IRANIAN JOURNAL OF ACCOUNTING, AUDITING & FINANCE

Journal homepage: https://ijaaf.um.ac.ir
DOI: 10.22067/ijaaf.2020.39429
Research Article

The Effect of Abnormal Audit Fees on Internal Control Weakness

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Abstract

The present study aims to assess abnormal the effect of audit fees on listed firms' internal control weakness on Tehran Stock Exchange. The multivariate regression model is used for testing research hypotheses. Ordinary Least Squares and fixed effects regression are used for more confidence in the hypothesis's test results. The present study's data include 1309 listed observations on the Tehran Stock Exchange, which are analyzed during 2012-2018. Stata Software is employed for data analysis and testing the hypotheses. The results show that there is a positive and significant relationship between abnormal audit fees and internal control weakness, and such a conclusion can be indicative of the fact that audit quality is lower in firms with abnormal audit fees, so internal control weaknesses of such firms is more than that of the others. The study outcomes may give great strength to researchers and policymakers. In this paper, four variables of the financial weakness of internal control, nonfinancial weakness of internal control, weakness in the IT system, and delay in the audit report are used for the first time to evaluate internal control weakness better using the exploratory factor analysis.

Keywords: Internal control weakness, Abnormal audit fees

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1. Introduction

Optimum utilization of internal resources is one of the significant criteria for preserving the continuity of firms in society, for appropriate efficiency of which several controlling mechanisms and methods are required to be signified to design managers and all infrastructures, among which internal auditors and internal controls are of great importance in this field (Eniola, and Akinselure, 2016). Internal controls are a set of effective and efficient policies that help the organization achieve its objectives, including increasing credit, reliability of accounting information, and risk evaluation and realization. Moreover, the provision of the Sarbanes-Oxley Act in 2002 for implementing internal control objectives has obliged the managers to disclose internal control reports, such that according to the said law, reports should be analyzed by an external auditor (Lai, Liu, and Chen, 2020).

Auditor reporting on internal control has a considerable impact on the amount of investment in firms. The disclosure about weakness in internal control causes the decrease of investors and, on the other hand, corrective reports attract the investors. Hence, the evaluation and disclosure of internal control significantly affect firm performance (Sun, 2016). The presence of significant weaknesses or defected disclosure can bear irreparable costs on the firm position in society and the firm's future activity, so the concerns about the firm's performance can negatively affect the decisions of investors. Hence, being familiar with the contributing factors to internal controls can, to a great extent, lower the educational costs, preserve the credit of a firm position in industrial society, and, more importantly, attract the capital.

One of the contributing factors to internal control weakness is the amount of audit fees. The higher the internal control weakness in firms, the more the audit risk would increase effort and audit hours and, consequently, enhance the audit fee (Ji, Lu, and Qu, 2018). Excessive growth of audit fees contributes to the independence of auditors in the business firm, leads to a type of economic dependency between the employer and auditors, and threats the audit quality (Choi, Kim, and Zang, 2010; Kraub, Pronobis, and Zulch, 2015) and since the relationship between audit quality and internal control weakness is inverse (Lari Dashtbayaz, Salehi, and Safdel, 2019), it is expected that excessive increase or decrease of audit fee, by leaving an impact on audit quality, to have an adverse effect on internal control weaknesses. Hence, the present study's main objective is to assess the relationship between abnormal audit fees and internal control weaknesses in firms. This paper seeks to figure out whether there is a significant relationship between abnormal audit fees and internal control or not and whether the paid abnormal fees by employers can increase or decrease the weakness in internal control or not.

Within the previous studies (Munsif, Raghunandan, and Rama, 2012; Lenard et al., 2016; Chen et al., 2019; Lai, Liu, Chen, 2020), only the presence of weakness in auditor report has been considered as a criterion for internal control weakness. In this paper, however, four variables of financial control weakness, nonfinancial control weakness, IT system weakness, and auditor’s report lag (Buslepp et al., 2019) are used for the first time in the framework of exploratory factor analysis. Moreover, the model of Blankley, Hurrt, and MacGregor (2012) is used in this paper to determine the abnormal fees.

2. Literature Review and Hypothesis Development

2.1. Internal control

Designing and establishing a robust internal control system have a considerable impact on attracting the trust of investors. Moreover, such a controlling system's quality contributes to capital efficiency (Cheng, Dhaliwal, & Zhang, 2013). Hence, the realization of contributing factors to the system is of great importance. In general, firms are always more willing to utilize the experience and specialized individuals in finance

because the recruitment of such people in finance and accounting software contributes to the decline of internal control weakness (Gao et al., 2020). Since there is a significant relationship between Information Technology and internal control in organizations (Abbaszadeh, Salehi, & Faize, 2019), IT can aid the evaluation of internal control structure in the organization, such that firms with IT weakness in their audit reports are more willing to assign IT specialist managers to preserve the eligibility of organizational position (Haislip et al., 2015). In addition to helping the effectiveness of internal controls and audit process efficiency, the IT system has a decreasing effect on the audit fee (Chen et al., 2014).

