



The Relationship Between the Weakness of Internal Controls and Fraudulent Financial Reporting with an Emphasis on the Adjustment Role of External Audit Quality

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ABSTRACT

Fraud in financial accounting has grown significantly in recent years. With the financial crisis emergence in recent years, fraud in financial reporting has been entered in politics. Today, legislator assemblies, accounting, and management profession have paid special attention to financial reporting due to fraud and existing ways to prevent fraudulent behavior. Therefore, in this research, we investigate the relationship between the weakness of internal controls and fraudulent financial reporting with an emphasis on the adjustment role of external audit quality. This research was conducted during 2012-2017 years for active companies operating in Tehran stock Exchange by selecting 114 companies as a statistical sample and using logistic regression tests in EViews statistical software. The results showed that, contrary to society's perception, there is no statistically significant relationship between the weakness of internal controls and fraudulent financial reporting. The results also showed that external audit quality did not have a statistically significant effect on the relationship between the weakness of internal control and fraudulent financial reporting.

Keywords: Fraudulent Financial reporting, weakness of internal controls, external audit quality.

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1. Introduction

In the last two decades and in the wake of the financial scandals of companies such as Enron and WorldCom, internal controls to increase investor confidence in the reliability of financial statements have come to the attention of legislators. The Sarbanes-Axel Act of 2002 required companies to publish internal control reports. Therefore, investors can easily find out about the quality of the company's internal control system. In our country, following article 18 of the Tehran Stock Exchange Acceptance Instructions, we have published internal control guidelines for publishers admitted to the Tehran Stock Exchange.

According to this article, management is responsible for evaluating the effectiveness of internal controls and should report on the results of internal control evaluations. The company's Independent Auditor is also required to comment on establishing and implementing appropriate and effective internal control systems by the company in the context of internal controls (Stock Exchange, 2012). Cheating is a complex, multi-dimensional phenomenon with different effects and causes that has devastating consequences for businesses and society. Increasing fraud rates lead to bankruptcy for large companies and raise concerns about the quality of financial statements. For this reason, identifying the probability of fraud in the financial statements has been the focus of investors, legislators, executives, and auditors. Fraudulent financial reporting in Iran is also of particular importance. They are increasing the number of companies listed on the stock exchange to attract securities, reduce taxes, and so on are among the reasons for the issue's importance. So far, various researchers have used empirical and analytical financial information tests to identify the likelihood of fraud. In other words, many fraud studies have used quantitative information on financial statements (Brazel et al., 2009).

2. Theoretical basics and research background overview:

In recent years, due to the financial crises created by corporations, fraud in financial reporting and accounting has grown dramatically, as fraud has become a political and economic issue, and today the legislative and accounting communities are dealing with accounting and management fraud and coping. Special attention has been paid to fraudulent behavior in financial reports. Cheating has a wide range of legal implications, but it is generally a voluntary act to obtain unfair and unlawful benefits. Violation is also abuse that is a violation of laws, regulations, internal organization practices, and disregard for market expectations of ethical conduct in business. Distilling financial statements involve manipulating the constituent element by providing more than real assets, selling and profiting, or offering less debt, cost, and loss. It is said that fraud has been reported when fraudulent financial standards contain a significant distortion so that the constituent element doesn't represent reality (Spathis, 2002). For this reason, Fraud prevention is of particular interest to investors, legislators, and audit managers. Given that fraud methods are constantly evolving and new methods are being used, the methods used to detect fraud are also required to be refined. The more predictable Fraud detection in financial reporting can enhance the ability to detect and prevent fraud and support auditors in claims and reduce the heavy burden that inflicts on the entire community (Nasihabadi and Sarchami, 2017).

Over time, various comments have been made about internal controls: however, in modern discussions, the concept of internal controls is designing, implementation, and protection process by designated authorities by management to provide reasonable assurance about credibility and quality of Financial reporting: efficiency and effectiveness of operations and ultimately proper implementation of laws and regulation

(Briciu et al., 2014). Disclosure of several internal control weaknesses has different effects. First, it is possible that the company's stock traded at a lower price when disclosing several internal control weaknesses.

