ANALYZING THE EFFECTS OF GENERAL ADMINISTRATIVE EXPENSES ON PROFITABILITY: AN APPLICATION ON BIST

Genel Yönetim Giderlerinin Kârlılık Üzerindeki Etkilerinin Analizi: BIST Üzerinde Bir Uygulama

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Abstract

The determination of the relationships between the financial ratios of the companies operating in the financial markets is important both for the evaluation of the companies and for the investor decisions. The analysis of the indicators that guide the complex investment process also provides information about the sector. By applying methods such as financial failure, financial performance, ratio analysis for the companies, it is determined how the goals and objectives are achieved. In addition, as a result of the analyzes performed, continuity and sustainability situations are determined. This study investigates the effects of general administrative expenses on the profitability of companies traded in Borsa Istanbul (BIST) for 2012-2022. In the study, sectors and indices such as banks, financial institutions, sports, and enterprises with discontinuous data are excluded from the scope of the study. Panel causality tests reveal a bidirectional causality relationship between general administrative expenses and profitability. The findings emphasize that general administrative expenses significantly affect profitability, which may have important implications for tax planning, and emphasize the importance of considering general administrative expenses in companies' financial planning.

Anahtar Kelimeler:
Genel Yönetim Giderleri,
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Öz

Finansal piyasalarda faaliyet gösteren şirketlerin finansal oranları arasındaki ilişkilerin belirlenmesi hem şirketlerin değerlemesi hem de yatırımcı kararları açısından önem arz etmektedir. Karmaşık yatırım sürecine yön veren göstergelerin analizi aynı zamanda sektör hakkında da bilgi sağlamaktadır. Şirketler için finansal başarısızlık, finansal performans, oran analizi gibi yöntemler uygulanarak hedef ve amaçlara nasıl ulaşılacağı belirlenmektedir. Ayrıca yapılan analizler sonucunda devamlılık ve sürdürülebilirlik durumları ortaya çıkmaktadır. Bu çalışmada, 2012-2022 yılları arasında Borsa İstanbul'da (BIST) işlem gören şirketlerin kârlılığına genel yönetim giderlerinin etkileri araştırılmıştır. Çalışmada bankalar, finansal kuruluşlar, spor ve verilerinde süreklilik olmayan işletmeler gibi sektörler ve endeksler çalışmanın kapsamı dışında tutulmuştur. Panel nedensellik testleri, genel yönetim giderleri ile kârlılık arasında çift yönlü nedensellik ilişkisi olduğunu ortaya koymaktadır. Bulgular, genel yönetim giderlerinin kârlılığı önemli ölçüde etkilediğini, bunun vergi planlaması için önemli çıkarımlar içerebileceğini ve şirketlerin finansal planlamasında genel yönetim giderlerinin dikkate alınmasının önemini vurgulamaktadır.

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1.INTRODUCTION

The efficiency and effectiveness of general administrative expenses play an important role in measuring a company's performance and evaluating its operational results. Increasing global competition and rapidly advancing technology causes an increase in the financial risks that companies are exposed to. Today, it is of great importance for companies to carefully analyze and evaluate the impact of general administrative expenses on profitability in order to achieve company goals and competitive advantage. This study aims to investigate the effects of general administrative expenses on profitability by analyzing the data of companies traded in Borsa Istanbul (BIST) and included in the BIST 100 index between 2012 and 2022.

General administrative expenses include the costs incurred by companies to carry out their managerial activities, including the remuneration of managers and administrative employees, setting company policy, office services, utilities, and other overhead costs. General administrative expenses are directly related to companies' day-to-day operations and are of great importance for the company in the long run. They are taken into account to get an idea about the efficiency of the management activities of the companies.

The relationship between general administrative expenses and profitability is of great importance to investors and policymakers. It provides investors with critical information about the profitability, potential risks, and competitiveness of the business. Policymakers can use this information to determine regulations that encourage transparent and accountable overhead cost management.

Many studies investigate the impact of general administrative expenses on profitability using different methodologies and data sets. However, the examination of general administrative expenses and their impact on profitability in the BIST has been relatively limited. This study aims to fill this research gap by comprehensively analyzing the relationship between general administrative expenses and profitability in BIST-listed companies.

