



The Association Between Independent Audit Firm Rotation, Key Audit Matters And Financial Reporting Quality: BIST 30 Analysis

İngilizce Başlık: Bağımsız Denetim Firması Rotasyonu, Kilit Denetim Konuları ve Finansal Raporlama Kalitesi İlişkisi: BİST 30 Analizi

ABSTRACT

This study aims to measure the association between independent audit firm rotation, key audit matters, and financial reporting quality. For this objective, the data of the companies included in the BIST 30 index between 2017 and 2022 were analyzed. Discretionary accruals and goodwill impairment disclosures were preferred to represent financial reporting quality. Model (1) measures the association between audit firm rotation, change of key audit matters, and the Big 4 audit firms. Model (2) analyzes the influence of audit firm rotation, change in key audit matters, big 4 audit firms, and return on assets on financial reporting quality. The model developed by Kothari, Leone, and Wasley (2005) was used to measure discretionary accruals. As a result of the panel data analysis conducted for Model (1), it was found that audit firm rotation and the Big 4 audit firms did not have a significant impact on the changes in key audit matters. Panel data analysis was applied to Model (2) using the discretionary accruals data obtained from Model (3). According to the analysis results of Model (2), changes in key audit matters and return on assets have a significant and positive impact on the quality of financial reporting. As a outcome of this study, which examined the data of BIST 30 companies between 2017 and 2022, it was concluded that changes in key audit matters and return on assets positively affect the quality of financial reporting.

Keywords: Audit Firm Rotation, Key Audit Matters, Financial Reporting Quality, BIST30, Panel Data Analysis

ÖZET

Bu çalışmanın amacı, bağımsız denetim firması rotasyonu, kilit denetim konuları ve finansal raporlama kalitesi arasındaki ilişkiyi ölçmektir. Bu amaçla, BIST 30 endeksinde yer alan işletmelerin 2017-2022 yılları arasındaki verileri analiz edilmiştir. Finansal raporlama kalitesini temsilen ihtiyari tahakkuklar ve şerefiye değer düşüklüğü açıklamaları tercih edilmiştir. Model (1), denetim firması rotasyonu, kilit denetim konularındaki değişiklik ve Büyük 4 denetim firması arasındaki ilişkiyi ölçmektedir. Model (2), denetim firması rotasyonunun, kilit denetim konularındaki değişikliğin, Büyük 4 denetim firmasının ve aktif kârlılığının finansal raporlama kalitesi üzerindeki etkisini analiz etmektedir. İhtiyari tahakkukları ölçmek için Kothari, Leone ve Wasley (2005) tarafından geliştirilen model kullanılmıştır. Model (1) için yapılan panel veri analizi sonucunda, denetim firması rotasyonunun ve Büyük 4 denetim firmasının kilit denetim konularındaki değişiklikler üzerinde anlamlı bir etkisinin olmadığı tespit edilmiştir. Model (3)'ten elde edilen ihtiyari tahakkuk verileri kullanılarak Model (2)'ye panel veri analizi uygulanmıştır. Model (2) analiz sonuçlarına göre, kilit denetim konularındaki değişiklikler ve aktif kârlılığı finansal raporlamanın kalitesi üzerinde anlamlı ve olumlu bir etkiye sahiptir. BİST 30 işletmelerinin 2017-2022 yılları arasındaki verilerinin incelendiği bu çalışmanın sonucunda, kilit denetim konularındaki değişikliklerin ve aktif kârlılığının finansal raporlamanın kalitesini olumlu yönde etkilediği sonucuna varılmıştır.

Anahtar Kelimeler: Denetim Firması Rotasyonu, Kilit Denetim Konuları, Finansal Raporlama Kalitesi, BİST 30, Panel Veri Analizi

INTRODUCTION

All businesses' financial and non-financial information regarding operational outcomes falls within the interest of decision-makers and information users. The information that institutions or individuals use for various purposes must be reliable and relevant. The reliability of financial statements is affected due to reasons such as conflicts of interest between parties related to the business and the complexity of financial information. In this context, audit and assurance services conducted by independent audit firms or auditors assuming the audit are highly important. Because independent audit reports are a communication tool that expresses opinions about the truth of the financial and non-financial information regarded in the financial statements. This tool enables reasonable assurance about the integrity of audited businesses and the dependability of financial statements.

As a consequence of the work between 2011 and 2015, the ISA 701 Communicating Key Audit Matters in the Independent Auditor's Report standard was published. ISA 701, Turkey's Public Oversight, Accounting and Auditing Standards Authority published it in 2017 and put it into effect. ISA 701 came into effect for publicly traded companies on or after January 1, 2017, and for other companies subject to audit under the Turkish Commercial Code No. 6102, it entered into force for accounting periods beginning on or after January 1, 2018. With the relevant regulation, a

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separate section has been included in the independent audit report for the disclosure of key audit matters (Kavut and Güngör, 2018). Key audit matters are the issues in the audited entity's financial statements that require the most attention from the auditor and necessitate the use of professional judgment. Key audit matters increase transparency in the period of getting ready and auditing financial statements by increasing the disclosure of decisions made by management and auditors. Thus, auditors' perspectives on significant matters can be communicated to financial statement users.