And this will be in the minds of investors that the quality of corporate financial information is due to internal control weakness, and this information can not reflect the company's prospects accurately. The second weakness of more internal control may exacerbate investors' risk due to low-quality information and a lack of information symmetry. Third, it is expected that in the context of ownership separation from control and representation problem resulting from it in the world, which modern work is an essential institutional management system that management is monitored and watched by it to reduce the cost of representation and interests of shareholders align with investors.

One of the most critical control mechanisms that provide effective and efficient guidance for the organization is internal controls. Internal control is a process implemented by the board of directors, management, and other institution staff. Its creation goal is to obtain reasonable assurance from operational effectiveness and efficiency objectives, reliability of financial reporting, and compliance with current laws and regulations. The existence of a system of controls protects organizations' goals and interests of all beneficiary groups. On the other hand, external directors and auditors provided integrated financial reporting and internal control to external stakeholders. These integrated reports are beneficial for investors, as effective internal controls in financial reporting have a vital role in preventing and detecting financial distortions, including fraud. So, it is expected that internal control weakness reduces the quality of financial information and provide opportunistic conditions for managers. Hence, firms that have internal control weaknesses increase investment inefficiencies (Saedi and Dastgir, 2017). Besides, past internal research revealed a fundamental research gap in fraudulent financial reporting that lacks a comprehensive fraud pattern in financial statements.

Few studies have been conducted about adaptive studies, review, and introduction of existing mechanisms in other countries. It seems that fraud comprehensive pattern presentation in financial reporting is necessary for the country's cultural, economic, and legal context and can be used by researchers, auditors, inspectors, and authorities. Disclosure of internal control weak numbers will reduce managers and investors (Sun, 2016). The present research tries to answer the question of the relationship between internal control weakness and fraudulent financial reporting, emphasizing the adjustment role of external audit quality?

2.1. Research background

Xi and Wang (2018) investigated critical management criteria in internal control weakness and fraud (evidence from China). In this study, Factors and initial consequence of decision-making of companies registered in China are examined on the criteria of internal control weaknesses that are observable from the 2011 annual report. We argue that non-virtuous leaders prefer not to disclose material weakness by violating material standards to justify non-disclosure of potential weakness. According to this opportunistic incentive, we realize that when companies have not unreported fraud in past years, their management probably uses revenue (rather than prepaid earning) as a benchmark for fraud. Additionally, when true criteria are defined, the importance of prepaid load based revenue is significantly and positively correlated with the incidence of company's fraud problems, which indicated that measurement of material deviation provides an opportunity to management in future mistakes.

Wang et al. (2017), study management ability, political communication, and

fraudulent reporting in china using the information of china corporations for the period 2007-2012. The results show that firstly, increasing managerial capacity can reduce fraudulent financial reporting, and secondly, corporate political relations can limit or weaken the impact of managerial ability on the likelihood of fraudulent financial statements. Finally, corporations with capable managers Faceless fines by regulatory bodies compared to those who have no such managers.

Awang et al. (2016) investigated effective behavioral factors on the tendency to fraud in financial reporting using rational action theory and found that abstract attitudes and norms have a positive relationship with a tendency to fraud in financial reporting.

Albrechet et al. (2015) investigated the effect of power on fraudulent financial reporting. They used French and Raven power rating models to show how to use power to attract other people's participation in the fraudulent financial reporting process. The results of their research show that person A calls for participation in cheating employing allure, threat, legal authority, professional skill, and justification. Tarassi et al. (2019) investigated the prediction of fraudulent financial reporting via an artificial neural network (ANN) in companies listed on the Tehran Stock Exchange in 9 years between (2006) to (2014). For this purpose, the existence of distortion in Financial reports and presenting of fraudulent financial reporting through the neural network technique was evaluated via information contained in financial statements, financial ratios, and multi-layer perception model, which include an input layer, a hidden layer from MATLAB software view and an output layer. In this regard, companies' first seven years information was used to designing and training the neural network, and 8th-year data was used to validate network training, and 9th-year data was used as test data and to test the designed network.

Finally, according to the results, it was found that neural network technique and neural network-based modeling have 97.4% accuracy. We can design neural networks with accurate design and training that can accurately predict and discover companies' probable fraudulent financial reporting.

