



Araştırma Makalesi • Research Article

Examining The Relationship Between Intangible Assets And Net Profit For Companies Included In The Bist Bank Index Using A Dummy Variable

Bist Banka Endeksindeki Şirketlerin Maddi Olmayan Duran Varlıkları İle Net Kâr İlişkisinin Kukla Değişken Kullanılarak İncelenmesi

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ARTICLE INFO

Article history:

Received: 25 May 2023

Received in revised: 31 August 2023

Accepted: 24 October 2023

Keywords:

Intangible Assets

Net Profit

Deposit Participation Development
and Investment Banks

ABSTRACT

This research aims to examine the relationship between intangible assets and the net profit of banks, which are listed on the Borsa Istanbul (BIST) Bank Index (XBANK) and applies dummy variables for analysis. The data of ten banks included in the BIST Bank Index from 2007 to 2022 was examined using the panel data approach for this purpose. This study's distinctive feature is analyzing the relationship between intangible assets and profitability by dividing banks into public and private types. Hence, the study employs dummy variables. The study investigates whether there exists a relationship between intangible fixed assets and banks' profitability through dummy variables. The findings suggest that asset variables and participation bank dummy variable significantly explain net profit, while intangible asset variables and development and investment bank dummy variable are insignificant. Although intangible assets can lead to a positive impact on net profit, they lose their statistical significance when individual factors are taken into account. On the contrary, the asset variable has a constructive effect on net profit and is statistically significant. Results showed that just one of the research's dummy variables for the participation bank and the development and investment bank yielded statistically significant findings. The coefficient of the dummy variable derived for participation banks, in which deposit banks are used as the base class, is negative but statistically significant. As a result, the model's net profit is significantly influenced by deposit banks as a bank category. Additionally, the coefficient for the dummy variable produced for development and investment banks, in which deposit banks are utilized as the base class, is negative but statistically insignificant.

MAKALE BİLGİSİ

Makale geçmişi:

Başvuru tarihi: 25 Mayıs 2023

Düzeltilme tarihi: 31 Ağustos 2023

Kabul tarihi: 24 Ekim 2023

Anahtar Kelimeler:

ÖZ

Bu çalışma Borsa İstanbul (BİST) Banka Endeksi'nde (XBANK) işlem gören bankaların maddi olmayan duran varlıkları ile net kâr ilişkisini kukla değişkenler kullanarak araştırmayı amaçlamaktadır. Bu amaçla 2007-2022 yılları arasında BIST Banka Endeksi'nde işlem gören 10 adet bankanın verileri panel veri analiz ile incelenmiştir. Bu çalışmanın ayırt edici özelliği maddi olmayan duran varlıklar ile karlılık ilişkisinde bankalar kamu ve özel tür şeklinde ayrılarak analiz edilmiştir. Bu sebeple çalışmada kukla değişkenler kullanılmıştır. Kukla değişkenler kullanılarak bankaların maddi olmayan duran varlıkları ile karlılıkları arasında bir ilişkinin olup olmadığı araştırılmıştır. Elde edilen sonuçlara göre aktifler ve katılım (katılım bankası

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Maddi Olmayan Duran Varlıklar

Net Kâr

Mevduat Katılım Kalkınma ve Yatırım Bankaları

kukla değişkeni) değişkenleri bağımlı değişkeni açıklamada anlamlı iken modv (maddi olmayan duran varlıklar) ve kkyb (kalkınma ve yatırım banası kukla değişkeni) ise anlamsız olduğu görülmektedir. Tek tek değişkenlere odaklanıldığında maddi olmayan duran varlıklar, net kârı her ne kadar pozitif etkilese de istatistiki olarak anlamsız olduğu görülmektedir. Diğer yandan, aktifler değişkeni net kârı pozitif etkilemekte ve istatistiki olarak anlamlıdır. Çalışmada katılım bankası kukla değişkeni ile kalkınma ve yatırım bankası kukla değişkenlerinden sadece bir tanesi anlamlı sonuç vermiştir. Mevduat bankalarının temel sınıf olarak alındığı katılım bankaları için oluşturulan kukla değişkenin katsayısı negatif ancak istatistiki olarak anlamlıdır. Dolayısıyla banka türü olarak mevduat bankalarının modelde net kâr üzerinde anlamlı bir etkisi olduğu tespit edilmiştir. Yine mevduat bankalarının temel sınıf olarak alındığı kalkınma ve yatırım bankaları için oluşturulan kukla değişkenin katsayısı negatif ancak istatistiki olarak anlamsızdır.