For businesses subject to independent audit in Turkey, there are various rotation rules regarding the independent audit firm and the independent auditors assigned to the audit team. According to the rules on this subject, independent audit firms are subject to the rotation if they have conducted audit work for the business for 7 out of the last 10 years, and independent auditors in the audit team are subject to the rotation if they have conducted audit work for the business for 5 out of the last 7 years. Examples of the reasons for such voluntary rotation are changes in the field of activity of the client company, retirement of responsible partner auditors, resignations, or promotions in the audit team. Audit partner and audit firm rotation have been debated for many years regarding their impacts on audit quality. It is known that after rotation, new auditors may enter a learning curve that could potentially hurt audit quality. In addition to this, it is also thought that the new audit team could provide a different perspective to the audit process, thereby potentially identifying new key audit matters. However, if there are no significant revisions in the entity's organizational structure or business environment, there's a likelihood that the new audit team will not form divergent opinions from their previous ones. Consequently, the effect of rotation on the quality of financial reporting remains a subject of discussion. There are numerous and mixed empirical findings in the literature on the positive and negative association between the rotation and financial reporting quality (Lennox et al., 2014; Firth et al., 2011; Chi et al., 2010; Kwon et al., 2014; Kuang et al., 2020; Gipper et al., 2021).

This study examines key audit matters changes after audit firm rotation to assess whether auditors bring a fresh viewpoint to the independent audit period. In addition, the study aims to analyze the association between audit firm rotation and financial reporting quality, taking into account changes in key audit matters. In sectors or periods of high financial reporting risk, the independent auditor is expected to exercise professional judgment, which may significantly affect the key audit matters and the effectiveness of the audit. As a result, the impact of audit firm rotation on the quality of financial reports in the subsequent period is anticipated to be more significant. The research section of this study examines the data of companies listed on the BIST 30 between 2017 and 2022 to measure the association between audit firm rotation, changes in key audit matters, and financial reporting quality. In the second part of this study, the literature has been reviewed and summarized. The third section of this study presents the dataset and methodology. In the fourth section, the findings obtained have been presented, and the conclusions reached in the final section have been interpreted.

LITERATURE REVIEW

Since the early 2000s, a number of papers have been published on the association between audit firm rotation, key audit matters and financial reporting quality. A significant number of these studies have obtain a positive or negative correlation between audit partner or audit firm rotation and key audit matters and/or financial reporting quality. This section of this study summarizes the findings from these studies.

Hamilton et al. (2005) examined the correlation between audit partner rotation and the earnings quality of selected Australian firms. Analyzing data from 3,621 Australian firms between 1998 and 2003, the study raises the issue of greater accounting conservatism in financial reporting after audit partner rotation. Litt et al. (2014) examined the changes in financial reporting quality in US firms that underwent audit partner rotation. The authors compared the two years after the change of audit partner with the two years before the departure of the former audit partner and found that the quality of financial reporting declined in the two years after the change of audit partner. Laurion et al. (2017) analyzed the correlation between the frequency of misstatements in financial disclosures of publicly traded companies in the United States and audit partner rotation. In accordance with the results, there is no increase in the frequency of misstatements in financial disclosures in firms with audit partner rotation compared to firms without rotation.

Verho (2021) investigated the relationship between audit firm rotation and the number of key audit matters disclosed in independent auditor reports. In the study, data from 1.482 companies traded on the European Union and United Kingdom stock exchanges between 2016 and 2019 were analyzed. As a result of the analysis, 4.205 key audit matters were identified and regression analysis was applied as a research method. According to the regression analysis, there is a positive correlation between audit firm rotation and the number of key audit matters disclosed. This result implies that companies that do not rotate audit firms report fewer key audit matters than rotating companies.

Lin and Yen (2022) examined the changes in the disclosures of Taiwanese listed companies on key audit matters after auditor rotation. The authors found that when there is a change in the audit partner(s), there is a significant change in key audit matters. In addition, the correlation between financial reporting quality and auditor rotation was analyzed conditional on a change in key audit matters. The study finds that after auditor rotation, there are changes in key audit matters, but auditor rotation has no significant relationship with accrual quality.

In the study conducted by Rodrigues et al. (2023), the effect of auditor rotation on the evolution of key audit matters in audit reports published between 2016 and 2019 for firms listed on Euronext Lisbon was analyzed. According to the results obtained, there is a decrease in the number of key audit matters reported and most of the key audit matters reported each year are repeated in the following year. When examining the effect of changes in audit firms on key audit matters, no direct relationship was identified.

Hu et al. (2023) investigated whether the explanations regarding key audit matters in independent audit reports are associated with an increase in the quality of the audited financial reports. For the analysis of the study, the researchers preferred the Chinese stock market, where the quality of financial reporting is poor, and the United Kingdom stock market, where the quality of financial reporting is high. Impairment of goodwill disclosures has been used as an indicator of financial reporting quality. An increase in impairment of goodwill disclosures has been detected in Chinese firms' financial reports following the rise in key audit matters related to goodwill. However, this increase has not been observed in the selected firms from the United Kingdom.

Mohamadi and Saatsaz (2023) examined the association between auditor rotation, disclosure of key audit matters, and financial reporting quality for firms listed on the Tehran Stock Exchange between 2012 and 2019. According to the results, key audit matters changed during the years of auditor rotation. This indicates that auditor rotation has a significant and positive impact on key audit matters. Additionally, the authors argue that the correlation between auditor rotation and the quality of financial reporting is stronger in years when changes are made to key audit matters.

Ricquebourg and Maroun (2023) analyze the effect of audit firm and audit partner rotation on key audit matters. In the study, the data of 293 enterprises operating in South Africa for the years 2018-2020 were used. The regression analysis revealed that the change in the audit partner did not affect the changes in key audit matters. However, the authors found that the audit firm rotation had an impact on whether or not key audit issues should be included in the independent audit report.

Rousseau and Zehms (2024) investigated the similarities and differences in key audit matters among businesses audited by joint audit firms. The study utilized data from non-financial sector businesses traded on the London Stock Exchange between 2013 and 2019. Consequently, it is determined that the disclosures on key audit matters are independent of each other in the entities audited by the joint audit firm. However, the authors noted the necessity to expand the sample size for more robust conclusions.