Karshenasan and Mamshali (2018) investigated the effect of management ability in controlling the inter-organization financial crisis and the possibility of fraudulent reporting from 2009-2013 using 173 companies listed on Tehran Exchange stock as the statistical sample that selected because they have research condition. Using a multivariate regression model showed a reverse and significant relationship between management ability and severity of the inter-organization financial crisis at the 95% confidence level. The result of the first hypothesis of research states that a manager can solve an inter-organization financial crisis. The results of the second and third hypotheses showed that managers didn't conduct Fraudulent reporting to exit from financial crisis conditions and only managed profits in the framework of accounting principles.

Rahmani et al. (2017) investigated the effect of rational action theory on the inclination of fraud I financial reporting. The research method is an applied survey. The subject was also studied by a questionnaire and sampling from 107 professional accountants and relevant trends in 2016. The structural equation method by smart PLS software was used to analyze findings in two main hypotheses. The results showed a positive and significant relationship between attitude, abstract norms, and tendency to financial reporting fraud.

Based on the results, it can be seen that the theory of relational action is effective in evaluating the tendency of fraud in financial reporting. Besides, it is necessary to examine effective cases in financial reporting fraud, especially individual and psychological factors affecting it.

Sajadi and Kazemi (2016) have tried to study base – field theorizing. The statistical

research community is experts in the field of fraudulent financial statements. That snowball or chain sampling method was selected for interviews according to the research purpose. In addition to interviews, the documents on fraudulent financial reporting of companies listed to the Tehran Stock Exchange have been carefully studied and analyzed to increase research credibility and comprehensiveness. Following expert opinion acquiring and careful study of documents, pieces of evidence, and reports, the pressure factor was recognized as a fraudulent financial reporting requirement. Research results show that motivation for managers' rewards, motivation for assets abuse, political costs, tax purposes, and company by managers also affect fraudulent financial reporting. Fraud schemes in the context of public culture, the legal system, and country's accounting standard as underlying conditions and corporate governance system, internal control, and audit quality as intervening conditions. In the present study, 25 fraud schemes were identified in financial statements and their components. The consequence of fraud in financial reporting is classified and interpreted in two-level: financial statements and capital markets.

3. Research hypothesis

- 1) There is a relationship between the weakness of internal controls and fraudulent financial reporting.
- 2) Auditors' expertise in the industry affects the relationship between the weakness of internal controls and fraudulent financial reporting.
- 3) Size of the audit firm effect the relationship between the weakness of internal controls and fraudulent financial reporting.
- 4) Auditor tenure period affect the relationship between the weakness of internal controls and fraudulent financial reporting.

4. Methodology of research

This research is applied research in terms of correlation and methodology of analysis, quasi-experimental, and post-event in the field of accounting research, which is carried out with real information and can be used in the process of using information. This research is also based on real stock market information, financial statements notes accompanying financial statements, and company reports. In this research, necessary data were collected from Rahavard Novin software and notes accompanying financial statements – the data were analyzed using EVIEWS software. Research statistical community are companies listed on the Tehran Stock Exchange between 2011 and 2017. The sampling method was used in this research, and all companies with the following conditions are studied and analyzed. It is worth noting that 114 companies were selected after applying the following restrictions, presented in Table 1.

Table 1: the selection of a statistical sample by applying community constraints and conditions.

Constraints	<i>company</i>	<i>Year-company</i>
Total existing companies at the end of 2017 (including stock Exchange and outsourcing)	621	4347
Removal of companies listed in Tehran Stock Exchange after 2011	(82)	(572)
Removal of companies other than the period ending March to observe their comparability	(128)	(896)
Removal of Holdings companies, banks, and investments	(117)	(819)
In the realm of research time. They have not stopped any trading symbol (more than six consecutive months) and did not change their Financial period	(26)	(182)
Remove companies whose financial information is not available.	(154)	(1087)
Number of available companies in the statistical community after imposition of limitations and conditions	798	114

5. Research Models

Considering the theoretical bases and research background, we use the following models to test the research hypothesis.

