of the variables used, this study differs from the studies examined in the literature in terms of application with two different models and methods, and its originality emerges.

Methods

The main purpose of the study is to examine the effects of off-balance sheet data on the performance and profitability of deposit banks in Turkey. In this direction, the banking data used in the study were obtained from the Turkish Banks Association database, and the performance data were obtained from the FinNet database. The time series of the study was created with annual data between 2010 when the effects of the 2008 global crisis were relatively reduced and healthier analysis results could be obtained, and 2021, when the last annual data were published.

In the study, a data set was created with the data of 17 of the deposit banks operating in Turkey, whose complete data could be accessed during this period. The list of banks discussed in the study is shown in Table 2.

Off-balance sheet transactions carried out by banks in Turkey; guarantees and sureties, commitments, derivative financial instruments, and trust and pledged securities are shadow banking practices (Dinç, 2015). In the study, the performances of deposit banks were measured by the return on assets ratio and return on equity ratio, which is frequently used in the literature. The independent variables used for off-balance sheet data are Commitments, Derivative and Financial Instruments, Trust and Pledged Securities, and Guarantees and Bails. Finally, Total Assets, which are frequently used for banks in the literature, were added to the analysis as a control variable. Table 3 contains explanatory information about the variables.

In models created for dynamic panel data analysis, the lagged value of the dependent variable is also included in the model as an independent variable and consists of two basic methods. These are system generalized method of moments/system GMM estimator and the difference generalized method of moments (SGMM)/difference GMM estimator developed by Arellano and Bond (1991) and Arellano and Bover (1995).

The dynamic panel data model can be formulated as follows:

$$y_{it} = ay_{i,t-1} + \beta x'_{i,t} + n_i + v_{i,t} + \varepsilon_{i,t}$$

In the model, y_{it} denotes the dependent variable, $\alpha y_{i,t-1}$ denotes the lagged value of the dependent variable, α constant term, $\beta x'_{i,t}$ independent variables, n_i, unobserved individual effects, $v_{i,t}$ unobserved time-specific effects, and $\varepsilon_{i,t}$ the error term. It is assumed that n_i and $v_{i,t}$ are constant in the model.

Arellano and Bond (1991) and Arellano and Bover (1995)/Blundell and Bond (1998) dynamic panel estimators have started to be preferred frequently, the reasons for this preference and the conditions for which the models are designed can be listed as follows (Roodman, 2009):

- $N > T$ panels, that is, where the number of observations in the sample is greater than the time period.
- In frameworks where the relationship can be established in a linear functional structure.
- In models where the lagged value of the dependent variable is among the independent variables in the model, the explanatory value is strong.
- In cases where the externalities of the explanatory variables are not certain, that is, the current and past values of the error term are likely to have a correlation with these variables.
- Where fixed individual effects can be assumed.
- Where there is heteroscedasticity and autocorrelation in variables rather than between variables.

Table 2.
List of Sample Banks

Sequence	Bank	Sequence	Bank
1	Akbank	10	ING Bank
2	Anadolu Bank	11	İş Bankası
3	Citi Bank	12	QNB Finans Bank
4	Deniz Bank	13	Şeker Bank
5	Deutsche Bank	14	TEB
6	Fiba Bank	15	Vakıf Bank
7	Garanti Bankası	16	Yapı ve Kredi Bankası
8	Halk Bank	17	Ziraat Bankası
9	HSBC		

Since both the time series and the data set of the study are taken into account, it is seen that the SGMM is suitable as a method. By applying the SGMM estimation method in the study, the lagged values of the dependent variables are also added to the model as independent variables, and more consistent results can be obtained (Béjaoui & Bouzgarrou, 2014; Coşkun & Kök, 2011).

It has been determined that dynamic panel data analysis will be more appropriate for our study in line with the above-mentioned explanations from the panel data models with details. Econometric analyses in our study were applied with the help of the Stata-17 program and the following models were created to measure the effects of banking regulations on sector performance.