The research methodology focuses on general administrative expenses and company profitability ratios. The companies subject to analysis are BIST 100 companies, excluding financial institutions and sports clubs, with continuity in their data. To evaluate the relationship between general administrative expenses and profitability, the quarterly financial data of 41 companies traded in BIST100 between 2012 and 2022 were evaluated by statistical analysis methods such as correlation, unit root, homogeneity, and panel causality tests.

2.LITERATURE REVIEW

Statistical and econometric studies conducted on the effects of General Administration (G&A) Expenses on companies' financial statements reveal that G&A expenses or the increase in the ratio of G&A expenses to company sales are generally associated with ineffective cost management and future financial performance. This situation is usually explained by cost stickiness. On the other hand, quantitative applications conducted indicate the possibility that increases in G&A expenses may positively affect company returns in the medium and long term. In this context, studies in the literature are discussed below.

Lev and Thiagarajan (1993), in their study on the effects of fundamental analysis indicators on company value, found that for most of the periods included (1974-1988) in the analysis, increases in the ratio of G&A expenses to sales had a negative impact on subsequent period returns.

According to Anderson et al. (2003), in a comprehensive study analyzing 20 years of financial data from 7,629 companies, it was found that General Administrative Expenses increased by 0.55% in response to a 1% increase in sales, while they decreased by only 0.35% following a 1% decline in sales. The study indicates that cost stickiness in General Administrative Expenses may vary across industries; however, their positive impact on profitability appears to be limited.

In the study conducted by Baumgarten et al. (2010), it is emphasized that it should be taken into consideration whether the increase in the ratio of general administrative expenses to sales is

consciously realized by the company in order to increase profitability. They conclude that the increases in general administrative expenses that occurred in companies with a lower ratio of general administrative expenses to sales compared to the sector average in the past periods were consciously preferred by the company to increase their profitability in the following period.

In a survey conducted by Chen et al. (2012), it is highlighted, consistent with prior research, that G&A expenses exhibit asymmetric changes. In addition, the study concludes that the main reason why the increase in G&A expenses is higher when companies' activities increase than the decrease when their activities decrease is not only due to economic reasons but also within the framework of agency theory. In this context, to fill the literature gap, the effects of general administrative expenses on company value in corporate governance and agency costs are analyzed, and it is concluded that although demand increases rapidly, the cost decrease occurs more slowly as demand decreases.

Tuna and Yıldız (2016) examined the effects of operating expenses on the company performance of Borsa Istanbul Technology Companies using data from 2008-2015. Using the Pedroni Cointegration Analysis method. They determined the existence of a long-run relationship between operating expenses and company performance. The study concluded that Marketing, Sales, and Distribution Expenses and Research and Development Expenses, which are considered sub-items of Operating Expenses, have a positive effect on company performance, while General Administrative Expenses have a negative effect.

Capozza and Seguin, (1998), conducted by categorized General Administrative Expenses into a non-mandatory "structural" component and an optional "style" component. After analyzing 8-year data (from 1985 to 1992) of 75 publicly traded companies in the Real Estate Investment Trust Sector, it was found that both of these expenses have a statistically significant effect on company value. Expenses defined as "Structural" have a negative effect on company value, while expenses defined as "Style" have a neutral effect.

In the study investigating the effects of General Administrative Expenses on company value in the long run (Banker and Chen, 2006; Banker et al., 2006), the authors conclude that General and Administrative Expenses have a positive multi-period impact on companies' future earnings. The study assesses the long-term asset-building potential of these expenses and how they should be treated in financial reporting and investor assessments.

As a result of the empirical analysis conducted by Liang et al. (2020), two important conclusions were reached. The first of these conclusions is that general administrative expenses have a positive impact on the company's operational activities in the long term. The second conclusion is that capital market participants have a positive pricing coefficient regarding the contribution of this situation to the company value.

Venieris et al. (2015) examines, using annual data from 55,769 company between 1979 and 2009, the study states that G&A cost stickiness increases in companies with high capital. In addition, the study concludes that the increase in R&D expenditures similarly causes G&A cost stickiness.