INTRODUCTION

Banks constitute an important component of the economic system. Considering that there are no banks in this system, it is impossible to fully carry out economic activities both domestic and abroad. A bank aims to use the deposits it collects from the public effectively and efficiently in loan transactions. In other words, it fulfills a function, such as obtaining or collecting credit, regularly and systematically. Today, however, banks perform a wide variety of transactions within the scope of money, credit, and capital, apart from loan transactions. It is a part of the economic system that chooses to supply the basic monetary needs of private or public institutions while doing this (Takan & Boyacıoğlu, 2018, pp. 1–2). It is necessary to pay attention to that situation here. All financial institutions, including those with the title "bank" cannot perform both credit and deposit transactions. Because the definitions and statements made for the bank above are more suitable for deposit banks. These definitions may not fully express development and investment banks or participation banks (Gündoğdu, 2014, p. 31). The main functions of banks that they perform both nationally and internationally can be listed as follows. These functions are; financial intermediation between a lender and a borrower is to provide liquidity to resources, convert short-term funds into long-term funds, transfer resources to areas where firms can use them most effectively, assist in the functioning of national monetary policy, facilitate the implementation of export and import transactions, create bank money, influence the distribution of income and wealth, provide financial advisory services to institutions and individuals, and finally fulfill the task of serving (Vurucu & Arı, 2017, pp. 74–78).

There is intense competition between companies in global trade. This situation reminds businesses that sustainability is important and that they have to make it their main focus. For companies in the service sector to offer better products, they need to follow the technological changes occurring globally and make them suitable for business. In particular, the innovation and sustainability duo leads to research and development studies by activating intangible assets. Considering all these factors, intangible assets are an important factor in daily operations, growth, expansion, and stable profit. For this reason, it is important for the sustainability of the business to know what the real value of intangible assets is compared to the information disclosed in the financial reports and to create a business policy accordingly (Awa Felix, Okwo, M., & Obinabo, C., 2020, p. 18).

The definitions of intangible assets in MSUGT and TMS 38 are as follows. According to MSUGT (1992, p. 69), intangible assets are defined as “it is the account group that does not have any physical assets, capitalized expenses that the enterprise benefits from or expects to benefit in a certain way, and that legally protected rights and goodwill under certain conditions keep”. According to TMS 38 (2017), an intangible asset is defined as “an identifiable non-monetary asset that has no physical character”. In order for an item defined as an asset to be classified as an intangible asset, it must fulfill the following three characteristics. These features (KGGK, 2023);

- It does not have monetary characteristics,
- Be identifiable and,
- It does not have a physical feature.

It is stated that intangible assets constitute more than 80% of the value and income of many companies today (Moberly, 2014, p. 5). As a matter of fact, Deran and Savaş (2013, p. 74) stated in their study called “valuation of intangible fixed assets and presentation principles in financial statements” that intangible assets constitute a significant part of the total assets of many enterprises. It can be said that the effective factor here is that the intangible assets rather than the intangible fixed assets owned by the enterprises have started to significantly affect the market value of the company. Therefore, copyrights, intellectual capital, goodwill, brand value, titles, and customer relations of enterprises provide an advantage to enterprises in today’s information age (Deran & Savaş, 2013, pp. 74–75).

This study aims to investigate the relationship between intangible assets and net profit of banks listed on the Borsa Istanbul (BIST) Bank Index (XBANK) using dummy variables. The data of 10 banks included in the Bank Index from 2007 to 2022 was examined for this purpose using the panel data approach. This study's unique feature is the analysis of the relation between intangible assets and profitability by categorizing banks into public and private sectors. Therefore, the study used dummy variables. The study investigates whether a relationship exists between intangible fixed assets and bank profitability through the use of dummy variables.

LITERATURE AND HYPOTHESIS

The study of the correlation between intangible assets and profitability is widespread nationally and internationally. The research examines commercial banking, telecommunications and technology sectors, as well as the overall stock market. Upon analyzing the variables in these studies, intangible assets are typically the dependent variable. In some studies, intangible assets that included goodwill and computer software were used; whereas in other studies, the intangible asset to total asset ratio was used instead. In contrast, even though return on assets and return on equity are the most popular dependent variables, sales growth, net profit margin and operating profit variables are sporadically utilized as well. To sum up, the literature on the correlation between intangible assets and profitability can be outlined as follows.