DATA AND METHODOLOGY

In this section of the study, the businesses included in the research scope and the research method have been explained. The data set of the study consists of businesses included in the BIST 30 index. It was preferred to choose an index that includes businesses operating in different sectors. The study analysis covers the years 2017 and 2022. This is because ISA 701 began to be implemented as of 01.01.2018.

Data

The data set of the study consists of businesses included in the BIST 30 index. The reason for preferring the BIST 30 index for the analysis of the research is the inclusion of publicly traded companies operating in various sectors in this index. At the same time, the BIST 30 index allows for the analysis of data spanning 6 years between 2017 and 2022. The enterprises included in the study from the BIST 30 index are shown in Table 1.

Table 1: Businesses within the Scope of Research

Order	Code	Company Name
1	ALARK	Alorka Holding A.Ş.
1	ASELS	Aselsan Elektronik Sanayi ve Ticaret A.Ş.
3	BIMAS	Bim Birleşik Mağazalar A.Ş.
4	BRSAN	Borusan Birleşik Boru Fabrikaları Sanayi ve Ticaret A.Ş.
5	EKGYO	Emlak Konut Gayrimenkul Yatırım Ortaklığı A.Ş.
6	ENKAI	Enka İnşaat ve Sanayii A.Ş.
7	EREGL	Ereğli Demir ve Çelik Fabrikaları T.A.Ş.
8	FROTO	Ford Otomotiv Sanayi A.Ş.
9	GUBRF	Gübre Fabrikaları T.A.Ş.
10	SAHOL	Hacı Ömer Sabancı Holding A.Ş.
11	HEKTS	Hektaş Ticaret T.A.Ş.
12	KRDMD	Kardemir Karabük Çelik Sanayi ve Ticaret A.Ş.
13	KCHOL	Koç Holding A.Ş.
14	KONTR	Kontrolmatik Teknoloji Enerji ve Mühendislik A.Ş.
15	KOZAL	Koza Altın İşletmeleri A.Ş.
16	ODAS	Odaş Elektrik Üretim Sanayi Ticaret A.Ş.
17	OYAKC	Oyak Çimento Fabrikaları A.Ş.
18	PGSUS	Pegasus Hava Taşımacılığı A.Ş.
19	PETKM	Petkim Petrokimya Holding A.Ş.
20	SASA	Sasa Polyester Sanayi A.Ş.
21	TOASO	Tofaş Türk Otomobil Fabrikaları A.Ş.
22	TCELL	Turkcell İletişim Hizmetleri A.Ş.
23	TUPRS	Tüpraş-Türkiye Petrol Rafinerileri A.Ş.
24	THYAO	Türk Hava Yolları A.O.
25	SISE	Türkiye Şişe ve Cam Fabrikaları A.Ş.

However, due to the high variability of key audit issues and financial reporting areas, businesses in the banking sector were excluded from the analysis. Akbank T.A.Ş., Türkiye Garanti Bankası A.Ş., Türkiye İş Bankası A.Ş., and Yapı Kredi Bankası A.Ş. were excluded from the scope of the study. In addition, Astor Enerji A.Ş. was not included in the study since its data before 2020 was not available. This narrowing of the enterprises included in the study constitutes a limitation of the research. In this case, the final scope of the study was limited to 25 companies.

Methodology

In the research part of this study, the association between audit firm rotation and change in key audit matters was first analyzed. To perform the analysis, key audit matters were categorized. Table 2 displays the categories of key audit matters and their frequencies of use across the analysis years.

Table 2: Types of Key Audit Matters and Their Frequency of Use Over The Years

Key Audit Matter	Frequency of Occurrence					
	2017	2018	2019	2020	2021	2022
Recording of revenue	14	16	16	15	16	15
Impairment (goodwill, inventories, trade receivables, tangible and intangible fixed assets)	11	9	7	6	4	4
Recoverability of deferred tax assets	7	8	6	5	5	8
Provisions and contingent liabilities	6	5	5	6	4	4
Activation transactions (development costs, borrowing costs, financing costs)	4	6	5	5	5	5
Fair value measurements	4	5	4	4	5	6
Hedge accounting practices	4	5	3	4	5	4
Trade receivables and recoverability	3	2	2	3	3	5
Depreciation calculations	3	2	-	-	-	-
Application of IFRS 16 Leases standard	-	1	5	1	1	1

It is expected that the key audit matters disclosed in the years when audit firm rotation occurs will show changes compared to the previous year. The results obtained from the studies in the international literature support this idea. However, it is also a fact that the key audit matters in the independent audit process of listed and publicly traded companies should be independent from the audit firm. This is because the critical issues related to the audited financial statements should vary according to the changes in the field of activity of the entity or the cyclical events in the sector, country or the world. In the absence of these changes or events, the rotation of the independent audit firm should not cause any change in the key audit matters of the entity. Therefore, the first hypothesis of this study is formulated as follows:

H₁: Assuming that the factors that may affect the financial statements at the micro and macro level are constant, key audit matters do not differ in the year of audit firm rotation against to the previous year.

In the model established for analysis, the dependent variable was determined as the change of key audit matters (difference-DIFF), and the independent variables were determined as audit firm rotation (AFR) and the Big 4 audit firms (BIG4). The first model of the study was established as follows:

$$\text{DIFF}_{it} = \alpha_0 + \alpha_1 \text{AFR}_{it} + \alpha_2 \text{BIG4}_{it} + \alpha_3 \text{YEAR}_{it} + \sum \text{INDUSTRY} + \varepsilon_{it} \quad (1)$$

DIFF: When the descriptions of key audit matters differ between two periods, it is coded as 1; otherwise, it is coded as 0.