Heninger, Johnson, and Kuhn (2018) show that the IT system's weakness leads to increased abnormal accruals. Moreover, the rise of audit costs leads to the decline of prediction power and earnings quality (Kim, Richardson, Watson, 2018). The studies of Donelson, Ege, and McInnis (2017) indicate that the chance of receiving fraud in the audit report in firms with internal control weakness is more than in other firms. Given the significance of internal control weaknesses, disclosure or corrective reports about them can cause investors' distrust of auditors (He & Thornton, 2013). Further, such reports' publication date is also essential in that such information contributes significantly to investors for better allocation of resources (Dahawy & Samaha, 2010). Among the items that lead to a delay in the audit report is a weakness in the internal control system. It makes the auditors spend more hours auditing the firms, so audit report delays and an increase in audit fees would be evident (Luikko, 2017). The studies of Khlif and Samaha (2014) also show that internal control quality causes a delay in the audit report. Ettredge, Li, and Sun (2006) also observe that firms with weaknesses in internal control systems usually delay their audit reports. Hence, regarding the effectiveness of internal controls on delay in the audit report, we can expect that audit report delays to work as a signal of weakness in internal control systems of firms, so, in this paper, the variable of audit report delay is considered as one of the contributing components for evaluating internal controls.

2.2. Audit fees

The valuable accounting information position in financial markets has directed scholars and economists' attention toward this area. Financial reports are one of the significant information resources available to users for economic decision-making. The information gap, however, between factors inside and outside the organization requires independent judgment. To assess and give credit to financial reports, auditors ask for payment which is reflective of their attempts and economic costs and some factors, including employer risk, volume, and complication of employer operation (Habib, Jiang, & Zhou, 2015), audit firm size (Coffie & Bedi, 2019), auditor’s experience (Kimeli, 2016), auditor’s specialization (Habib, 2011) contribute to the amount of the price. Besides, the presence of major internal control weaknesses in nonfinancial reports influences audit fee determination because it increases audit risk by increasing customers' legal lawsuits (Ji, Lu, Qu, 2018). Hence, an increase in internal controls' quality decreases the risk of a legal lawsuit that firms are likely to face (Zhang, 2020). Yang et al.'s (2019) studies show a negative and significant relationship between internal control and audit fee, which means auditors ask for higher fees in facing firms with internal control weaknesses. Ji (2017) states that the decline of internal control quality increases audit fees because internal control weakness in a business firm obliges the auditors to spend more time. Since one of the determining criteria of audit fees is the audit process's duration, auditors ask for higher costs (Luikko, 2017). This is while the improvement of internal control weakness causes the firms to pay less than firms with weakness in the internal control system (Munsif et al., 2011).

Deviation from standard audit fees determined in each industry is referred to as

abnormal audit fees (Oladipupo and Monye-Emina, 2016). The abnormal increase or decrease in approved rates has some positive and negative consequences for the firm. Some of the scholars, including Krauß, Pronobis, Zülch (2015) and Choi, Kim, Zang (2010), believe that an increase in abnormal fee causes the decline of auditor's independence, so audit quality in firms' increases or decreases firms along with the rise of the abnormal fee. This is while other scholars, including Coulton et al. (2016) and Eshleman and Guo (2014), consider an increase in audit fees as a positive factor that elevates the audit's motivation and attempt to enhance the audit quality.

2.3. The theoretical principles between abnormal audit fees and internal control

Applying an internal control system in organizations and effectiveness and efficiency increases financial transparency and responsibility, leads to more alignment with governing rules and regulations in the firm, and prevents the outbreak of distortion and fraud in the firm. Since auditors have a supervisory role in the firm and support the investors, audit services play an essential role. The quality of presented services is also one of the significant aspects that the previous studies, including Lari Dasht Bayaz, Salehi, and Safdel (2019), introduced internal control weakness as one of the contributing factors to the quality of financial reporting and stated that increase in weaknesses leads to a decrease in audit quality. In this regard, the studies of Chen et al. (2012) also reveal a negative relationship between audit quality and internal control weakness, such that firms audited by high-quality firms improve their weaknesses during a shorter period. Presenting high-quality audit services always incurs some costs on organizations, which are referred to as audit fees. These costs are under the influence of several factors, including employer risk and auditor attempt.