The SGMM models used in the research are as follows:

Table 3.
Explanatory Information About Variables

Variables	Acronyms	Explanation	Data Source
Independent variables			
Return on assets ratio	ROA	The ratio of net profit to total assets	FinNet
Return on equity ratio	ROE	Net profit to equity ratio	FinNEt
Independent variables			
Logarithm of commitments	LTAA	Off-balance sheet ıtems	Banks Association of Turkey and balance sheets of banks
The logarithm of derivatives and financial ınstruments	LTFA	Off-balance sheet ıtems	Banks Association of Turkey and balance sheets of banks
The logarithm of trusted and pledged assets	LERK	Off-balance sheet ıtems	Banks Association of Turkey and balance sheets of banks
The logarithm of guarantees and bails	LGVK	Off-balance sheet ıtems	Banks Association of Turkey and balance sheets of banks
Control variables			
The logarithm of total assets	LTA	Control variable	FinNEt

Table 4.
Descriptive Statistics

Variables	Observations	Mean	Standard Deviation	Minimum	Maximum
ROA	204	0.0140555	0.0105445	-0.0223584	0.0802696
ROE	204	0.1154908	0.066003	-0.3460932	0.2835
LTAA	204	7.24369	0.6585851	5.418979	8.486985
LTFA	204	7.504802	0.6982212	5.652679	8.784263
LERK	204	8.423198	0.6213389	6.826723	10.16032
LGVK	204	7.155291	0.8179539	4.886947	9.003128
LTA	204	7.811536	0.6887153	5.955322	9.137003

$$\text{Model-1: ROA}_{it} = \beta_0 + \beta_1 \text{ROA}_{i,t-1} + \beta_2 \text{LTAA}_{i,t} + \beta_3 \text{LTFA}_{i,t} + \beta_4 \text{LERK}_{i,t} + \beta_5 \text{LGVK}_{i,t} + \beta_6 \text{LTA}_{i,t}\, \varepsilon_{it}$$

$$\text{Model-2: ROE}_{it} = \beta_0 + \beta_1 \text{ROE}_{i,t-1} + \beta_2 \text{LTAA}_{i,t} + \beta_3 \text{LTFA}_{i,t} + \beta_4 \text{LERK}_{i,t} + \beta_5 \text{LGVK}_{i,t} + \beta_6 \text{LTA}_{i,t}\, \varepsilon_{it}$$

The pre-tests and analysis findings for the SGMM estimator, on which the developed models are applied, are as follows.

As can be seen from the descriptive statistics in Table 4, while the average of 204 observations and the Asset Profitability Ratio, which is one of the dependent variables, was 0.014, the minimum value was -0.022 and the maximum value was 0.08. Another dependent variable, the Return on Equity Ratio, was 0.115 on average, with a minimum value of -0.346 and a maximum value of 0.283. While the average of Commitments, one of the independent variables, was 7.24, its minimum value was 8.487 and its minimum value was 5.42. While the average of Derivative and Financial Instruments, which is another independent variable, was 7.505, its minimum value was 5.652 and its maximum value was 8.784. Again, while the Average of Trust and Pledged Assets, which are independent variables, was 8.42, the minimum value was 6.827 and the maximum value was 10.16. While the average of the last independent variable, Guarantees, and Bails, was 7.15, its minimum value was 4.89 and its maximum value was 9.003. While the average of the Total Assets we added to the model as a control variable was 7.812, the minimum value was 5.96 and the maximum value was 9.14.

In Table 4, it is seen that the standard errors of the independent variables used especially for off-balance sheet items are high. This shows that the 17 deposit banks included in the data set differ from each other in terms of size, performance, and profitability. Since the Logarithm of the Total Assets variable, which was added as a control variable in the study, was in high correlation with other variables in both models, it was removed from the model and the analysis continued. The correlation matrices calculated for both models are shown in Appendices 1 and 2. The new model that emerged after removing the Logarithm of the Total Assets variable from the models is as follows.

$$\text{Model-3: ROA}_{it} = \beta_0 + \beta_1 \text{ROA}_{i,t-1} + \beta_2 \text{LTAA}_{i,t} + \beta_3 \text{LTFA}_{i,t} + \beta_4 \text{LERK}_{i,t} + \varepsilon_{it}$$

$$\text{Model-4: ROE}_{it} = \beta_0 + \beta_1 \text{ROE}_{i,t-1} + \beta_2 \text{LTAA}_{i,t} + \beta_3 \text{LTFA}_{i,t} + \beta_4 \text{LERK}_{i,t} + \varepsilon_{it}$$

In Table 5, the SGMM estimation results applied to see the effects of off-balance sheet items on the performance of deposit banks in Turkey are given.