AFR: Audit firm rotation, Years when the independent audit firm changes compared to the previous year are coded as 1; otherwise, they are coded as 0.

BIG4: Years when the company is audited by one of the BIG4 are coded as 1; otherwise, they are coded as 0.

In the next step, the impact of audit firm rotation on the quality of financial reporting through changes in key audit matters was analyzed. The improved quality of financial reporting through voluntary disclosure of more and better quality information by companies enables stakeholders to make more accurate decisions. For financial statements to accurately, fairly, and errorlessly report the financial position and performance of companies, they must possess certain qualitative characteristics (Önce and Çavuş, 2020). The qualitative characteristics expressing the dimensions of financial reporting quality are described in the Conceptual Framework for Financial Reporting. However, there are various approaches to determining the quality of financial reporting.

In this study, in which the association between audit firm rotation and financial reporting quality is measured, earnings management, which is most frequently used in the context of earnings quality among financial reporting quality measurement approaches, is preferred. It is accepted that the financial reporting quality of businesses resorting to earnings management is low. Therefore, the presence of earnings management indicates low financial reporting quality. Earnings management, which aims to portray the performance of a business differently from what it actually is by consciously altering the content and format of reported financial information, is evaluated through various methods. In numerous studies on detecting earnings management, accrual-based models have been utilized. Because accrual-based accounting systems ensure managers with possibility to administer their earnings through accounting choices and income forecasts (DeAngelo, 1986). Furthermore, the likelihood of detecting earnings management behaviors based on accruals is much lower compared to the cash portion of earnings. According to the fundamental assumption in accrual-based earnings management models, managers manage their earnings through discretionary accruals, which are subject to discretion. In this context, discretionary accruals are considered as an indication of earnings management and point to low financial reporting quality. Hence, discretionary accruals were used as one of the indicators of financial reporting quality in the study.

The uncertainties stemming from accounting items involving assumptions and estimates in financial statements can negatively impact the decisions of financial statement users. One of the areas involving assumptions and estimates is the impairment of goodwill, which can reach significant amounts in the statement of financial position. Businesses may incline towards earnings management concerning the amount of expenses that can be recorded due to goodwill impairment. Particularly, considering that the goodwill impairment test is conducted annually, significant assumptions and estimates are made during this process, and goodwill impairment is one of the key audit matters most highlighted in auditor reports, the importance of the issue becomes apparent (Yaşar and Çetin, 2021). Managers use forecasts of future cash flows when testing goodwill impairment. Therefore, the accounting for goodwill impairment may be deferred with the aim of manipulating cash flows (Filip, Jeanjean, & Paugam, 2014; AbuGhazaleh, Al-Hares, & Roberts, 2011; Albersmann & Quick, 2020). However, Glaum et al. (2018) found that entities in countries where regulations on financial reporting standards are regularly followed report goodwill impairment on a regular and timely basis. In this context, the timing and disclosures of goodwill impairment, which are frequently among the key audit matters, have been preferred as another indicator of financial reporting quality in the study. In this regard, the other hypotheses of this study have been formed as follows:

H₂: There is a significant association between discretionary accruals and goodwill impairment, as indicators of financial reporting quality, and audit firm rotation.

H₃: There is a significant association between discretionary accruals and goodwill impairment, as indicators of financial reporting quality, and changes in key audit matters.

To test hypotheses H₂ and H₃ the following model has been established:

$$\text{ABSDA}_{it}, \text{GDWLL}_{it} = \beta_0 + \beta_1 \text{AFR}_{it} + \beta_2 \text{DIFF}_{it} + \beta_3 \text{SWITCH} * \text{DIFF}_{it} + \beta_4 \text{ROA}_{it} + \beta_5 \text{BIG4}_{it} + \beta_6 \text{YEAR}_{it} + \sum \text{INDUSTRY} + \varepsilon_{it} \quad (2)$$

ABSDA: The absolute value of discretionary accruals

GDWLL: If there is disclosure of goodwill impairment and it is timely, then 1; otherwise, 0.

ROA: Return on assets

The new audit team after the rotation of the independent audit firm is expected to positively affect the quality of financial reporting as it will bring a fresh perspective to the audit process. Changes in key audit matters indicate that the independent audit firm focuses on a new and updated audit area, which may positively affect the quality of financial reporting. This expectation is supported by the fact that goodwill impairment is frequently included among the key audit matters. Similarly, companies with high ROA and audited by one of the BIG4 are expected to have high financial reporting quality. Based on these estimates, other hypotheses for Model (2) are formulated as follows:

H_{2a}: There is a significant and positive association between audit rotation and financial reporting quality.

H_{3a}: There is a significant and positive association between change in key audit matters and financial reporting quality.

H₄: There is a significant and positive association between ROA and financial reporting quality.

H₅: There is a significant and positive association between being audited by BIG4 and financial reporting quality.

In order to determine the discretionary accruals included in the model, total accruals need to be calculated, and mandatory (non-discretionary) accruals should be subtracted from the total accruals.

Total Accruals = Mandatory Accruals + Discretionary Accruals

Discretionary Accruals = Total Accruals - Mandatory Accruals

Discretionary accruals have been determined using the Healy Model (1985), DeAngelo Model (1986), Dechow and Sloan Industry Model (1991), Jones Model (1991), and Enhanced Jones Model (1995). In the study conducted by Dechow, Sloan, and Sweeney (1995), relevant models for discretionary accruals were compared, and the Enhanced Jones Model was considered the strongest model. The Enhanced Jones Model has been criticized on the grounds that if the variables used to measure discretionary accruals are related to firms' performance, it could lead to incorrect results. Kothari, Leone, and Wasley (2005) developed the Performance Adjusted Jones Model to balance the effect of firm performance. Many contemporary studies utilize the Performance Adjusted Jones Model, which is one of the most updated models for measuring discretionary accruals. Therefore, the use of this model has been preferred in this study as well.