Deviation from the determined fee is classified as an abnormal audit fee due to the auditor's more attempts to increase the audit quality (Eshleman and Guo, 2014; Coulton et al., 2016). Although positive abnormal audit fee causes a dependency between the employer and auditor that can threaten the independence of the auditor and lowers the audit quality (Krauß, Pronobis, Zülch, 2015), there is an inverse relationship between positive abnormal audit fee and audit quality (Choi, Kim, Zang,2010; Hapsore and Santoso, 2018). On the other hand, the excessive decline in audit fees can also negatively impact audit quality by decreasing auditor's attempt and via audit tests (Nugroho and Fitriany, 2019: Zhang, 2017). Thus, the decline of audit quality increases the weakness in internal controls. Under such circumstances, we expect an increase in abnormal audit fee to increase the number of internal control weaknesses by affecting the audit quality, so given the abovesaid facts, the research hypothesis is formulated as follows:

H1: There is a significant relationship between abnormal audit fees and internal control weaknesses.

3. Research Methodology

The present study is practical, objective, and correlational in terms of nature and content.

The statistical sample of the study includes those firms that listed at least until the end of 2011 on the Tehran Stock Exchange, had no more than six months of transaction halt, been active during 2012-2018 in Tehran Stock Exchange, their financial information was available, and finally, were no affiliated with investment firms, banks, insurance, and financial intermediaries. After imposing the said limitations, the statistical sample of the study is provided in Table (1) as follows:

Table 1. The statistical population

No.		Description	No. of firms
Limitations	1	The statistical population in the date of data collection	401
	2	Firms were not completely active during 2012-2017 in the Stock Exchange or listed on the Stock Exchange after 2012	(24)
	4	Their information is not available	(108)
	5	Are among financial and investment firms or financial intermediaries and insurance	(82)
Statistical population			**187**

3.1. Data collection and method

The primary information and data for hypothesis testing were collected using the Tehran Stock Exchange information bank, including Rah Avard-e Novin and the published reports of the Tehran Stock Exchange in Codal Website and, finally, the Stata Software carries out data analysis.

3.2. Data analysis method

The data analysis method is cross-sectional and year-by-year (panel data). In this paper, the multivariate linear regression model is used for hypothesis testing. Descriptive and inferential statistical methods are used for analyzing the obtained data. Hence, the frequency distribution table is used for describing data. At the inferential level, the F-Limer, Hausman test, normality test, and multivariate linear regression model are used for hypothesis testing.

3.3. Research model

$$Ln(Afee_{it}) = b_0 + b_1 lTA + b_2 CR + b_3 CA\_TA + b_4 ARINV + b_5 ROA + b_6 LOSS + b_7 FOREIGN + b_8 MERGER + b_9 BUSY + b_{10} LEV + b_{11} INTANG + b_{12} SEG + b_{13} OPINION + b_{14} MATWEAK + b_{15} INDCON + Year + \varepsilon_{it}$$

$$CI = b_0 + b_1 ABFEE + b_2 LTA + b_3 Loss_{it} + b_4 ROA_{it} + b_5 LEV_{it} + b_6 Employees_{it} + b_7 GCO_{it} + b_8 spec + b_9\ Cr + b_{10} Age + b_{11} invta + b_{12} Sale\ G + b_{13} Quick\ rate + b_{14}\ Restate + b_{15}\ Cfo + b_{16}\ FSM + b_{17}\ ISM + b_{18}\ audit\ change + b_{19} Z_{Altman} + b_{20}\ MTB + b_{21}\ Big4 + b_{22}\ busy + Year + INDCON + \varepsilon_{it}$$

where**:**

LN (FEE): natural logarithm of audit fee

CI: the following variables are used for measuring internal control quality

ABFEE: abnormal audit fee which is obtained from model residuals

Delay: is equal to the number of days spent between the end of the fiscal year of employer and data of auditor's opinion

IT Material Weaknesses: if weakness in the IT system is mentioned in auditor's report 1, otherwise, 0