In another study conducted by Öndeş and Levet (2023), the Panel Regression Analysis using the data of 16 company in the BIST 30 index between 2010 and 2021, it is stated that General Administrative Expenses and Research and Development Expenses have a positive and significant effect on period net profits. However, the same study found no statistically significant relationship between marketing expenses and company profitability.

The most significant contribution of the study to the literature is the quantitative determination of the relationship between the expenses and profitability of the enterprises with up-to-date data and methods. The study on publicly traded companies can also provide inferences regarding the perspectives of investors. The originality of the study is the determination of the situation that arises from a tax perspective as a result of the expenses and profitability relationships of the relevant enterprises.

3. METHODOLOGY

In econometric analyses, a distinction is made according to the characteristics of the data, and the decision process is carried out according to various types. There are three types of data: time series, horizontal cross-section, and panel data. Data vary according to criteria such as characteristics day, season, year, change according to time units, and coming together in a certain period. In panel data analysis, stationarity, cointegration, unit root, causality, etc. analyses are performed to analyze the data and determine the relationships. (Yerdelen Tatoğlu, 2020a: 5). In the study, Dumitrescu and Hurlin (2012) Granger Causality test was applied to determine the existing causality relationships. In order to determine the characteristics of the data, various analyses were performed before the causality test.

Firstly, Variance Inflation Factor (VIF) detection was performed in the study. The analysis performed to detect multicollinearity is carried out to make decisions about the data use cases. In the literature, it is stated that VIF values should be below 10 in order to detect multicollinearity. Although some sources also state that the relevant value should be less than 5, it is stated that VIF values greater than 10 are indicators of multicollinearity. In addition, the average VIF value is also expected to be less than 10. (Kutner et al., 2005; Yerdelen Tatoğlu, 2020b: 260). The VIF criterion is given in Equation 1.

$$VIF_i = {}^{1}/_{1 - R_i^2} \quad \textbf{(1)}$$

In the rest of the analysis, inter-unit correlation is tested. The Pesaran (2004) CD test is applied to test for inter-unit correlation. Pesaran uses the residuals from the estimation of the ADF regression to test for inter-unit correlation and calculates the correlation of each unit with units other than itself. (Pesaran, 2004). The hypotheses of the relevant test and the equation for the balanced panel are presented below.

$$H_0: \rho_{ij} = 0$$

$$H_1: \rho_{ij} \neq 0 \quad \textbf{(2)}$$

$$CD = \sqrt{\frac{2T}{N\,(N-1)}}\left(\sum_{i=1}^{N-1}\sum_{j=i+1}^{N}\hat{\rho}_{ij}\right) \quad \textbf{(3)}$$

In order to reduce the effect of inter-unit correlation, Im, Pesaran, and Shin (IPS), which allows for heterogeneity of parameters, is applied to cross-sectional mean-differenced series. (Im et al., 2003) panel unit root test is applied. In the related test H0, while the null hypothesis is that all units contain unit roots, the alternative hypothesis is that some units are stationary. Stationarity is tested with the related test.

In the next stage, the Swamy S test was applied to test the homogeneity of the parameters. If there is no significant difference between the matrices as a result of the test, it is concluded that the data are homogeneous. (Swamy, 2012). The hypothesis and equation of the test are given below.

$$H_0: \beta_i = \beta \quad \textbf{(4)}$$

$$\hat{S} = \chi^2_{k(N-1)} = \sum_{i=1}^{N}(\hat{\beta}_i - \bar{\beta}^*)'.\hat{V}i^{-1}.(\hat{\beta}_i - \bar{\beta}^*) \quad \textbf{(5)}$$

In the last stage of the analysis, Dumitrescu and Hurlin's (2012) Granger Causality test is applied, and causality relationships are identified. The test was developed for heterogeneous panels. The main hypothesis of the method β_i are all equal to zero, while the alternative hypothesis is β_i is such that some of the are different from zero (Dumitrescu and Hurlin, 2012). The equations applied in the analysis are shown below.