Abebe Zelalem and Ali Abebe (2022) investigated the effect of the intangible assets of 17 commercial banks in Ethiopia between 2017 and 2020 on financial performance and financial policy. Asset return ratio and equity return ratio were used as measures of financial performance, while intangible assets were used as an explanatory variable. Asset size and liquidity were used as control variables. According to the findings, it has been revealed that intangible assets have a positive and statistically significant effect on the rate of return on assets and equity, while they have a negative and statistically significant effect on financial policy. In addition, asset size and liquidity ratio positively affect the return on assets and return on equity.

Awa Felix, Okwo, M., and Obinabo, C. (2020) studies have investigated the impact of commercial banks’ intangible assets on performance in Nigeria between 2012 and 2018. They used goodwill and computer software as intangible assets and return on assets as financial performance. The findings reveal that goodwill and computer software have a statistically significant effect on profitability of assets.

Yanık, Dilmaç, and Sumer (2018) investigated the relationship between profitability and intangible assets of banks traded in Borsa Istanbul between 2009 and 2017. For this purpose, return on asset, return on equity, and net interest margin are used as dependent variables, while intangible asset, ratio of other expenses to assets, the ratio of other expenses to net profit, growth, loans, deposits, and credit risk are used as independent variables. The results show that there is a negative relationship between intangible assets and profitability.

In his study, Zhang (2017) analyzed the data between 2014-2016 to investigate the relationship between intangible assets and profitability of 17 telecommunications companies in China. While the ratio of intangible assets to total assets was used as the independent variable, return on asset ratio was used as dependent variable. The findings reveal that intangible assets have a positive and significant effect on return on asset.

Chiarello, Pletsch, Silva, and Silva (2014) analyzed the relationship between financial performance and intangible assets of technology companies in Brazil and Chile from the year from 2008 to 2012. While intangible assets were used as dependent variables in the study, return on assets, return on equity, sales growth, net profit margin, and operating profit were used as independent variables. According to the findings, it is stated that the higher performance of firm, the higher value of intangible assets.

Tiron Tudor, Dima (Cristea), Dima, and Valeria Rațiu (2014) analyzed the impact of shocks in intangible assets on profitability using the data of companies listed on the Frankfurt Stock Exchange and the London Stock Exchange from the year 2001 to 2010. For this purpose, return on asset ratio was used as profitability variable in the study. While intangible fixed assets are used as independent variables, the debt payment ratio and the ratio of cash flow to operating income are used as control variables. The findings obtained in the study reveal that there is a stable relationship between intangible assets and profitability.

Focusing on studies that analyze the banking sector in the literature, Abebe Zelalem and Ali Abebe (2022) found that intangible assets positively and statistically significantly affect the rate of return on equity in their studies in which they examined intangible assets and the financial performance of commercial banks in Ethiopia. Awa Felix, Okwo, M., and Obinabo, C. (2020), in their studies using goodwill and computer software, which are included in intangible assets, separately as variables, found that goodwill and computer software have a statistically significant effect on the profitability of assets. Yanık, Dilmaç, and Sumer (2018) stated that there is a negative relationship between intangible assets and profitability in their studies for banks listed in Borsa Istanbul.

Based on previous studies in the literature, this study aims to establish a hypothesis regarding the relationship between intangible assets and profitability.

Hypothesis: There is a significant relationship between intangible assets and net profit of the companies listed on the Borsa Istanbul Bank Index

RESEARCH VARIABLES, LIMITATIONS, AND MODEL

This study investigates with panel data analysis the relationship between intangible assets and profit of banks listed in the Borsa Istanbul (BIST) Bank Index (XBANK). For this purpose, the data of 10 banks listed in the BIST Bank Index between 2007 and 2022 was obtained through the Public Disclosure Platform. Stata 16 was used to analyze the relationship between intangible assets and net profit.

The study utilized one dependent variable and four independent variables. One of the independent variables is intangible assets, while the other serves as a control variable. The study created two dummy variables to represent the categorical variable of bank type. Deposit banks were regarded as the base class when creating the dummy variable. Consequently, one dummy variable is utilized to examine the participation banks, and the other represents development and investment banks. Information on the variables is presented in Table 1:

Table 1: Explanation of Variables

Dependent Variable	Explanation
NETPROFİT	Net Profit
Independent Variable	
IA	Intangible Assets
ASSETS	Assets
DPARTICIPATION	Dummy Variable Representing Participation Banks
DDI	Dummy Variable Representing Development and Investment Banks

According to the Banks Association of Türkiye, there were 53 banks as of May 2, 2023. 35 of these banks are deposit banks, and 18 of them are development and investment banks (TBB, 2023). Looking at the Participation Banks Association of Türkiye, six participation banks are in operation (TKBB, 2023). According to the list in Table 2, eight of the 35 deposit banks, one of the 18 development and investment banks, and one of the six participation banks were used in this study. In addition, these banks are listed on the BIST (see Table 2).