$$FRAUD_{i,t+1} = \alpha_0 + \alpha_1 ICW_{i,t} + \alpha_2 SIZE_{i,t} + \alpha_3 MB_{i,t} + \alpha_4 LEV_{i,t} + \alpha_5 ROA_{i,t} + \alpha_6 TANG_{i,t} + \varepsilon_{i,t}$$

$$FRAUD_{i,t+1} = \alpha_0 + \alpha_1 ICW_{i,t} + \alpha_2 SPEC_{i,t} + \alpha_3 ICW * SPEC_{i,t} + \alpha_4 SIZE_{i,t} + \alpha_5 BM_{i,t} + \alpha_6 LEV_{i,t} + \alpha_7 ROA_{i,t} + \alpha_8 TANG_{i,t} + \varepsilon_{i,t}$$

$$FRAUD_{i,t+1} = \alpha_0 + \alpha_1 ICW_{i,t} + \alpha_2 BIG_{i,t} + \alpha_3 ICW * BIG_{i,t} + \alpha_4 SIZE_{i,t} + \alpha_5 MB_{i,t} + \alpha_6 LEV_{i,t} + \alpha_7 ROA_{i,t} + \alpha_8 TANG_{i,t} + \varepsilon_{i,t}$$

$$FRAUD_{i,t+1} = \alpha_0 + \alpha_1 ICW_{i,t} + \alpha_2 Tenure_{i,t} + \alpha_3 ICW * Tenure_{i,t} + \alpha_4 SIZE_{i,t} + \alpha_5 MB_{i,t} + \alpha_6 LEV_{i,t} + \alpha_7 ROA_{i,t} + \alpha_8 TANG_{i,t} + \varepsilon_{i,t}$$

Where is it: Dependent variable – fraudulent financial reporting ($FRAUD_{i,t+1}$): Dependent variable I this research is fraud in companies' financial reporting, which is described its determinants method. In this research, the dependent variable, i.e., fraudulent financial reporting (fraud), is defined as follows: Based on the access model to prediction, if the company has committed fraudulent Financial reporting that represented its financial statement in the subsequent period and this representation is due to fraudulent management incentives, fraud variable will have the value of one. Based on the access model to prediction, representation of financial statement is fraudulent when initially reported income (i.e., managed income) is higher than represented in com (ex-post income) (incremental representation) and when initial income is greater or equal to expected income, where represented income is less than expected income – the following model shows this relationship:

$$OI_{jt} \geq MF_{jt} > RI_{jt}$$

Where IQ is initial income, RI represents ex-post, and MF is the last income prediction by managers for the year t that was published before the financial statement of year t. Other cases were considered non – fraudulent representation. For example, if the representation doesn't lead to income change or represented income is greater than the initial income, the company doesn't commit fraudulent representation (Farajzadeh and Aghae 2015). In this research, only the opportunistic management aspect of income –increasing was considered fraudulent financial reporting.

External variable – internal control system (ICW_{it}) significant internal control weakness is derived from the external auditor's report. Considering that in the audit report, only significant internal contrails weakness of the company is presented as a clause of the condition and it is avoided to provide all a weakness that the auditor has already considered them I management letter, all section of condition clauses relating to internal controls weakness is considered as crucial internal control weakness. The number of significant internal control weaknesses has been extracted in the audit report of companies listed on the Tehran Stock Exchange during the research period. Therefore, in this research, essential weaknesses are weaknesses that the auditor point to in her / his report and resolved during the financial year and, in some cases, don't resolve—for example, existing weaknesses in receivable accounts. Inventory, assets, taxes, or cases related to board decisions, and these weaknesses exist at the company accounts level and own company level. In this study, following Beng and Li (2011), internal control weakness is an artificial variable, and according to lee et al. study (2016), if the company has an internal control weakness, it takes one, and otherwise, 0. Internal control weakness of the company has been extracted from external auditor report (Saedi and Dostghir, 2017).