Icwf: if financial weakness is mentioned in auditor's report 1, otherwise, 0

Icwof: if nonfinancial weakness is mentioned in auditor's report 1, otherwise, 0

LTA: the logarithm of total assets at the end of the fiscal year

CR: current assets divided by current liabilities

CA_TA: current assets divided by total assets

ARINV: total accounts receivable and inventory divided by total assets
ROA: Return on assets obtained from dividing operation profit into total assets of the firm
Loss: in case the firm is losing in the current year 1, otherwise, 0
FOREIGN: if the firm has any foreign operation 1, otherwise, 0
MERGER: if the firm has a merger 1, otherwise, 0
Busy: if the fiscal year is based on March 20 1, otherwise, 0
LEV: total liabilities to total assets of the firm
INTANG: intangible assets to total assets
SEG: the logarithm of the number of auditor's report clauses of the firm i in the year under study.
OPINION: if the audit report is adjusted 1, otherwise, 0.
MATWEAK: if weakness reports received in internal control 1, otherwise, 0.
INDCON: virtual variable of industry.
Year: virtual variable of year
Employees: is equal to the logarithm of the number of staff.
GCO: if the firm has continuity according to audit report 1; otherwise, 0.
Spec: the following model is used for calculating the auditor's industry specialization

Auditor's specialization =

$$\frac{\textit{total assets of all employers of every special audit firm in speciali ndustry}}{\textit{total assets of all employers in special industry}}$$

Suppose the obtained value is more than [(number of existing firms/1)*1.2]. In that case, the audit firm is specialized in that industry, so if an audit firm is an industry specialized 1, otherwise, 0 will be assigned (Habib & Bhuiyan, 2011).
Age: is the distance between firm establishment and the current year
Quick: current assets minus inventories divided by current debts of the firm i in the year understudy
Sales G: sales of the current year minus that of the previous year divided by sales of the previous year
Invta: inventory to total assets of the firm i at the end of fiscal year
FSM: if the firm CEO has a degree related to finance majors, including accounting, economics, and financial management 1, otherwise, 0.
ISM: if the firm CEO has a degree related to one of the related industries 1, otherwise, 0.
Audit Change: if the auditor has changes 1, otherwise, 0.
MTB: market value to book value of equity of the firm i in the year under study.
Big: if the firm is audited by the audit organization 1, otherwise, 0.

Z-Altman

If the following equation's obtained figures are lower than 1.8, the firm would be bankrupted within the upcoming two years with the 99% probability level. In case z is more than 3, the firm is bankrupted.

$Z - Score = 1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 1.0X_5$

Where

Z= total index
X_1: working capital to total assets
X_2: accumulated earnings to total assets
X_3: profit before tax and interest to total assets
X_4: book value of the firm stock to book value of total liabilities
X_5: sales to total assets

4. Data analysis

4.1. Descriptive statistics

As can be seen in Table 2, the mean financial leverage is 0.612, which shows firm liabilities are, on average, more than half of their assets. Moreover, the number of observations in the CEO specialization variables and audit fee is lower due to nondisclosure in financial statements. The maximum and minimum internal control obtained from the factor analysis (financial weakness of internal control, nonfinancial weakness of internal control, weakness in the IT system, and audit report delay) is 0.007 and 1.932, respectively. The maximum and minimum abnormal audit fee, which is the residual of the model (1), are 5.385 and 6.903, respectively.

4.2. Inferential test

4.2.1. The results of the unit root test of variables

Given the obtained LM statistic in Table 3, all variables' unit root is mostly stationary.

4.3. The results of the Kolmogorov test

This test aims to assess the normal distribution of data, so the rejection of the Kolmogorov test is indicative of the normal distribution of data, and parametric statistical tests can be used in the study. This is while the acceptance of the test allows us to use nonparametric statistical tests. Regarding Table 4, most of the p-values of variables are more than the probability level (0.005), so variable distribution can be normal with an appropriate probability.

Table 2. Descriptive Statistic

variable	obs	Mean	Std. dev	Min	Max
LnAfee	1309	7.338	1.638	2.302	14.390
LTA	1309	14.301	1.542	10.532	19.773
CR	1309	1.4688	1.062	0.164	13.150
CA_TA	1309	0.656	0.193	0.065	0.985
ARINV	1309	0.607	1.249	0.002	36.685
ROA	1309	0.270	0.896	-16.845	10.045
LOOS	1309	0.139	0.346	0	1
FOREOGN	1309	0.892	0.310	0	1
MERGER	1309	0.411	0.492	0	1
BUSY	1309	0.684	0.464	0	1
LEV	1309	0.612	0.270	0.061	4.002
INTANG	1309	0.006	0.041	0	1.465
SEG	1309	2.633	0.236	1.945	3.465
OPINION	1309	0.522	0.499	0	1
MATWEAK	1309	0.346	0.475	0	1
EMPLOYEES	1309	5.789	1.449	1.397	10.087
ABFEE	1309	0.025	1.635	-5.385	6.903
GCAO	1309	0.066	0.248	0	1
CI	1309	0.567	0.454	0.007	1.932
ISM	1309	0.444	0.497	0	1
FSM	1309	0.305	0.460	0	1
BIG	1309	0.246	0.430	0	1
MTB	1309	4.842	11.770	-59.594	309.209
AUDID CH	1309	0.328	0.469	0	1
Z_ALTMAN	1309	0.396	0.489	0	1
CFO	1309	0.118	0.135	-0.460	0.871
RESTATE	1309	0.747	0.434	0	1
SPEC	1309	0.433	0.495	0	1
QUIKE	1309	0.875	0841	-4.091	10.433
AGE	1309	39.301	13.185	8	67
INVTA	1309	0.284	0.661	0	17.877
SALE G	1309	1.100	25.466	-1	902.671