There are 607 companies registered on the Public Disclosure Platform as of May 2023. When these corporations are divided into various indices, the number of companies in the XBANK index is 12 (KAP, 2023). However, the data from 10 banks was used in the study. Company code, corporate name, sector, and type of banks used in the study are listed in Table 2:

Table 2: Banks Included in the Analysis

Company Code	Company Name	Sector	Type of Bank
AKBNK	AKBANK Inc.	Bist Banking	Deposit Bank
ALBRK	ALBARAKA TÜRK KATILIM BANKASI Inc.	Bist Banking	Participation Bank
ICBCT	ICBC TURKEY BANK Inc.	Bist Banking	Deposit Bank
SKBNK	ŞEKERBANK Inc.	Bist Banking	Deposit Bank
GARAN	TÜRKİYE GARANTİ BANKASI Inc.	Bist Banking	Deposit Bank
HALKB	TÜRKİYE HALK BANKASI Inc.	Bist Banking	Deposit Bank
ISCTR	TÜRKİYE İŞ BANKASI Inc.	Bist Banking	Deposit Bank
TSKB	TÜRKİYE SINAİ KALKINMA BANKASI Inc.	Bist Banking	Development and Investment Bank
VAKBN	TÜRKİYE VAKIFLAR BANKASI Inc.	Bist Banking	Deposit Bank
YKBNK	YAPI VE KREDİ BANKASI Inc.	Bist Banking	Deposit Bank

The econometric model established to investigate the relationship between companies' intangible assets and net profit is as follows:

$$NETPROFIT_{it} = a_{it} + \beta_1 IA_{it} + \beta_2 ASSETS_{it} + \beta_3 DPARTICIPATION_{it} + \beta_4 DDI_{it} + u_{it}$$

where:

$NETPROFIT_{it}$: Annual net profit of bank i in year t

a_{it} : Constant

IA_{it} : Annual intangible assets of i bank in year t

$ASSETS_{it}$: Total annual assets of bank i in year t

$DPARTICIPATION_{it}$: Dummy variable for participation bank of bank i in year t

DDI_{it} : Dummy variable for development and investment bank of bank i in year t

u_{it} : Error Term

ANALYSIS METHOD AND FINDINGS

Econometric data is divided into three parts as cross-section, time series, and panel data. Panel data contains both horizontal and vertical dimensional data. For example, let's assume that there is a four-year data set in the first ten major provinces aimed at determining Turkey's consumption behavior. When the number of cross-sections for each province is determined as 10 and the time dimension as 4, this data set will become $10 \times 4 = 40$ dimensional (Kutlar, 2017, p. 11).

The basic assumptions behind the pooled least squares method (Tatoğlu, 2021, p. 61):

- Defining the model correctly
- Analysis with a random sample taken from a cross-section
- Variables that change according to time, according to unit, and according to both time and unit are external and must be simultaneously independent of the error term
- Lack of multiple full linear connections,
- Error terms are homoscedastic
- Error terms do not contain autocorrelation and
- There should be no unit or time effects.

Table 3: Descriptive Statistics

Variable	Obs.	Mean	Std. Dev.	Min.	Max.
NETPROFIT	160	8,430	21,300	-769	138,000
IA	160	410	639	323,000	3,880
ASSETS	160	144,000	188,000	2,080	995,000
DPARTICIPATION	160	0.1	.30	0	1
DDI	160	0.1	.30	0	1

Note: The mean, standard deviation, minimum and maximum values of NETPROFIT, IA and ASSETS should be multiplied by 100,000.

Descriptive statistics of the corporations listed in the BIST Bank Index are presented in Table 3. The table includes the number of observations, mean, standard deviation, minimum, and maximum values. Accordingly, each of the five variables has a total of 160 observations. NETPROFIT, which has

the highest average value, has a value of TL (Turkish Lira) 8,430 million, while DPARTICIPATION and DDI have the lowest average at 0.1. IA has the highest standard deviation, while DPARTICIPATION and DDI have the lowest standard deviations. Looking at the maximum value, ASSETS has the highest maximum value at TL 995 billion, while NETPROFIT has the lowest minimum value at TL -769 million.