Moderator variable – Audit quality (AQ):

In this research, three variables, i.e., auditor's expertise in the industry, size of the audit firm, and auditor's tenure period, are used for audit quality as follows:

Auditor's expertise in the industry ($SPEC_{i,t}$): many strategies that are currently used by audit firms to increase profitability level are auditor expertise level in the customers' industry. Auditor expertise in the industry means creating constructive ideas for helping creditors (value-added creation) and providing new perspectives and solutions for some issues faced by creditors in their industries. Auditor expertise in the industry is based on the proportion of total sales for customers that an auditor audits in the specific industry. The total sales of its industrial companies over a given year are calculated using the following relationship: (Krishnan, 2003).

$$SPEC_{i,k} = \frac{\sum_{j=1}^m ClientSales_{i,j,k}}{\sum_{j=1}^n ClientSales_{jk}}$$

Where

Client sales $_{i,j,k}$ is customer company sales j audit firm I in industry K client sales $_{jk}$ is company sales j in industry K

M is the number of audited companies by Audit firm I in industry K

N is the industry's number of existing companies (Khodadadeh Shamloo and Bodavar Nahandi, 2016).

The size of the audit firm ($BLG_{i,t}$): Bigger audit firms (that have a business brand) have a high equation, which enhances the auditor's credibility. In this research, if the audit organization and the auditory firm are selected, an audit firm takes one, and the rest of the Trusted audit institutions are considered zero (Namazi et al., 2011).

Auditor tenure period ($Tenure_{i,t}$): To measure tenure duration, we use a number of years that an auditor consistently audited a firm until t period. (Karami et al., 2011).

5.1. Control variables

Company size ($SIZE_{it}$): Research result of Feroz et al. (1991) shows that most of the companies dealing with securities and trade commission are companies that are traded outside stock and are relatively small in size. In this research, the natural logarithm of the sales rate of statistical sample companies was used as a criterion for measuring company size. Company size effect on fraud in the financial statement has been considered in researches of Pearones (1995) and Kaminski et al. (2004), Kirkuz et al. (2007), Brazel et al. (2009), Alden et al. (2012) and Chen et al. (2014).

Market value to book ratio of shareholders equity (MBit):

It is expected that fast growth is related to fraud (Bessley, 1996; Bell et al., 1991). Most Managers of high growth companies don't commit fraud. However, in times of growth or reversal, immoral managers will be motivated to maintain surface sustained growth. In this research, market value to book ratio of shareholder's equity was used as a criterion for measuring growth. The effect of growth on fraud in financial statements has been considered in Summers and Sweeney (1998), Carcello and Nagy (2004), and Kirkuz et al. (2007) researches.

Tangible fixed assets ($TANG_{it}$): The ability to view company assets can reflect agency costs and financial distress costs and derive from fixed assets -to total assets ratio.

Profitability (ROA_{it}): It seems that profitability is one of the primary goals of companies. This goal is influenced by the maximization of the personal desirability of

managers (Gordan, 1904). Personal desirability is partially defined as job security, which is maximized by smooth or growing profit flows. As a result, it is expected that managers maintain or improve past profitability levels regardless of their previous (or past) size. If you cannot achieve this goal through real action, it will motivate you to commit fraud. In this research, profit prior to the tax of company ratio to total assets was used as profitability criteria. Profitability effect on fraud in financial statements have also been considered in Sepatis et al. (2003), Kaminski et al. (2004); Kirkuz et al. (2007), Brazel et al. (2009); Chen et al. (2014); Rezaee and Riley (2010).

Financial leverage ($LEV_{i,t}$): Higher financial leverage is typically related to the probability of more breach of debt contract and less ability to acquire additional capital through borrowing. Christy (1990) shows that there is a positive relationship between leverage and profit – increasing accounting practices. If profit-increasing accounting practices are not enough to avoid a breach of the liabilities contract's content, managers will probably be motivated to show debt lower than real debt or show assets higher than real assets. In this research, financial leverage will be calculated from the total debt – total assets ratio (Khajavi and Ebrahimi, 2017).

6. Research findings

6.1 Data descriptive statistics

To better understand the nature of the community that has been studied in this research and more familiarity with research variables, it is necessary to describe these data before analyzing statistical data.

Also, Data statistical description is a step toward identifying the dominant pattern and is a basis for explaining the relationships between variables used in this research. Therefore, research variables are briefly studied before testing the research hypotheses. This table contains indicators; maximum and minimum were calculated in the descriptive analysis of data.

Table 2: Descriptive statistics of quantitative research variables.