Table 3. The results of the Hadari unit root test

Variable	Sig.	Variable	Sig.	Variable	Sig.
AUDIT CH	0.3647	*FOREIGN*	1.0000	*LN FEE*	0.2415
MTB	0.7985	*MERGER*	0.8456	*LTA*	0.5615
Z_ALTMAN	0.2139	*BUSY*	0.1892	*CR*	0.8450
BIG4	0.1406	*LEV*	0.9903	*CA_TA*	0.5486
SEG	0.9812	*INTANG*	0.1873	*ARINV*	0.8419
ISM	1.0000	*FSM*	0.2098	*ROA*	0.4781
MATWEAK	0.8750	*OPINION*	1.0000	*LOOS*	0.3512
AGE	0.8743	*SPEC*	0.3158	*EMPLOYEES*	1.0000
CI	0.2158	*SALE G*	0.2684	*INVTA*	0.4433
QUIKE	0.5017	*ABFEE*	0.1982	*RESTATE*	0.2981
CFO	*0.6812*				

4.4. Results of the linearity test

The linearity test aims to assess the correlation among independent variables in the regression. To some extent, linearity exists among variables, but an important point here is the amount and severity of that. As shown in Tables 5 and 6, the value of VIF statistic for all variables is less than 10, so there is no linearity among existing variables in models.

Table 4. The results of the Kolmogorov Smirnov Test

Variable	Sig.	Variable	Sig.	Variable	Variable
AUDIT CH	1.000	*FOREIGN*	0.397	*LN FEE*	0.280
MTB	0.000	*MERGER*	1.000	*LTA*	0.291
Z_ALTMAN	0.000	*BUSY*	0.099	*CR*	0.210
BIG4	0.995	*LEV*	0.924	*CA_TA*	0.435
SEG	0.002	*INTANG*	0.397	*ARINV*	0.855
ISM	0.032	*FSM*	1.000	*ROA*	0.024
MATWEAK	0.001	*OPINION*	0.000	*LOOS*	0.733
AGE	0.002	*SPEC*	1.000	*EMPLOYEES*	0.000
CI	0.000	*SALE G*	0.000	*INVTA*	0.000
QUIKE	0.000	*ABFEE*	0.555	*RESTATE*	0.005
CFO	0.000	*GCAO*	0.029		

Table 5. The results of the VIF test for model 1

Variable	VIF	1/VIF
LEV	1.78	0.561
CR	1.71	0.583
LTA	1.41	0.707
CATA	1.37	0.729
MERGER	1.22	0.817
FOREIGN	1.21	0.824
SEG	1.20	0.833
LOOS	1.16	0.861
BUSY	1.08	0.925
MATWEAK	1.07	0.938
OPINION	1.06	0.945
ARINV	1.06	0.946
ROA	1.04	0.966
INDCON	1.03	0.967
INTANG	1.02	0.981
Mean VIF	1.23	

Table 6. The results of the VIF test for model 2

Variable	VIF	1/VIF
CR	9.35	1.106
QUIKE	9.22	0.108
INVTA	3.74	0.267
LTA	2.44	0.409
LEV	2.01	0.498
CFO	1.69	0.590
ZALTMAN	1.53	0.652
SPEC	1.47	0.678
EMPLOYE	1.41	0.708
BIG1	1.38	0.725
ISM	1.37	0.731
FSM	1.29	0.776
ROA	1.27	0.788
LOOS	1.24	0.805
BUSY	1.19	0.840
GCAO	1.14	0.879
ADCHANGE	1.13	0.888
RESTATE	1.07	0.934
AGE	1.06	0.942
MTB	1.05	0.953
ABFEE	1.05	0.954
SALEG	1.02	0.981
Mean VIF	2.19	