The Performance Adjusted Jones Model developed by Kothari, Leone, and Wasley (2005) is as follows:

$$TACC_{it} / TA_{it-1} = \beta_1[(\Delta REV - \Delta REC)_{it} / TA_{it-1}] + \beta_2[GFA_{it} / TA_{it-1}] + \beta_3[ROA_{it}] + \varepsilon_{it} \quad (3)$$

TACC: Total accruals (period net income - cash flow from operating activities)

ΔREV : Periodic change in sales revenue

ΔREC : Periodic change in accounts receivable

GFA: Gross fixed assets

ROA: Return on assets

TA_{t-1} : Total assets in year $t - 1$

The parameters on the right side of the equation, excluding the error term (ε), represent mandatory accruals, while the error term represents discretionary accruals.

FINDINGS AND DISCUSSIONS

Econometric analyses conducted with data collected from different units in different time periods are called panel data analysis. Data pertaining to more than one period of more than one unit are referred to as cross-sectional data. Data for more than one period belonging to a unit are called time series. The models established for the analysis of this study include 7-year cross-section data and time series data of 25 enterprises. Therefore, in this study, panel data analysis was conducted with Eviews program.

Before the assumption tests and results of the panel data analysis are presented, descriptive statistics consisting of the mean, standard deviation, minimum and maximum values of the variables included in the models are shown in Table 3.

Table 3: Descriptive Statistics

Variables	Means	Standard Deviation	Minimum Value	Maximum Value
DIFF	0,36666667	0,4835088	0	1
AFR	0,18666667	0,39094905	0	1
BIG4	0,80666667	0,39623508	0	1
GDWLL	0,54	0,50006711	0	1
ROA	0,08577159	0,08201274	-0,0817733	0,46368845
REV	45.353.780.828	119.343.067.728	7.329.974	938.450.745.000
REC	4.707.448.571	8.981.263.346	102.000	75.948.000.000
GFA	28.668.303.641	209.231.330.023	8.014.558	2.563.015.928.000
TA	56.195.686.201	136.961.871.003	8.039.107	1.020.553.307.000
TACC	-2.094.349.115	9.341.698.831	-69.580.000.000	11.710.822.000

Pearson correlation coefficients between variables are shown in Table 4.

Table 4: Pearson Correlation Coefficients

Variables	DIFF	AFR	BIG4	GDWLL	ROA	REV	REC	GFA	TA	TACC
DIFF	1									
AFR	0,06154	1								
BIG4	0,05721	-0,19871	1							
GDWLL	0,14711	0,06453	0,09009	1						
ROA	-0,07436	-0,03442	-0,09874	-0,00619	1					
REV	0,012194	0,014090	0,029077	0,090255	-0,09105	1				
REC	0,020105	-0,14943	0,07717	0,125820	0,03092	0,65297	1			
GFA	-0,04839	-0,04332	-0,14435	-0,07779	-0,18159	0,00779	0,00419	1		
TA	0,035279	-0,09464	0,17491	0,239505	-0,19393	0,50683	0,63377	0,00847	1	
TACC	-0,05087	0,07185	-0,15660	-0,11691	0,23313	-0,4451	-0,4696	-0,0442	-0,55	1

According to Table 4, the variables with the highest correlation coefficient are REC and REV (0.65297), REC and TA (0.63377). The variables with the lowest correlation coefficient are REC and GFA (0.00419), ROA and GDWLL (-0.00619), REV and GFA (0.00779), GFA and TA (0.00847).

There are some assumptions that need to be met in order to apply panel data analysis. The first of these assumptions is the stationarity of all variables. When calculating the regression of a time series against another time series, a high level of explanation (R^2) may occur in cases where there is no significant association between the two series. This situation is referred to as spurious regression. The reason for the emergence of spurious regression may be that time series show strong general trends due to a permanent downward or upward trend rather than the real association between them, in other words, the time series are not stationary (Gujarati, 2003, p.709). Therefore, in order to understand whether the association between time series is real or spurious, stationarity should be tested by performing unit root tests for each variable. In this study, the Augmented Dickey and Fuller (ADF) panel unit root test developed by Dickey and Fuller (1981) is used. For all independent variables except the variables coded as 0 and 1, the panel unit root test measured by ADF using the Schwarz information criterion was performed and the results are shown in Table 5.

Table 5: Panel Unit Root Test (ADF) Results

Variables	t-statistics	p-value
ROA	-11,48517	0,0000
ABSDA	-6,860900	0,0000
REV	-10,83970	0,0000
REC	-8,783197	0,0000
GFA	-9,438647	0,0000
TA	-4,650994	0,0002

According to the ADF test results in Table 5, since the p-values calculated for the variables are smaller than the critical value of 0.05, there is no general unit root in the series and all variables are stationary at the basic level.

Another assumption is the absence of autocorrelation in the error terms of the models. Durbin Watson statistic is used to test for autocorrelation in the models. In order to ensure the assumption of no autocorrelation, the Durbin Watson statistic should take a value close to 2 (Sarıkovanlık et al., 2020: 50). The Durbin Watson statistic is calculated as

1,511 for Model (1), 1,828 for Model (2) and 1,805 for Model (3). This indicates that there is no autocorrelation in the models.

In panel data analysis, one of the random effects and fixed effects approaches should be applied to guess the model. Hausman (1978) test is used to choose between random and fixed effects estimator. The null hypothesis of the Hausman test states that there is no systematic difference between random and fixed effect model coefficients. The Hausman test statistic result for model (1) is calculated as $p = 0,912$ ($p > 0.05$). In this case, the Hausman null hypothesis is rejected and the random effects approach is used in this study for Model (1). Panel data analysis results for Model (1) are shown in Table 6.