$$Y_{it} = a_i + \sum_{k=1}^{K}\gamma_i^{(k)}Y_{it-k} + \sum_{k=1}^{K}\beta_i^{(k)}X_{it-k} + \varepsilon_{it} \quad \textbf{(6)}$$

$$\bar{W}_{N,T} = \frac{1}{N}\sum_{i=1}^{N}W_{i,T} \quad \textbf{(7)}$$

$$W_{i,T} \xrightarrow{T \to \infty} \chi^2(K) \quad \textbf{(8)}$$

$$\bar{Z}_{N,T} = \sqrt{\frac{N}{2K}}\left(\bar{W}_{N,T} - \mathrm{K}\right) \xrightarrow{\mathrm{T,N} \to \infty} \mathrm{N}(0,1) \quad \textbf{(9)}$$

When N was big:

$$\bar{Z}_{N} = \sqrt{\frac{N}{2\times K} \times \frac{(T-4)}{(T+K-2)}} \times \left[\left(\frac{T-2}{T}\right)\bar{W}_{N,T} - K\right] \quad \textbf{(10)}$$

Normally Distributed:

$$\tilde{Z}_{N}^{Hnc} = \sqrt{\frac{N}{2\times K} \times \frac{(T-2K-5)}{(T-K-3)}} \times \left[\left(\frac{T-2K-3}{T-2K-1}\right)\bar{W}_{N,T} - K\right] \xrightarrow{\mathrm{N} \to \infty} \mathrm{N}(0,1) \quad \textbf{(11)}$$

4. ANALYSIS AND FINDINGS

The study was conducted to determine the causality relationship between General Administrative Expenses and Return on Assets Ratio and Return on Equity Ratio. Companies operating in BIST 100 were taken as the sample in this context. The sample was formed based on operating in similar sectors and continuity of data, sectors, and indices such as banks, financial institutions, and sports, and the data of companies with no continuity in their data were not included in the scope of the study. In the study, analysis was carried out using quarterly data for the period 2012-2022. The reasons for the data set range of the study being between these dates are to perform analysis from a broad perspective, to ensure that common data is handled, to minimize volatility in financial statements, and to exclude the date on which inflation adjustment was made from the data set. Inter-unit correlation, unit root, homogeneity, and panel causality tests were conducted. Analyses were performed in the Stata 15 program. Enterprises Public Disclosure Platform (Public Disclosure Platform, 2024) and data from Finnet (Finnet, 2024) and the data set were created after the necessary calculations. The sampled companies are presented in Table 1.

Table 1. Companies in the Study

AEFES	BIMAS	EGEEN	IPEKE	KOZAL	SASA	TUKAS
AKCNS	BRSAN	ENKAI	IZMDC	KRDMD	TCELL	TUPRS
AKSA	BUCIM	EREGL	KARSN	MGROS	THYAO	ULKER
AKSEN	CCOLA	FROTO	KONYA	OTKAR	TOASO	VESBE
ARCLK	CIMSA	GUBRF	KORDS	OYAKC	TTKOM	VESTL
ASELS	DOAS	HEKTS	KOZAA	PETKM	TTRAK	

Source: (Public Disclosure Platform, 2024)

When the sample is examined, it is seen that the analysis was carried out with the data of 41 companies due to the continuity in the companies' data and sectoral distinction. The variables used in the study to determine causality relationships are presented in Table 2.

Table 2. Variables Used in the Study

Variables	Code	Period
General Administrative Expenses/Net Sales	GYG	
Return on Assets Ratio	AKT	2012Q1-2022Q4
Return on Equity Ratio	OZK	

In the analysis, data covering the period 2012Q1-2022Q4 for three financial ratios of 41 companies are used. Financial ratios are obtained quarterly. The codes of the variables in the study are also shown in Table 2.

Within the scope of the study, the following hypotheses were tested.

$$H_1 = AKT\ variable\ is\ the\ cause\ of\ GYG\ variable.$$

$$H_2 = GYG\ variable\ is\ the\ cause\ of\ AKT\ variable.$$

$$H_3 = OZK\ variable\ is\ the\ cause\ of\ GYG\ variable.$$

$$H_4 = GYG\ variable\ is\ the\ cause\ of\ OZK\ variable.$$

In the first stage of the analysis, summary statistics are shown. Table 3 presents the number of observations, mean, standard deviation, and minimum and maximum values for GYG, AKT and OZK variables.