Table 4: Correlation Matrix

	NETPROFIT	IA	ASSETS	DPARTICIPATION	DDI
NETPROFIT	1				
IA	0.37	1			
ASSETS	0.35	0.63	1		
DPARTICIPATION	-0.12	-0.20	-0.22	1	
DDI	-0.12	-0.21	-0.24	-0.11	1

Table 4 presents the Pearson correlation relationship of the variables used in the analysis. According to the table, when the correlation relationship between the variables was examined, no negative or positive binary variable with a high correlation was found.

Table 5: Cross-Sectional Dependence

Test	Statistics	Probability
LM	98.41	0.000
LM adj	2.764	0.006
LM CD	4.819	0.000

Table 5 presents the results of the NLM test to determine the presence of correlation between units. Accordingly, cross-sectional dependency test results are needed to determine which of the first-generation and second-generation unit root tests will be preferred. According to the LM adj test statistics suggested by Pesaran, Ullah ve Yamagata (2008) in the table, it has been determined that there is a correlation between units in the model established between the variables. Therefore, to carry out unit root tests of the variables, the appropriate one from the second-generation unit tests should be preferred.

Table 6: Unit Root Test

Variable	Im-Pesaran-Shin		
	Level	First Difference	Second Difference
NETPROFIT	-0.856 (0.196)	-4.889 (0.000)	
IA	16.371 (1.000)	7.544 (1.000)	-3.446 (0.000)
ASSETS	12.498 (1.000)	10.182 (1.000)	-2.264 (0.012)

Note: The values in parentheses represent probability

Table 6 presents the unit root test results suggested by Im, Pesaran, and Shin (2003) from the second group of panel unit root tests. Tatoğlu (2020) stated that there is no requirement for the panel to be balanced to use the IPS panel unit root test, and it is also valid in cases where T and N go to infinity, respectively. According to the table, it has been revealed by the IPS unit root test that NETPROFIT is stationary at the first difference, and IA and ASSETS are stationary at the second difference.

Table 7: Estimator Type Selection

Test	Preference	Statistics	Estimator
F-Testi	Pooled	.47 (.977)	Pooled Model
	Fixed		

Note: The values in parentheses represent probability

In table 7, the ANOVA F test was used to determine the existence of the estimator type, in other words, the pooled model. Tatoğlu (2021) states that it is thought that if there are no unit and/or time effects, it is more accurate to use the pooled model, and if there are unit and/or time effects, it is more accurate to use the fixed or the random effects. The validity of the pooled model in panel data, that is, whether there are unit and/or time effects, can be tested with many tests. In this study, the F-test suggested by Moulton and Randolph (1989) was used to test the validity of the pooled model. Based on results of the F-test performed to test the presence of unit and/or time effects in the table, it has been determined that there are no unit and/or time effects, i.e., the validity of the pooled model.

Table 8: Assumption Tests

Test	Results
Heteroscedasticity	White Testi 3.112 (.989)
Autocorrelation	Wooldridge Testi 46.749 (0.000)
Mean VIF	Variance Inflation Factor 1.41

Note: The values in parentheses represent probability

In table 8, the basic assumptions in the pooled least squares model are determined. In the table, the test suggested by White (1980) was used to test the existence of heteroscedasticity. According to the probability result of the White test, it can be stated that there is no heteroscedasticity in the model. Wooldridge (2002) test was used to test autocorrelation. According to the wooldridge test result, there is first-order autocorrelation in the model. At the bottom of the table, there is a linear relationship between independent variables. The mean VIF value of the variables was calculated as 1.41. Accordingly, since the 1.41 VIF value is less than 5, it can be said that no variable will cause multicollinearity.

Table 9: Specification Test

Test	Statistics
Ramsey Specification ResetF Test	0.02 (0.881)
DeBenedictis-Giles Specification ResetL Test	1.66 (0.194)
DeBenedictis-Giles Specification ResetS Test	0.24 (0.788)
White Functional Form	1.98 (0.372)

Note: The values in parentheses represent probability

Table 9 presents the tests suggested by Ramsey (1969) and DeBenedictis and Giles (1998) for the detection of specification error in the pooled model, as well as the results of White (1980) for the functional form error test. In the table, according to the $p = 1$ results for the Reset F, DeBenedictis-Giles L, and S tests, it was found that there was no specification error in the model, and when looking at the results of the White LM test, it was found that there was no functional form error in the model.