Table 6: Panel Data Analysis Results for Model (1)

Dependent Variable: DIFF Years: 2017 – 2022 Number of Years: 6 Number of Business Observations: 25 Total Number of Observations: 150				
Variables	Coefficient	Standard Error	t-statistics	p-value
AFR	0,095218	0,102801	0,926239	0,3558
BIG4	0,115308	0,102801	1,121670	0,2638
C	0,255109	0,097217	2,624113	0,0096***
R ² : 0,012241 Schwarz criterion: 1,465712			p- value: 0,4044 F-statistic: 0,910896	

*, **, and *** represent significance at the 10%, 5%, and 1% level, respectively.

Table 6 shows that the change in key audit matters, which is the dependent variable, is not affected by the independent variables of audit firm rotation and BIG4. In other words, there is no statistically significant association between audit firm rotation and BIG4 and the difference in key audit matters between periods. In this case, hypothesis H₁, which argues that key audit matters changed in the years of audit firm rotation compared to the previous years, is accepted.

Model (2) measures the effect of audit firm rotation and changes in key audit matters on discretionary accruals and goodwill impairment disclosures selected as indicators of financial reporting quality. The Hausman test statistic result for Model (2) is $p = 0,989$ ($p > 0.05$). In this case, the Hausman null hypothesis is rejected and the random effects approach is used for Model (2). Panel data analysis results for Model (2) are shown in Table 7.

Table 7: Panel Data Analysis Results for Model (2)

Dependent Variable: ABSDA, GDWLL Years: 2017 – 2022 Number of Years: 6 Number of Business Observations: 25 Total Number of Observations: 150				
Variables	Coefficient	Standard Error	t-statistics	p-value
AFR	0,163763	0,110064	1,487891	0,1394
DIFF	0,129230	0,067188	1,923415	0,0568**
ROA	1,499839	0,234145	6,405613	0,0000***
BIG4	0,168040	0,115986	1,448798	0,1500
C	0,382116	0,123210	3,101339	0,0024***
R ² : 0,288071 Schwarz criterion: -0,103182			p- value: 0,0000 F-statistic: 15,91566	

*, **, and *** represent significance at the 10%, 5%, and 1% level, respectively.

When the results of the panel data analysis in Table 7 are analyzed, the F statistic of 15,91566 and the p-value less than 0,01 indicate that the model is significant. The coefficient of determination R² was calculated as approximately 0.29. This result means that the change in the independent variables in the model explains 29% of the change in the dependent variable. In other words, approximately 29% of the change in the dependent variable is explained by the independent variables. The p-values of the independent variables DIFF and ROA are statistically significant. There is a positive association between DIFF and financial reporting quality at the 5% level and between ROA and financial reporting quality at the 1% level. Accordingly, the quality of financial reporting increases as key audit matters change and return on assets increases. In this case, hypotheses H₃, H_{3a} and H₄ are accepted. The p-values of AFR and BIG4 variables are greater than 0,10 and are statistically insignificant. Therefore, hypotheses H₂, H_{2a} and H₅ are rejected.

The results of the panel data analysis of Model (3), which is constructed for the measurement of discretionary accruals in Model (2), are presented in Table 8. The Hausman test statistic result for Model (3) is $p = 0,523$ ($p > 0.05$). In this case, the Hausman null hypothesis is rejected and the random effects approach is used for Model (3).

Table 8: Panel Data Analysis Results for Model (3)

Dependent Variable: $TACC_{it} / TA_{it-1}$				
Years: 2017 – 2022				
Number of Years: 6				
Number of Business Observations: 25				
Total Number of Observations: 150				
Variables	Coefficient	Standard Error	t-statistics	p-value
$\Delta REV - \Delta REC$	0,000	0,001	0,078	0,938
GFA	-0,129	0,067	-1,923	0,057**
ROA	1,500	0,234	6,406	0,000***
C	-0,063	0,039	-1,607	0,101*
R ² : 0,270 Schwarz criterion: -0,195			p- value: 0,000 F-statistic: 14,961	

*, **, and *** represent significance at the 10%, 5%, and 1% level, respectively.

According to Table 8, Model (3) is statistically significant. P-value is calculated as less than 0,01. The independent variables included in the model explain 27% of the $TACC_{it} / A_{it-1}$ dependent variables. A 1 unit change in ROA value causes a 1,5 unit change in $TACC_{it} / A_{it-1}$ variable and a 1 unit change in GFA value causes a -0,129 unit change in $TACC_{it} / A_{it-1}$ variable.

CONCLUSION

Since 2017, key audit matters, which are included as a separate section in independent audit reports, represent the issues that the independent audit team has determined to be critical in relation to the audit process. Key audit matters are communicated to users of the financial statements through the independent audit team. Therefore, it is thought that the key audit matters of companies that rotate audit firms in the year of rotation may change compared to the previous year. The results obtained from studies in the international literature support this idea. However, it is also a fact that the key audit matters in the independent audit process of listed companies should be independent of the audit firm. Because the matters of critical importance related to the audited financial statements should vary according to changes in the business activity of the company or due to cyclical events occurring in the sector, country, or world, etc. In the absence of these changes or events, rotation of the audit firm should not result in any change in the entity's key audit matters. Regardless of whether there is a change in key audit matters, the quality of financial reporting is likely to be affected due to the different judgments and deciding processes of the new audit team after audit firm rotation.