As can be seen in Table 5, no statistical relationship could be found between the initial model commitments variable and

Table 5.
SGMM Forecast Results

ROA				ROE			
Variables	Coefficient	Standard Deviation	Probability	Variables	Coefficient	Standard Deviation	Probability
ROA (*t* - 1)	-0.409282	0.0050784	0.000	ROE (*t* - 1)	-0.301735	0.0190882	.000
LTAA	0.0002073	0.0004907	0.673	LTAA	-0.006782	0.0056893	.233
LTF	-0.002136	0.0006639	0.001***	LTF	0.0016885	0.0045688	.712
LER	0.0031302	0.0013851	0.024**	LER	0.0262954	0.008544	.002***
Cons.	-0.000309	0.0001257	0.014	Cons.	-0.001465	0.0023836	.539
Wald ch2(prob)		10117.30 (0.0000)***		Wald ch2(prob)		322.22 (0.0000)***	
Number of observations		170		Gözlem Sayısı		170	
Number of groups		17		Grup Sayısı		17	
AR(1)		-1.9084 (0.0563)		AR(1)		-1.555 (0.1199)	
AR(2)		-.97177 (0.3312)		AR(2)		-.4858 (0.6271)	
Sargan chi2(prob)		15.34695 (0.9371)		Sargan chi2(prob)		15.53247 (0.9683)	

Note: ***, **, * denote significance at the 1%, 5%, and 10% levels, respectively.

the return on assets ratio. Derivative and financial instruments variable negatively affects the performance of deposit banks, which is estimated by the return on assets ratio, at the level of 1% significance. A 1-unit increase in the amount of derivatives and financial instruments reduces the return on assets of companies by 2%. The variable of trust and pledged assets, on the other hand, affects the return on assets positively and at the 5% significance level. An increase of 1 unit in the amount of trust and pledged assets increases the return on assets of companies by 3%.

In another model, in which the return on equity ratio was used as the dependent variable, no statistically significant relationship was found between the commitments, derivatives, and financial instruments and the return on equity ratio. Entrusted and pledged assets, on the other hand, have a positive effect on the return on equity ratio at the 1% significance level. An increase of 1 unit in the amount of commitments and derivative and financial instruments of banks increases the return on assets of companies by 2%.

In both models, the lagged value of the dependent variable added to the model as an independent variable affects the dependent variables, which are performance indicators, statistically. While the lagged value affects the dependent variable negatively in the return on assets model, the lagged value affects the dependent variable positively in the return on equity model. In both models, the models are significant according to Wald values. Again, AR2 autocorrelation test results are insignificant in both models.

Conclusion and Recommendations

In the study, a data set was created with the annual data of 17 deposit banks operating in Turkey between 2010 and 2021. The main purpose of the study is to determine the relationship between the off-balance sheet activities of the sample banks and the performance of the banks and to estimate the extent to which they affect the performance using the SGMM estimation method. The research is limited to examining only the off-balance sheet data of banks. Off-balance sheet financial items enabled large amounts of money to be collected in banks financially. For this reason, it is of great importance to supervise and regulate off-balance sheet activities due to the fact that the problems experienced by banks have a high economic impact on the country. In the first model in the study, in the model where the return on assets is the dependent variable, it is seen that derivatives and financial instruments from off-balance sheet items have a negative effect on the performance of deposit banks. This situation does not show parallelism with the other model in which the return on equity ratio is the dependent variable. The relationship between the return on equity ratio and derivative and financial instruments variable is statistically insignificant. The value of derivatives and financial instruments, which is one of the off-balance sheet items, is derived from the value of goods or another financial asset such as foreign currency, interest, and stocks. It can be said that the reason why derivative financial instruments negatively affect the return on assets, which is a performance indicator, is due to the volatility in exchange rates and the negative interest rate policy in recent years. It is important for banks to keep the currency risk under control, just like the companies that make currency-based transactions. The independent variable of trust and pledged assets gives statistically significant and positive results in both models. Trust and pledged securities include securities, securities, commodities, and real estate. One of the indicators of the economic crisis experienced in recent years is the transfer of many values within the scope of pledges to banks. Increases in these values affect the performances of banks positively. It is clear from the analysis that the off-balance sheet activities of deposit banks affect the profitability of Turkish deposit banks. Therefore, bank managers need to be able to strike a balance between profitability and gains from off-balance sheet transactions.