Table 7. The Sensitivity test for model 1

	LNAFEE	LTA	CR	CATA	ARINV	ROA	LOOS	FOREIGN	MERGER	BUSY	LEV	INTANG	SEG	OPINION	MATEWEAK	INDCON
LNAFEE	1.000															
LTA	0.093	1.000														
CR	0.043	-0.157	1.000													
CATA	-0.012	-0.178	0.287	1.000												
ARINV	-0.019	-0.080	0.026	0.111	1.000											
ROA	-0027	0.078	0.038	-0.002	-0.004	1.000										
LOOS	-0.021	-0.125	-0.124	0.015	-0.018	-0.129	1.000									
FOREGIN	0.062	0.0306	-0.074	0.032	-0.120	0.010	0.042	1.000								
MERGER	0.033	0.378	0.050	-0.137	-0.053	-0.028	-0.016	0.122	1.000							
BUSY	0.231	0.0125	0.031	0.023	-0.043	-0.009	0.042	0.139	-0.047	1.000						
LEV	-0.008	0.053	-0.500	0.182	0.052	-0.030	0.271	0.098	-0.140	0.011	1.000					
INTANG	0.004	0.005	0.006	-0.043	0.107	0.001	-0.012	0.012	0.013	0.033	-0.041	1.000				
SEG	-0.032	0.181	-0.107	0.007	0.043	-0.061	0.131	-0.032	0.198	-0.041	0.241	-0.032	1.000			
OPINION	-0.033	-0.055	0.048	0.015	0.005	0.050	-0.079	-0.041	-0.000	-0.091	-0.068	-0.041	-0.187	1.000		
MATWEAK	-0.117	-0.032	0.052	0.016	-0.035	-0.004	0.074	-0.096	-0.011	-0.143	-0.021	-0.031	0.070	0.099	1.000	
INDCON	-0.030	-0.040	0.014	0.045	-0.032	-0.002	-0.041	-0.146	-0.003	-0.057	-0.016	0.006	0.055	-0.042	0.038	1.000

Table 8. The Sensitivity test for model 1

	CI	ABFEE	LTA	LOOS	ROA	LEV	EMPLOYE	GCAO	SPEC	CR	AGE	INVTA	SALEG	QUIKE	REASTATE	CFO	FSM	ISM	ADCHANGE	ZALTMAN	MTB	BIG1	BUSY
CI	1.000																						
ABFEE	0.048	1.000																					
LTA	0.024	-0.158	1.000																				
LOOS	0.012	-0.000	-0.123	1.000																			
ROA	-0.103	-0.016	0.126	-0.204	1.000																		
LEV	0.002	-0.026	0.063	0.284	-0.316	1.000																	
EMPLOYE	0.135	-0.016	0.401	0.151	0.028	0.075	1.000																
GCAO	-0.001	-0.049	0.023	0.114	-0.083	0.243	0.037	1.000															
SPECE	0.016	-0.050	0.461	-0.068	0.092	0.061	0.206	0.050	1.000														
CR	0.006	-0.023	-0.165	-0.124	0.153	-0.497	-0.114	-0.065	-0.145	1.000													
AGE	0.031	0.024	-0.053	0.023	-0.087	0.020	-0.062	0.005	0.051	0.037	1.000												
INVTA	-0.055	0.027	-0.275	0.038	-0.049	0.035	-0.152	0.061	-0.089	0.157	-0.016	1.000											
SALEG	-0.025	-0.017	0.029	-0.015	-0.002	-0.014	0.000	0.015	-0.034	0.007	0.043	-0.037	1.000										
QUIKE	0.019	-0.055	-0.003	-0.111	0.134	-0.358	-0.006	-0.069	-0.057	0.788	0.053	-0.371	0.030	1.000									
REATATE	0.028	0.026	0.024	0.109	-0.023	0.069	0.112	0.041	-0.037	-0.028	-0.010	-0.032	-0.053	-0.021	1.000								
CFO	-0.006	-0.101	0.580	-0.047	0.254	-0.125	0.244	-0.012	0.246	-0.003	-0.110	-0.141	-0.003	0.046	0.042	1.000							
FSM	0.002	0.009	-0.090	0.008	-0.044	-0.016	-0.042	0.060	-0.090	-0.005	0.078	0.003	-0.025	-0.042	0.031	0.009	1.000						
ISM	-0.013	-0.037	0.157	-0.082	-0.041	0.127	0.061	0.057	0.143	-0.028	0.008	0.017	0.043	0.030	-0.066	-0.007	-0.393	1.000					
AUDITCH	-0.131	-0.072	-0.037	-0.023	-0.020	-0.013	-0.232	0.010	-0.062	-0.001	-0.046	0.017	-0.013	-0.007	0.042	0.034	0.024	-0.021	1.000				
ZALTMAN	0.057	-0.027	0.104	0.211	-0.339	0.480	0.021	0.115	-0.010	-0.372	0.037	-0.103	-0.032	-0.272	0.103	-0.067	0.046	0.065	0.003	1.000			
MTB	-0.125	0.004	-0.120	-0.000	0.023	-0.027	-0.087	-0.085	-0.045	0.002	0.0400	0.031	0.005	-0.000	-0.087	-0.051	0.005	0.038	0.006	-0.008	1.000		
BIG1	0.037	-0.046	0.317	-0.008	0.015	0.098	0.198	-0.036	0.420	-0.130	0.095	-0.038	0.046	-0.073	-0.112	0.115	-0.098	0.096	-0.212	0.004	-0.057	1.000	
BUSY	-0.011	-0.034	0.087	0.038	0.024	0.010	-0.097	-0.176	0.057	0.037	0.031	0.022	0.019	0.025	-0.008	0.060	-0.159	-0.128	0.039	-0.061	0.058	0.106	1.000