Table 3. Summary Statistics

Variables	Number of Observations	Average	Standard Deviation	Minimum	Maximum
GYG	1804	4.160006	3.167216	0.51	27.32
AKT	1804	5.790427	7.759778	-20.55	63.50
OZK	1804	12.50447	45.02506	-1384.79	645.15

Following the summary statistics table, the Variance Inflation Factor (VIF) was determined, and multicollinearity was tested. This analysis determines the use of variables in the analysis. The results of the VIF analysis are presented in Table 4.

Table 4. VIF Analysis

Variables	VIF	1/VIF
AKT	1.25	0.799833
OZK	1.25	0.799833
Average VIF	*1.25*	0.799833

When Table 4 is analyzed, it is concluded that there is no multicollinearity since the relevant values are below 10 and the average VIF value is below 5. In the next stage of the study, inter-unit correlation was tested. Pesaran's (2004) CD test was used to test the inter-unit correlation. The results of the analysis are presented in Table 5.

Table 5. Pesaran (2004) CD Test

Variables	CD Test Statistic	Probability Values
GYG	35.52	0.000
AKT	62.81	0.000
OZK	67.43	0.000

Table 5 presents the results of Pesaran's (2004) CD test. When the table is analyzed, the H_0 hypothesis is rejected, and it is concluded that there is a correlation between units. In the next step, stationarity is tested. Im, Peseran, Shin's (IPS) Unit Root test was used to test stationarity. The values obtained from the analysis are presented in Table 6.

Table 6. Im, Peseran, Shin (IPS) Unit Root Test

Variables	Statistics Values	Probability Values
GYG	-11.9884	0.0000
AKT	-5.1768	0.0000
OZK	-10.4260	0.0000

Table 6 presents the results of the Im, Peseran, Shin (IPS) Unit Root test. When the table is analyzed, the H_0 hypothesis is rejected, and the series is stationary. In the following analysis stage, the parameters' homogeneity is tested. The results of the Swamy S test for homogeneity are presented in Table 7.

Table 7. Swamy S Test

Variables	Coefficient	Standard Error	Probability
AKT	-0.0779142	0.0240301	0.001
			Prob>chi2=0.0000
OZK	-0.0389675	0.0087395	0.000
			Prob>chi2=0.0000

When the results of the Swamy S test in Table 7 are analyzed, the H_0 hypothesis is rejected. Therefore, it is determined that the parameters are not homogeneous. After determining that the parameters are heterogeneous and vary from unit to unit, Dumitrescu and Hurlin's (2012) Granger Causality test was applied in the last stage. The test results are available in Table 8.

Table 8. Dumitrescu and Hurlin (2012) Granger Causality Test

Hypotheses	W-bar Statistics	Z-bar Statistic	Probability Value	Causality
AKT is the cause of the GYG	17.2248	6.8290	0.0000	AKT => GYG
GYG is the cause of the AKT.	22.7813	14.0915	0.0000	GYG => AKT
OZK is the cause of the GYG.	15.2941	4.3055	0.0000	OZK => GYG
GYG is the cause of the OZK.	23.6067	15.1703	0.0000	GYG => OZK

Table 8 presents the Granger Causality test results. It shows that all tested hypotheses (H_1, H_2, H_3, H_4) were accepted. The analysis reveals a bidirectional causality relationship between GYG and AKT and between GYG and OZK at the 99% confidence level.

5. DISCUSSION, LIMITATION AND CONCLUSION

The findings of this study provide information on the relationship between general administrative expenses and profitability. The analysis reveals a bidirectional causality relationship between general administrative expenses and profitability. These findings are consistent with statistical and econometric studies conducted on the effects of General Administration (G&A) Expenses on companies' financial statements that examine the impact of general administrative expenses on profitability.

This study has tried to reveal a causal relationship between general administrative expenses and profitability. Expense items are essential in determining the tax base. Expense items have an outstanding share in finalizing the activity period and creating financial reports such as Statement of Financial Position and Statement of Profit or Loss and Other Comprehensive Income. Therefore, expenses are essential for companies, the government, the financial environment, and capital owners to make the right decisions. The effects of the expenses incurred during the business activity on the final accounts and their importance in determining the tax base are explained in this section.