This study aims to measure the association between audit firm rotation, change in key audit matter and financial reporting quality of BIST 30 index companies between 2017 and 2022. For this purpose, three separate models were established in the research section of the study. Model (1) measures whether there is a association between audit firm rotation and the BIG4 and the change in key audit matters. According to the results, the independent variables of audit firm rotation and BIG4 do not have a significant impact on the change in key audit matter. This shows that the change in the key audit matters identified in the independent audit process of the analyzed entities is not affected by the rotation of the audit firm. However, 19 of the 25 analyzed entities, i.e. 76%, were audited by one of the BIG4 in all periods analyzed. Therefore, it is thought that one of the reasons why the key audit matters did not change significantly in the periods analyzed is that the entities were audited by one of the BIG4. Because the quality and experience of the audit firm is an important factor in determining the key audit matters. Based on the assumption that BIG4 have similar quality and experience, it is an expected result that there is no change in the key audit matters of the audited entities.

The second part of this study aims to measure the impact of audit firm rotation and key audit matter revision on financial reporting quality. In Model (2), audit firm rotation, change in key audit matter, BIG4 and ROA represent the independent variables, while discretionary accruals and goodwill impairment disclosures, which are selected as indicators of financial reporting quality, represent the dependent variables. There are various methods used in the literature to measure the dependent variable of discretionary accruals. Among these methods, the model developed by Kothari et al. (2005) is used in this study. Model (2) is applied with the discretionary accruals information obtained from Model (3) and the results are presented. According to the panel data analysis results of Model (2), changes in key audit matters and return on assets have a significant and positive effect on financial reporting quality. The positive association between return on assets, which is an indicator of how much profit is generated by the total assets owned by the enterprises, and financial reporting quality and audit quality is expected. Changes in key audit matters may

arise from changes in the sector, country or the world in which the entity operates. This situation enables both the entity and the independent audit firm to act more carefully and cautiously in the preparation and audit of financial reports. Thus, an increase in the quality of financial reporting is expected. However, audit firm rotation and BIG4 independent variables do not have a statistically significant effect on financial reporting quality. This may be due to the fact that 76% of the analyzed enterprises are audited by one of the BIG4.

The results obtained from the research are similar to the results of some studies in the international literature. The results obtained from this study that there is no association between audit firm rotation and changes in key audit matters are similar to the results of the study conducted by Rodrigues et al. (2023). Mohamadi and Saatsaz (2023) and Lin and Yen (2022) found a positive association between the change in key audit matters and financial reporting quality, and this result is consistent with the results of this study. Nevertheless, Verho (2021) found a significant association between audit firm rotation and the change in disclosed key audit matters. In this study, there is no statistically significant association between the change in key audit matters and audit firm rotation.

This study does not distinguish between compulsory and voluntary audit firm rotation. This represents a limitation of the study. However, it is thought that key audit matters may vary at a higher level in voluntary audit firm rotations. Therefore, it is recommended that future studies should distinguish between mandatory and voluntary rotation. It is also recommended to increase the number of enterprises examined, to make sectoral comparisons and to include different countries in the analysis. For example, analyzing BIST 100 companies instead of BIST 30 would allow for a higher sample size. A sectoral analysis can identify which sectors have higher audit firm rotation and more changes in key audit matters. Similarly, in addition to the change in audit firm rotation and key audit matters, the increase in the number of key audit matters can also be examined.

REFERENCES

- AbuGhazaleh, N. M., Al-Hares, O. & Roberts, C. (2011). Accounting discretion in goodwill impairments: UK evidence. *Journal of International Financial Management & Accounting*, 4, 206-216. <https://doi.org/10.1111/j.1467-646X.2011.01049.x>
- Albersmann, B. T. & Quick, R. (2020). The impact of audit quality indicators on the timeliness of goodwill impairments: Evidence from the German setting. *Abacus*, 56(1), 66-103. <https://doi.org/10.1111/abac.12184>
- Chi, W., Huang, H., Liao, Y. & Xie, H. (2010). Mandatory audit partner rotation, audit quality, and market perception: Evidence from Taiwan. *Contemporary Accounting Research*, 26(2), 359-391. <https://doi.org/10.1506/car.26.2.2>
- DeAngelo, L. E. (1986). Accounting numbers as market valuation substitutes: A study of management buyouts of public stockholders. *The Accounting Review*, 61(3), 400-420.
- Dechow, P. M. & Sloan, R. G. (1991). Executive incentives and the horizon problem: An empirical investigation. *Journal of Accounting and Economics*, 14(1), 51-89. [https://doi.org/10.1016/0167-7187\(91\)90058-S](https://doi.org/10.1016/0167-7187(91)90058-S)
- Dechow, P. M., Sloan, R. G., & Sweeney, A. P. (1995). Detecting earnings management. *The Accounting Review*, 70(2), 193-225.
- Dickey, D. A. & Fuller, W. A. (1981). The likelihood ratio statistics for autoregressive time series with a unit root. *Econometrica*, 49(4), 1057-1072. <https://doi.org/10.2307/1912517>
- Filip, A., Jeanjean, T. & Paugam, L. (2014). Using real activities to avoid goodwill impairment losses: Evidence and effect on future performance. *Journal of Business Finance & Accounting*, 42, 117-134. <https://doi.org/10.1111/jbfa.12107>
- Firth, M., Rui, O. M. & Wu, X. (2011). How do various forms of auditor rotation affect audit quality? Evidence from China. *The International Journal of Accounting*, 47(1), 109-138. <https://doi.org/10.1016/j.intacc.2011.12.006>
- Gipper, B., Hail, L. & Leuz, C. (2021). On the economics of mandatory audit partner rotation and tenure: Evidence from PCAOB data. *Stanford University Graduate School of Business Research Paper*, 17(56), Available at SSRN: <https://ssrn.com/abstract=3023725>, <http://dx.doi.org/10.2139/ssrn.3023725>
- Glaum, M., Landsman, W. R. & Wyrwa, S. (2018). Goodwill impairment: The effects of public enforcement and monitoring by institutional investors. *The Accounting Review*, 93(6), 149-180. <https://doi.org/10.2308/accr-52006>
- Gujarati, D. N. (2003). *Basic Econometrics*, USA: McGraw-Hill Higher Education, Fourth Edition, ISBN: 978-0-07-233542-2
- Hamilton, J., Ruddock, C. M. S., Stokes, D. J. & Taylor, S. L. (2005). Audit partner rotation, earnings quality and earnings conservatism. Available at SSRN: <https://ssrn.com/abstract=740846>, <http://dx.doi.org/10.2139/ssrn.740846>