As a result, off-balance sheet items in banks can be affected by many factors such as economic stability, crises, and banking regulations. Therefore, off-balance sheet items are more sensitive for banks. This situation has both direct and indirect effects of increasing or decreasing the performance and profitability of banks. Banks can minimize their losses or maximize their profitability because they do well in process management in situations beyond their control. For this reason, banks need to ensure good control of their off-balance sheet financial items and establish a good risk-profitability balance. Particular attention should be paid to the risk diversification aspect of banks' risk portfolio and it should be determined whether the inherent risk of entering off-balance sheet items leads to a decrease or increase in portfolio risk. Additional risk, which is the most important factor in the stability of banks, should be managed critically and models should be developed to deal with the negative effects of risks.

The situation that prevents the study from being more comprehensive is the deficiencies in the data of off-balance sheet items. Statistics for some periods could not be reached by the relevant institutions, which gave the reason for the balance sheet statistics. This situation expresses the limitations of the study. The results obtained from the study, among the studies examined in the literature, Abad et al. (2022), Zhang and Malikov (2022) give results in the same direction. If these data are clearer and more complete, the study will be developed with analyses to be made with different techniques in terms of the effects of more comprehensive and off-balance sheet items for the Turkish Banking Sector.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept – B.B., A.Ş., B.D.Y.; Design - B.B., A.Ş., B.D.Y.; Supervision - B.B., A.Ş., B.D.Y.; Resources - B.B., A.Ş., B.D.Y.; Materials - B.B., A.Ş., B.D.Y.; Data Collection and/or Processing – B.B.; Analysis and/or Interpretation – B.B.; Literature Search – B.D.B.; Writing Manuscript - B.B., A.Ş., B.D.Y.; Critical Review - B.B., A.Ş., B.D.Y.

Declaration of Interests: The authors declare that they have no competing interest.

Funding: The authors declared that this study has received no financial support.

Hakem Değerlendirmesi: Dış bağımsız.

Yazar Katkıları: Fikir– B.B., A.Ş., B.D.Y.; Tasarım – B.B., A.Ş., B.D.Y.; Denetleme – B.B., A.Ş., B.D.Y.; Kaynaklar – B.B., A.Ş., B.D.Y.; Malzemeler – B.B., A.Ş., B.D.Y.; Veri Toplanması ve/veya İşlemesi – B.B.; Analiz ve/veya Yorum – B.B.; Literatür Taraması – B.D.B.; Yazıyı Yazan – B.B., A.Ş., B.D.Y.; Eleştirel İnceleme – B.B., A.Ş., B.D.Y.

Çıkar Çatışması: Yazarlar çıkar çatışması bildirmemişlerdir.

Finansal Destek: Yazarlar bu çalışma için finansal destek almadıklarını beyan etmişlerdir.

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Genişletilmiş Özet

Gölge bankalar, nakit para alış-verişi olmayan, herhangi fiili bir şubesi olmayan, bankaların faaliyetleri gibi faaliyet gösteren, bankaların mevduat toplayıp kredi kullandırmaları gibi borç alıp borç veren, yatırım yapan ancak sektörde aktif faaliyet gösteren bankalar gibi yasal düzenlemelere bağlı olmayan finansal kuruluşlardır (Oktar ve Eroğlu, 2015: 310; Roubini ve Mihm, 2011: 85). Gölge bankacılık, bilanço dışı işlemlerden meydana gelen ve bankacılık sistemine yasal arbitraj, vergi arbitrajı, ilave fonlama gibi avantajlar sağlayan bankacılık sistemidir. Bankalarla ilgili bazı yasal düzenlemeler sonucunda bankaların kâr marjında bazı kısıtların oluşup karlılıklarının azalması, rekabet avantajının azalması, kurumsal yatırımın daha tercih edilebilir olması, teminatlı borçlanma nedenlerinden dolayı gölge bankacılık öne çıkmıştır (Doruk, 2014; Haltom, 2010).