LEV	MB	ROA	SIZE	SPEC	TANG	TENURE	Research Variables
684	6	6	6	6	6	6	N
.637	2.122	.116	13.864	.213	..247	2.235	Mean
.625	1.901	.096	13.702	.080	.195	2.000	Median
3.750	10.971	.674	19.367	.926	.801	6.000	Maximum
.090	-7.247	-.723	8.899	.000	.019	1.000	Minimum
.283	1.834	.166	1.481	.272	.177	1.318	Std.Dev.
3.385	.623	.177	.667	1.418	1.059	.980	Skewness
29.833	8.310	4.946	4.524	3.846	3.417	3.265	Kurtosis

The results of the research variables descriptive statistics are presented in Table 2 that indicate descriptive parameters for each variable individually. Table 2 shows the descriptive analysis of all combined data and the main variables used in this research on all companies' level. The following table presents the mean, standard deviation, median, modality, variance, skewness, maximum and minimum of independent, control, and dependent variables of research yearly from 2010 to 2017 (fraudulent financial reporting ($FRAUD_{i,t+1}$)). The leading central indicator is the mean, which represents the equilibrium point and distribution gravity center and is a useful index for showing the centrality of data. For example, the mean value for the company size variable (LEV) is (0.637), which indicates that most data is focused on this point. In general, scattering parameters are a criterion for determining the degree of dispersion from each other or their dispersion relative to mean. The most crucial dispersion parameters are standard deviation. For example, the value of this parameter for the profitability variable is

(0.166), and for the variable of market value – to- book ratio of shareholders, equity is (1.834), which shows that these two variables have the lowest and highest dispersion level respectively among these two research variables.

Table 3: Descriptive statistics indices related to qualitative research variable

Size of the auditing organization			
	frequency	percentage	Cumulative percentage
Other auditing institutions	499	72.95	72.95
Auditing and benefited	185	27.05	100
Total	684	100	

According to the above table, 185 company – year, or 27.05% of companies are audited by auditing or beneficial organization.

Table 4: Descriptive statistics indices related to qualitative research variable

fraudulent financial reporting			
	frequency	percentage	Cumulative percentage
Without fraudulent financial reporting	477	69.44	69.44
With fraudulent financial reporting	207	30.56	100
Total	684	100	

According to the above table, 207 company-year or 30.56% of companies have fraudulent financial reporting.

Table 5: Descriptive statistics indices related to qualitative research variable

Internal control weakness			
	frequency	percentage	Cumulative percentage
Without internal control weakness	321	46.93	46.93
With internal control weakness	363	53.07	100
Total	984	100	

According to the above table, 363 company-year or 53.07% of companies have internal control weaknesses. Also, considering that the combinational data method is used to test research hypotheses, the number of company–year observations is based on balanced combinational data was 684.

6-2 inferential statistics

In this section, Data analysis is carried out using inferential statistics Data analysis is carried out using a combinational data method and with a data panel approach. Data analysis is carried out using a combinational data method and a logistic regression approach in this section.

6.2.1 Normal-being test

Table 6: Jarque and Bera Normal distribution detection test

Variable name	Jarque and Bera significance level	Interpretation
Auditor expertise in the industry	0.000	Have not the normal distribution
Auditor tenure	0.000	Have not the normal distribution
Company size	0.000	Have not the normal distribution
Market to book ratio of shareholder's equity	0.000	Have not the normal distribution
Tangible fixed assets	0.000	Have not the normal distribution
Profitability	0.000	Have not normal distribution
Financial leverage	0.000	Have not the normal distribution

Considering that the significance level of the normal distribution detection test (Jarque and Bera) is less than 5%, Therefore, at the 95% confidence level, it can be said that the research variable does not have a normal distribution. Since one of the linear regression, pre-assumptions is a normal distribution of the dependent variable, and normalization of the dependent variable leads to the normalization of the model in general. Therefore, considering variables leads to the normalization of the model in general. Therefore, according to the central limit theorem, considering virtuality of the dependent variable ad impossibility of its normalization. We accept variable normalization.

6.2.2 Static (reliability) test of research variables

According to the single –root test of Levine, Lin, and Chui test type, when the test statistic's significance level is less than 0.05, independent, dependent, and control variables of research are static during the research period. The results of the statical study of research variables using this test are presented in Table 7.