4.5. Sensitivity test

The aim of performing a sensitivity test is to assess binary relationships between variables.

4.6. Regression results

Table 9. The results of model 1

variable	Coef	Std.Err	Z	p-value
CONS	6.387	0.880	7.26	0.000***
LTA	0.069	0.026	2.66	0.008***
CR	0.099	0.053	1.85	0.064*
CA_TA	-0.665	0.316	-2.10	0.036**
ARINV	-0.000	0.000	-2.27	0.023**
ROA	-0.033	0.006	-5.04	0.000***
MERGER	0.018	0.003	5.01	0.000***
BUSY	0.774	0.112	6.86	0.000***
LEV	0.363	0.089	4.06	0.000***
INTANG	-0.438	0.177	-2.47	0.013***
SEG	-0.165	0.073	-2.26	0.024**
OPINION	-0.058	0.020	-2.80	0.005***
MATWEAK	-0.293	0.100	-2.93	0.003***
EMPLOYEES	-0.003	0.001	-1.91	0.057**
Weighted Statistics				
R_Squared	0.0077			
Adjusted R-Squared	0.2383			
Model p-value	Chi2(15)=99.55			
	0.000			
F_ Limer	F(173,864)=1.33			
	0.005			
Hasman	Chi2(14)=20.21			
	0.1235			

***denotes the significance level at 99% **denotes the significance level at 95% *denotes the significance level at 90%

Table 10. The results on model 1 with the Least Square Regression

variable	coef	Std.Err	Z	p-value
CONS	6.376	0.777	8.20	0.000***
LTA	0.073	0.039	1.85	0.065*
CR	0.116	0.059	1.97	0.049**
CA_TA	-0.183	0.061	-2.98	0.003***
ARINV	-0.086	0.046	-1.87	0.061*
ROA	-0.036	0.016	-2.27	0.024**
MERGER	0.012	0.006	1.90	0.057**
BUSY	0.774	0.116	6.66	0.000***
LEV	0.588	0.079	7.41	0.000***
INTANG	-0.028	0.005	-4.90	0.000***
SEG	-0.251	0.228	-1.10	0.272
OPINION	-0.014	0.005	-2.80	0.005***
MATWEAK	-0.289	0.106	-2.71	0.007***
EMPLOYEES	-0.002	0.007	-0.34	0.736
Weighted Statistics				
R_Squared	0.7795			
Adjusted R-Squared	0.6893			
p-value	F(15,1036)=5.33			
	0.000			

***denotes the significance level at 99% **denotes the significance level at 95% *denotes the significance level at 90%

Table 11. The results of the first model with fixed effect

variable	coef	Std.Err	Z	p-value
CONS	8.539	2.430	3.51	0.000***
LTA	0.056	0.016	3.41	0.001***
CR	0.173	0.078	2.21	0.027**
CA_TA	-0.353	0.050	-6.97	0.000***
ARINV	-0.003	0.012	-1.92	0.054**
ROA	-0.034	0.010	-3.32	0.001***
MERGER	0.022	0.012	1.78	0.075*
BUSY	0.363	0.180	2.01	0.046**
LEV	0.744	0.063	11.67	0.000***
INTANG	-0.511	0.242	-2.11	0.035**
SEG	-0.092	0.051	-1.80	0.075*
OPINION	-0.014	0.005	-2.80	0.005***
MATWEAK	-0.318	0.120	-2.64	0.008***
EMPLOYEES	-0.010	0.025	-0.40	0.689
Weighted Statistics				
R_Squared	0.0183			
Adjusted R-Squared	0.0166			
p-value	F(14,864)=1.15			
	0.3103			

***denotes the significance level at 99% **denotes the significance level at 95% *denotes the significance level at 90%

Model (1) analysis is for calculating abnormal audit fees, which is obtained from the residuals of model (1) and depicted in Table 9. Ordinary Least Squares and Fixed Effects tests are used for ensuring the soundness of the selected test, the results of which are illustrated in Tables 10 and 11, respectively.