Bilanço dışı işlemler, bilançoda yer almayan fakat Özsermaye grubunda yer alan kâr/zarar vasıtası ile bilançoyu etkilemektedir. Bilanço dışı işlemler kendi içerisinde yabancı kaynak araçları (kredi taahhütleri ve kredi teminat mektupları) ve türev ürünler (hedging kapsamında) olmak üzere ikiye ayrılmaktadır.

Çalışmada Türkiye'de bilanço dışı kalemlerin bankaların finansal performansları üzerine etkisi araştırılmıştır. Türkiye'nin örneklem ülke olarak seçilmesinin nedeni gelişmekte olan ülkeler içinde gelişmiş bir bankacılık sistemine sahip olmasıdır. Çalışmanın veri seti 2010 ile 2021 dönemleri arasında yıllık verilerden oluşturulmuştur. Çalışmada örneklem bankalarının aktif karlılık oranı (ROA) ve özsermaye karlılık oranı (ROE) bağımlı değişken olarak kullanılmış ve bağımsız değişkenler olarak da Garanti ve Kefalet (GK), Taahhütler (TAA), Türev Finansal Araçlar (TF), Emanet ve Rehinli Kıymetler (ER) kullanılmıştır. Panel kesitinde verilerine ulaşılabilen Türkiye'de faaliyet gösteren mevduat bankası ile veri seti oluşturulmuştur. Yöntem olarak da Sistem Genelleştirilmiş Momentler (SGMM) kullanılmıştır. Çalışmadan elde edilecek sonuçların bu konuda araştırma yapacak araştırmacılara ve Türkiye'de bankacılık sektörüne yön vermesi beklenmektedir.

Bilanço dışı kalemler ilk olarak McCulley tarafından (2007)'de kullanılmıştır. Genellikle politikacılar tarafından sık olarak telaffuz edilmeye başlanmıştır. Bilanço dışı kalemler terimini yazılı olarak ise ilk ifade eden Pozsar'dır (Ağırman, 2013). Son zamanlarda ise bu alanda yapılan çalışmalar gün geçtikçe artmaktadır.

Okur vd.'nin 2018 yılında yapmış olduğu çalışmada, "bilanço dışı kalemler" kavramı üzerinde durulmuş ve bilanço dışı kalemler kapsamında ipoteğe dayalı paylaşımlı faizsiz finans modellerinin de değerlendirilebileceğini ifade etmişlerdir. Fang vd. (2020) ise çalışmalarında, Çin'in emanet edilmiş kredi piyasasından (2004–2014) elde edilen kanıtlara dayanarak, bilanço dışı kalemler sisteminde teminatın etkisini incelemişlerdir. Aldasoro vd. (2020) çalışmalarında durumu başka bir boyuta taşıyarak küresel düzeyde bankalar ve banka dışı finansal kuruluşlar arasındaki sınır ötesi bağlantıların son yıllarda büyümeye eğiliminde olduğunu tespit etmiştir. Koyuncu ve Yay (2020) çalışmalarında bilanço dışı kalemlerin sistem içindeki işleyiş mekanizmalarının ve bu mekanizmalar vasıtası ile oluşan finansal ürünlerin örneklem ülkelerinde meydana gelen krizler üzerindeki etkilerini araştırmışlardır. Tursun (2021) tasarrufa dayalı faizsiz finans sistemleri (TDFFS) ile ilgili yapmış olduğu çalışmasında TDFFS'nin giderek yaygınlaştığını ve alternatif bir konut finansmanı olarak değerlendirildiğini ifade etmiştir. Abad vd. (2022) çalışmalarında, AB bankalarının bilanço dışı kalemler kuruluşlarına karşı varlık risklerini incelemektedirler. Parnes (2022) çalışmada, bankaların bilanço dışı kalemlerinin Benford yasasına uygun olup olmadığını analiz etmiştir ve çalışma sonucunda Benford yasasına kısmen uygun olduğunu tespit etmiştir.

Bu çalışmanın kullanılan değişkenler açısından, iki farklı modelle uygulama yapılması ve yöntem açısından literatürde incelenen çalışmalardan ayrıştığı, özgünlüğü ortaya çıkmaktadır.