If there is at least one heteroscedasticity, autocorrelation, or cross-sectional dependency in the established model, the estimation can be made in two ways. First of all, standard errors can be corrected without touching parameter estimates, or secondly, estimates should be made with appropriate methods (Tatoğlu, 2021, p. 327). Considering the basic assumptions made for this study, there is no heteroscedasticity problem, but there is an autocorrelation problem. Based on this, Tatoğlu (2021, p. 332) stated that the model developed by Arellano (1987), Froot (1989), and Rogers (1994) and producing resistant standard errors can be used for the pooled model.

Table 10: Pooled Model Estimation Results

Dependent Variable: NETPROFIT				
Variable	Coef.	Robust Standard Error	t	P > t
IA	4.560	11.691	0.39	0.706
ASSETS	.104	.038	2.77	0.022**
DPARTICIPATION	-549	191	-2.88	0.018**
DDI	-197	180	-1.09	0.303
C	392	196	2.00	0.076
Number of Observation	140			
R ²	0.0914			
F-Statistics	.			

Not: ***, **, and * indicate 1%, 5%, and 10% significance levels, respectively. The coefficient and standard errors of DPARTICIPATION, DDI, and C should be multiplied by 100,000.

Table 10 presents the results of the estimation method developed by Arellano (1987), Froot (1989), and Rogers (1994), which produces robust standard errors. The number of observations in the model is 140 and the R^2 value is 0,09. In addition, it was observed that an F-statistic did not occur for this model according to the estimation method used. Based on the t statistics obtained from the robust standard errors, it is seen that while ASSETS and DPARTICIPATION are significant in explaining NETPROFIT variable, IA and DDI are meaningless. Although, IA affects NETPROFIT positively, it is statistically insignificant; ASSETS variable has a positive effect on NETPROFIT and is statistically significant; while DPARTICIPATION and DDI, which are used as dummy variables, negatively affect NETPROFIT, only DPARTICIPATION coefficient was found to be significant.

CONCLUSION AND RECOMMENDATIONS

This study examines the relationship between intangible assets and net profit of ten banks, listed on the Borsa Istanbul (BIST) Bank Index (XBANK), through panel data analysis from 2007 to 2022. The unique feature of this study is that the relationship between intangible assets and profitability is analyzed by dividing banks into public and private types. As a result, dummy variables were employed in the study. Through the use of dummy variables, the study examines whether there is a relationship between intangible fixed assets and bank profitability.

The findings obtained in the study show that assets (ASSETS) and participation bank dummy variable (DPARTICIPATION) are significant in explaining dependent variable net profit (NETPROFIT), while IA variable and development and investment bank dummy variable (DDI) are meaningless. Despite having a favorable impact on NETPROFIT, IA variable is statistically negligible, as can be observed. However, ASSETS variable has a statistically significant positive impact on NETPROFIT. Only one of the study's dummy variables for the participation bank and the development and investment bank produced findings that were statistically significant. The coefficient of the dummy variable created for participation banks, where deposit banks are taken as the base class, is negative but statistically significant. Therefore, it has been determined that the type of bank has a significant effect on the net profit in the model. Again, the coefficient of the dummy variable created for development and investment banks, where deposit banks are taken as the base class, is negative and statistically insignificant.

Although there is a positive relationship between intangible assets and profitability, the hypothesis " There is a significant relationship between intangible assets and net profit of the companies listed on the Borsa Istanbul Bank Index " is rejected. This is because this positive result is not statistically significant. When the literature is examined, Abebe Zelalem and Ali Abebe (2022), who conducted a study on the banking sector, obtained a positive result similar to the one in this study. Similarly, Awa Felix, Okwo, M. and Obinabo, C. (2020) investigated the impact of intangible assets of commercial banks on performance with random effects and found that goodwill and computer software have a positive and significant effect on return on assets. On the other hand, Yanık, Dilmaç, and Sumer (2018) analyzed the data of banks traded in Borsa Istanbul and found a negative relationship between intangible assets and profitability.

Physical assets are not the sole way to attain financial performance; intangible assets can also actively contribute to financial performance. Therefore, it is recommended to banks' firm management to prioritize investments in intangible fixed assets for sustained development. In particular, by giving importance to copyrights, intellectual capital, goodwill, brand value, and titles contained in intangible assets, it can be ensured that they are made more efficient in terms of financial performance.

According to the results obtained in this study, although a positive result is obtained between intangible assets of the banks and net profit, it is not statistically significant. For this reason, it is recommended to increase the number of independent variables for future studies and to use the variables included in the intangible asset item as independent variables one by one.

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