Table 12. The results on model 2 with the Least Square Regression

variable	coef	Std.Err	Z	p-value
CONS	0.652	0.209	3.12	0.002***
ABFEE	0.002	0.000	3.64	0.000***
LTA	-0.010	0.002	-4.96	0.000***
LOOS	-0.002	0.000	-2.10	0.036**
ROA	-0.372	0.118	-3.13	0.002***
LEV	-0.009	0.004	2.02	0.045**
EMPLOYEES	0.040	0.011	3.52	0.000***
GCAO	-0.000	0.000	-3.51	0.000***
SPEC	0.003	0.000	9.62	0.000***
CR	0.030	0.013	2.35	0.020**
AGE	0.118	0.046	2.55	0.012***
INVTA	-0.233	0.141	-1.64	0.101
SALE G	-0.001	0.000	-8.93	0.000***
QUIKE	-0.030	0.013	-2.34	0.021**
REATATE	0.111	0.049	2.26	0.026**
CFO	0.118	0.062	1.88	0.060*
FSM	-0.000	0.000	-1.75	0.083*
ISM	-0.008	0.004	-1.77	0.076*
AUDID CH	-0.097	0.031	-3.05	0.002***
Z_ALTMAN	0.051	0.036	1.42	0.157
BUSY	0.185	0.072	2.57	0.010***
Weighted Statistics				
R_Squared	0.8539			
Adjusted R-Squared	0.8766			
p-value	F(22,958)=3.07			
	0.000			

***denotes the significance level at 99% **denotes the significance level at 95% *denotes the significance level at 90%

In the present study, we should determine whether the data are pooled or panel by the F test. This test's null hypothesis is that the data are pooled, and hypothesis 1 claims that data are panel. In case H0 is rejected after performing the F test, the question here is that based on which models of fixed effects or random effects does the model is analyzable, which is determined by the Hausman test. The results of Table (13) indicate a rejection of H1 that shows the data are panel. Hence, the regression of ordinary least squares is used in this paper, and the fixed effects model is used to gain more confidence in the regression. The least-squares regression results in Table (12) demonstrate a positive and significant relationship between abnormal audit fees and internal control weakness. The P-value is 0.000, lower than the significance level. Moreover, the coefficient is 0.002. As depicted in Table (14), the results of fixed effects regression are in line with that because the p-value is 0.000, and the coefficient is 0.009, so the hypothesis is accepted.

5. Discussion and conclusion

Applying an appropriate internal control system in organizations and effectiveness and efficiency increases financial transparency and responsibility, leads to more alignment with governing rules and regulations in the firm, and prevents the firm's distortion and fraud outbreak. Establishing an effective internal control system contributes significantly to the decline of fraud and financial misuses in business firms (Barra, 2010). Internal control weakness causes investors' distrust of firm performance and creates problems in attracting capital and profitability (Su, Zhao, Zhou, 2014). In addition to the supervisory role of internal control and future interests, it bears for the firm, incorrect performance or the presence of weakness in the system can interrupt the financial reporting cycle and leave negative effects on audit quality (Chen et al., 2012). Hence, given the significance of audit quality from the users' point of view in the present study, this paper aims to assess abnormal audit fees' effect on internal control weaknesses. Thus, the model of Blankley, Hurrt, and MacGregor (2012) is used for examining the abnormal audit fee. Moreover, the exploratory factor analysis is used to measure the internal control variable for the first time. Four variables of financial control weakness, nonfinancial control weakness, weakness in the IT system, and audit report lag are considered internal control components.

The hypothesis testing results show a positive and significant relationship between abnormal audit fees and internal control weaknesses. These results suggest that abnormal fees can increase the weaknesses in the internal control of the firm. Since audit fees comprise the number of working hours and audit attempts, the excessive decline of payment can lower the audit quality and increases internal control weakness (Nugroho and Fitriany, 2019: Zhang, 2017). On the other hand, positive abnormal fees create an economic correlation between employers and auditors (Hapsore and Santoso, 2018; Kraub, Pronobis, Zulch, 2015; Choi, Kim, Zang, 2010) that threaten the main index of audit quality. Given the role of audit quality in realizing internal control weaknesses, the present study is in line with Lari Dashtbayaz, Salehi, and Safdel (2019) and Chen et al. (2012). They declare that there is a negative and significant relationship between audit quality and internal control weaknesses.

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