- Hausman, J. A. (1978). Specification tests in econometrics. *Econometrica*, 46(6), 1251-1271. <https://doi.org/10.2307/1913827>
- Healy, P. M. (1985). The effect of bonus schemes on accounting decisions. *Journal of Accounting and Economics*, 7(1-3), 85-107. [https://doi.org/10.1016/0165-4101\(85\)90029-1](https://doi.org/10.1016/0165-4101(85)90029-1)
- Hu, G., Landsman, W. R., Xiao, J. Z. & Zhao, J. (2023). The effect of the disclosure of key audit matters on audited financial statement quality and audit effort: Evidence from China. Available at SSRN: <https://ssrn.com/abstract=4300577>, <http://dx.doi.org/10.2139/ssrn.4300577>
- Jones, J. J. (1991). Earnings management during import relief investigations. *Journal of Accounting Research*, 29(2), 193-228.
- Kavut, L. & Güngör, N. (2018). Bağımsız denetimde kilit denetim konuları: BİST-100 şirketlerinin 2017 yılı analizi. *Muhasebe Enstitüsü Dergisi*, 16(59), 59-70.
- Kothari, S. P., Leone, A. J., & Wasley, C. E. (2005). Performance matched discretionary accrual measures. *Journal of Accounting and Economics*, 39(1), 163-197. <https://doi.org/10.1016/j.jacceco.2004.11.002>
- Kuang, H., Li, H. Sherwood, M. & Whited, R. L. (2020). Mandatory audit partner rotations and audit quality in the United States. *Auditing: A Journal of Practice & Theory*, 39(3), 161-184.
- Kwon, S. Y., Lim, Y. & Simnett, R. (2014). The effect of mandatory audit firm rotation on audit quality and audit fees: Empirical evidence from the Korean audit market. *Auditing A Journal of Practice & Theory*, 33(4), 167-196. <http://dx.doi.org/10.2308/ajpt-50814>
- Laurion, H., Lawrence, A. & Ryans, J. (2017). U.S. audit partner rotations. *Accounting Review*, 92(3), 209-237. <http://dx.doi.org/10.2139/ssrn.2515586>
- Lennox, C. S., Wu, X. & Zhang, T. (2014). Does mandatory rotation of audit partners improve audit quality?. *The Accounting Review*, 89(5), 1775-1803.
- Lin, H-L. & Yen, A-R. (2022). Auditor rotation, key audit matter disclosures, and financial reporting quality. *Advances in Accounting*, 57, 1-14. <https://doi.org/10.1016/j.adiac.2022.100594>
- Litt, B., Sharma, D. Simpson, T. H. & Tanyi, P. (2014). Audit partner rotation and financial reporting quality. *Auditing: A Journal of Practice & Theory*, Available at SSRN: <https://ssrn.com/abstract=2405483>
- Mohamadi, M. & Saatsaz, P. (2023). Auditor rotation, disclosure of important audit issues and financial reporting quality. *Journal of Accounting and Management Vision*, 5(75), 130-148.
- Ricquebourg, A. D. & Maroun, W. (2023). How do auditor rotations affect key audit matters? Archival evidence from South African audits. *The British Accounting Review*, 55(2), <https://doi.org/10.1016/j.bar.2022.101099>
- Rodrigues, M. A. B., Martinho, C., Alves, G. C. & Ferreira, M. A. R. L. (2023). The impact of auditor rotation on key audit matters (kam): Evidence from the listed Portuguese companies. *Accounting and Financial Reporting Challenges for Government, Non-Profits, and the Private Sector*, <https://doi.org/10.4018/978-1-6684-7293-4.ch011>
- Rousseau, L. M. & Zehms, K. M.(2024). It's a matter of style: The role of audit firms and auditpartners in key audit matter reporting. *Contemporary Accounting Research*, 41, 529-561, <https://doi.org/10.1111/1911-3846.12902>
- Sarıkovanlık, V., Koy, A., Akkaya, M., Yıldırım, H. H. ve Kantar, L. (2020), *Finans Biliminde Ekonometri Uygulamaları*, Ankara, Seçkin Yayıncılık. ISBN: 9789750259876
- Önce, S. & Çavuş, G. (2020). Sürdürülebilirlik raporlaması ve finansal raporlama kalitesi ilişkisi: BİST'e kote imalat işletmelerinde araştırma. *Muhasebe Enstitüsü Dergisi*, 62, 1-10.
- Yaşar, A. & Çetin, E. (2021). Şerefiye değer düşüklüğü testine ilişkin tahmin ve varsayımlar hakkında açıklamaların ve denetim prosedürlerinin incelenmesi. *Mali Çözüm Dergisi*, 32(169). 127-150.
- Verho, E. (2021). The effect of audit firm rotation on key audit matters: Evidence from European union. Master's Thesis, Department of Accounting and Commercial Law Hanken School of Economics, Helsinki. Available at <https://helda.helsinki.fi/server/api/core/bitstreams/6811e86c-6ae1-4bc8-9ded-c22e8ca20ec7/content>