Çalışmanın temel amacı bilanço dışı verilerin Türkiye'de ki mevduat bankalarının performansına ve karlılığına etkilerini incelemektir. Bu doğrultuda çalışmada kullanılan bankacılık verileri Türkiye Bankalar Birliği veri tabanından performans verileri ise FinNet veri tabanından elde edilmiştir. Çalışmanın zaman serisi 2008 küresel krizinin nispeten etkilerinin azaldığı ve daha sağlıklı analiz sonuçlarının elde edilebileceği 2010 yılı ile son yıllık verilerin yayımlandığı 2021 dönemleri arasındaki yıllık veriler ile oluşturulmuştur. Çalışmada Türkiye'de faaliyet gösteren mevduat bankalarından bu dönem aralığında eksiksiz verilerine ulaşılabilen 17 tanesinin verileri ile veri seti oluşturulmuştur.

Araştırmada kullanılan SGMM modelleri aşağıda belirtildiği gibidir;

$$\text{Model-3: } ROA_{it} = \beta_0 + \beta_1 ROA_{i,t-1} + \beta_2 LTAA_{i,t} + \beta_3 LTFA_{i,t} + \beta_4 LERK_{i,t} + \varepsilon_{it}$$

$$\text{Model-4: } ROE_{it} = \beta_0 + \beta_1 ROE_{i,t-1} + \beta_2 LTAA_{i,t} + \beta_3 LTFA_{i,t} + \beta_4 LERK_{i,t} + \varepsilon_{it}$$

Çalışmanın hem zaman serisi hem de veri seti dikkate alındığından yöntem olarak Sistem Genelleştirilmiş Momentler (SGMM) yönteminin uygun olduğu görülmektedir. Çalışmada SGMM tahmin yönteminin uygulanarak bağımlı değişkenlerin gecikmeli değerlerinin de bağımsız değişken olarak modele eklenmesi sağlanmakta ve daha tutarlı sonuçlar elde edilebilmektedir (Coşkun ve Kök, 2011; Béjaoui ve Bouzgarrou, 2014).

Sonuç olarak bankalarda bilanço dışı kalemler, özellikle ekonomik istikrar, krizler ve bankacılık düzenlemeleri gibi birçok faktörden etkilenebilmektedir. Bu nedenle bankalar için bilanço dışı kalemler daha hassastır. Bu durumun hem doğrudan hem de dolaylı olarak bankaların performans ve karlılıklarını arttırıcı ya da azaltıcı etkileri vardır. Bankalar kontrolleri dışındaki durumlarda süreç yönetimlerini iyi yaptıkları için zararlarını minimize edebilmekte ya da karlılıklarını maksimize edebilmektedir. Bu sebeple bankaların bilanço dışı finansal kalemlerinin kontrollerini iyi bir şekilde sağlamaları ve risk-karlılık dengesini iyi bir şekilde kurmaları gerekmektedir. Bankaların risk portföyünün risk çeşitlendirme yönüne özel dikkat gösterilmeli ve bilanço dışı kalemlere girmenin doğasında bulunan riskin portföy riskinde azalmaya veya artışa yol açıp açmadığı belirlenmelidir. Bankaların istikrarında en önemli faktör olan ilave risk, eleştirel bir şekilde yönetilmeli ve risklerin olumsuz etkileriyle başa çıkmak için modeller geliştirilmelidir.

Appendix 1. Correlation Matrix for Model 1

Değişkenler	ROA	LGVK	LTAA	LTFA	LERK	LTA
ROA	1.0000					
LGVK	-0.1402	1.0000				
LTAA	-0.1465	0.6919	1.0000			
LTFA	-0.2353	0.6449	0.7146	1.0000		
LERK	-0.2125	0.8149	0.6061	0.6652	1.0000	
LTA	-0.1798	0.9303	0.7784	0.7991	0.8684	1.0000

Appendix 2. Correlation Matrix for Model 2

Değişkenler	ROE	LGVK	LTAA	LTFA	LERK	LTA
ROE	1.0000					
LGVK	0.1955	1.0000				
LTAA	0.1301	0.6919	1.0000			
LTFA	-0.0023	0.6449	0.7146	1.0000		
LERK	0.0712	0.8149	0.6061	0.6652	1.0000	
LTA	0.1734	0.9303	0.7784	0.7991	0.8684	1.0000