Deductible and non-deductible expenses are specified in Turkish Tax Laws. The purpose of these regulations in the laws is to prevent and control the inadvertent or intentional behavior of taxpayers to determine the tax base correctly. Many non-deductible expenses specified in the tax laws may be necessary to continue the company's activities. At this stage, the concepts of commercial profit and financial profit, which are two concepts that affect the tax bases of companies, emerge. While commercial profit is a profit that appears in financial reporting, fiscal profit is the profit that is generated due to the regulations in tax laws. An expense item not deductible for tax purposes can be considered when determining the commercial profit (Yalçın, 2011).

The concept of expense emerges as the monetary equivalent of asset acquisition and service purchases companies make in a certain period while fulfilling their activities. Article 37 of the Income Tax Law (Income Tax Law) defines commercial income as "Earnings arising from all kinds of commercial and industrial activities are commercial earnings." In Articles 40 and 41 of the same Law, the expenses to be deducted from the commercial income and the payments that are not accepted as expenses are specified in detail. According to the relevant articles of the Law, the expenses that can be deducted from commercial income are limited within the framework of the provisions specified in the article. In this way, it has been ensured that the tax bases of the taxpayers are determined correctly, and it has a guiding feature for the correct accounting records.

It is determined, according to the Corporate Tax Law (KVK) provisions, a tax levied on companies' earnings. In income tax for corporations, the concept of "income" used for individuals has been replaced by the more objective concept of "profit" (Oktar, 2009). Corporate income is calculated just like commercial income in income tax. In addition to the deductible expenses specified in Article 40 of the Income Tax Law, the deductible expenses specified in Article 8 of the Corporate Tax Law are deducted from the revenue. In this respect, Income Tax Law and Corporate Tax Laws complement each other.

This study reveals a bidirectional causality relationship between general administrative expenses and profitability. Therefore, companies may endeavor to pay less tax by reducing profitability and using general administrative expenses for tax planning. In this context, determining the cost elements appropriate to the fields of activity of the companies and separating the type and location of the expenses will help the financial results to be healthier. The fact that almost all of the expenses incurred by companies while performing their commercial activities are recognized as expenses necessitates a reorganization in tax laws. In order to prevent companies from using general administrative expenses as a tax planning tool, the elements that can be written off as expenses can be made more specific by sector. In addition, an application similar to the legal arrangement made for financing expenses, another type of expense, can be made for general administrative expenses. In this context, general administrative expenses can be restricted, proportional restrictions can be imposed on the expenses to be incurred by companies, and a portion of them can be added to the tax base.

The study aims to analyze the impact of general administrative expenses on profitability in Borsa Istanbul (BIST) in detail and investigate the relationship between general administrative expenses and profitability of companies traded on BIST. The findings of our study show that there is a significant relationship between general administrative expenses and profitability.

The study attempts to determine the causality relationship between general administrative expenses, a sub-item of operating expenses, and the company's profit items (Return on Assets Ratio and Return on Equity Ratio). The research used companies operating in BIST 100 in Turkey as a sample. In the sample, sectors and indices such as Banks, Financial Institutions, Sports, and the data of companies with discontinuous data are not included in the scope of the study. The financial data of 41 companies operating in BIST in Türkiye between 2012 and 2022 are analyzed. Since the financial data of the selected companies show a trend over the years, the "Panel Causality Analysis" method was applied in the analysis, and a total of 1804 observations were included in the study.

The study reveals a bidirectional causality relationship between general administrative expenses and return on assets and between general administrative expenses and return on equity.

The limitation of the study can be shown as the analysis of only BIST 100 index. Studies to be carried out using different methods are also important on the subject. In future studies, it will be valuable to analyze on a sectoral basis and compare with this study.

In addition, an assessment was made by considering the tax laws related to general administrative expenses. Considering the impact of general administrative expenses on company profitability, it is assessed that companies can use them for tax planning. As a solution suggestion, some legal regulations should be introduced to limit general administrative expenses by sectors or to limit the general administrative expenses of companies through an expense restriction application that will impose proportional limitations, as in the financing expense restriction application.

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