Table 7: Results of static (reliability) test (Lin and Chui)

Variable name	Amount of statistics	Significance level
Fraudulent financial reporting	-14.403	0.000
Internal control weakness	-4.371	0.000
Audit expertise in the industry	-77.981	0.000
Size of audit firm	-2.630	0.000
Auditor tenure	-18.663	0.000
Company size	-25.313	0.000
Market-to-book ratio of shareholders' equity	-19.469	0.000
Tangible fixed assets	-21.731	0.000
Profitability	-26.671	0.000
Financial leverage	-72.869	0.000

According to the above table, in all independent and control variables, the Levine, Lin, and Chui test's significance level is less than 5%, which indicates that research variables are static. As a result, studied companies have no structural changes, and these variables don't lead to false regression.

6.2.3 Testing research hypotheses:

Hypotheses 1: There is a relationship between internal controls, weakness, and fraudulent financial reporting.

Table 8: Final estimation of the relationship between internal controls and fraudulent financial reporting

$FRAUD_{i,t+1} = \alpha_0 + \alpha_1 ICW_{i,t} + \alpha_2 SIZE_{i,t} + \alpha_3 MB_{i,t} + \alpha_4 LEV_{i,t} + \alpha_5 ROA_{i,t} + \alpha_6 TANG_{i,t} + \varepsilon_{i,t}$					
VIF	Significance level	Parenta statistics	Standard error	Coefficient	Variable name
1.081	.704	.379	.164	.062	ICW
1.037	.704	-.378	.054	-.020	SIZE
1.149	.612	.505	.046	.023	MB
1.739	.029	2.179	.392	.855	LEV
1.957	.000	3.509	.675	2.369	ROA
1.038	.668	-.428	.458	-.196	TANG
-----	.232	-1.194	.803	-.959	C
o.o18	Mc Fadden determination coefficient			17.315	Exponential ratio statistics
(0.701)5.511	Fitting goodness test (Hosmer-Lem show test)			0.008	Significance level

The equation was done using exponential ratio statistics. As shown in table LR statistics are meaningful at the level of less than 5%. This reflects the overall significance of the fitted regression model at the 95% confidence level.

The coefficient is criterion determination that describes the strength of the relationship between the independent and dependent variables. This coefficient's value determines how the independent variable explains many percent of dependent variable variations in logistic regression analysis. Mac Faden's determination coefficient has the same role as the determination coefficient. According to Mac Faden's determination coefficient of the fitted model, it can claim that model variables explain about 0.018 changes in the dependent variables. According to the results, it is observed that VIF values are less than 10. In general, results indicate non-coherence. Also, in the logistic regression model, Hosmer – LEM show tests are used for goodness of model fitting. The significance level is also used in this statistic so that if it is more significant than 0.05, Zero assumption is confirmed and indicates that the model has a good fit. Considering the results, since the Hasmer –LEM show test's significance level is more than 5%, the model has a good fit.

Hypo thesis 2: Auditor expertise in the industry affect the relationship between internal controls weakness and fraudulent financial reporting

Table 9: The interactive effect of auditor expertise in industry on the relationship between internal controls weakness and fraudulent financial reporting

$FRAUD_{i,t+1} = \alpha_0 + \alpha_1 ICW_{i,t} + \alpha_2 SPEC_{i,t} + \alpha_3 ICW * SPEC_{i,t} + \alpha_4 SIZE_{i,t} + \alpha_5 BM_{i,t} + \alpha_6 LEV_{i,t} + \alpha_7 ROA_{i,t} + \alpha_8 TANG_{i,t} + \varepsilon_{i,t}$					
VIF	Significance level	Parenta statistics	Standard error	Coefficient	Variable name
1.739	.521	.640	.208	.133	ICW
3.375	.141	1.471	.531	.782	SPEC
4.211	.523	-.637	.634	-.405	ICW *SPEC
1.499	.313	-1.007	.065	-.066	SIZE
1.154	.543	.607	.046	.028	MB
1.715	.035	2.099	.388	.815	LEV
1.936	.000	3.568	.672	2.399	ROA
1.044	.680	-.412	.460	-.189	TANG
-----	.607	-.513	.920	-.472	C
.021	Mc Fadden determination coefficient			19.991	Exponential ratio statistics
(0.099)13.394	Fitting goodness test (Hosmer-Lem show test)			0.010	Significance level model

The results of statistical tests of hypothesis 2 are presented in Table 9. The internal controls' weakness variable has a significant level.

More than 5% (0,521), hence at the 95% confidence level, we can comment on this variable's effect, i.e., there is no statistically meaningful relationship between internal controls weakness and fraudulent financial reporting. Auditor expertise, at the 95% confidence level, can be commented on about this variable's effect, i.e., there is no statistically meaningful relationship between auditor expertise in the industry and fraudulent financial reporting. The resultant variable from the multiplication of auditor expertise in the industry at internal control weakness is significantly higher than 5% (0.523). Hence, at the 95% confidence level, we can comment on this variable's effect, i.e., auditor expertise in industry on the relationship between internal control weakness and fraudulent financial reporting, there is no statistically meaningful effect. There is also a positive and meaningful relationship between financial leverage and profitability with fraudulent financial reporting among control variables. The significance of the

regression equation was done using exponential ratio statistics.

As shown in Table 9, LR statistics are meaningful at the level of less than 5. This reflects the overall significance of the fitted regression model at the 95% confidence level. The coefficient is criterion determination that describes the strength of the relationship between independent and dependent variables: The value of this coefficient determines how many percent of dependent variable variations are explained by the independent variable. In logistic regression analysis, Mac Faden's determination coefficient has the same role as the determination coefficient. According to Mac Faden's determination coefficient fitted model, it can be claimed that about 0.021 changes independent variables are explained by model variables. According to the results, it is observed that VIF values are less than 10. In general, results indicate non-coherence. Also, in the logistic regression model, the Hosmer – Lem show tests are used for goodness of model fitting. The significance level is also used in these statistics so that if it is more significant than 0.05, zero assumption is confirmed and indicates that the model has a good fit.

Considering the results, since the significance level of Hosmer – Lem show test is more than 5% ((0.099)13.394), so the model has a good fit

Hypothesis 3: The audit firm's size affects the relationship between internal controls weakness and fraudulent financial reporting.

Table 10: The interactive effect of audit firm size on the relationship between internal controls weakness and fraudulent financial reporting

$FRAUD_{i,t+1} = \alpha_0 + \alpha_1 ICW_{i,t} + \alpha_2 BIG_{i,t} + \alpha_3 ICW * BIG_{i,t} + \alpha_4 SIZE_{i,t} + \alpha_5 MB_{i,t} + \alpha_6 LEV_{i,t} + \alpha_7 ROA_{i,t} + \alpha_8 TANG_{i,t} + \varepsilon_{i,t}$					
VIF	Significance level	Parenta statistics	Standard error	Coefficient	Variable name
1.438	.536	.618	.189	.117	ICW
2.135	.611	.507	.258	.131	BIG
2.506	.566	-.573	.358	-.205	ICW *SPEC
1.130	.744	-.325	.057	-.018	SIZE
1.151	.608	.511	.046	.023	MB
1.754	.031	2.149	.394	.847	LEV
1.957	.000	3.480	.675	2.349	ROA
1.043	.662	-.436	.459	-.200	TANG
---	.223	-1.216	.835	-1.016	C
.019	Mc Fadden determination coefficient			17.667	Exponential ratio statistics
(0.204)10.952	Fitting goodness test (Hosmer-Lem show test)			0.023	Significance level model

The results of the statistical test of hypothesis 3 are presented in Table 10; the internal controls weakness variable has a significance level of more than 5% (0.536) and a positive coefficient of 0.117. Hence, at the 95% confidence level, we can comment on this variable's effect, i.e., there is no statistically significant relationship between internal controls weakness and fraudulent financial reporting. The size of the audit firm variable has a significant level less than 5% (0.611); hence, at the 95% confidence level, we can comment on about the effect of this variable, i.e., there is a positive and significant relationship between the size of audit firm and fraudulent financial reporting. The resultant variable from the multiplication of audit firm size at internal controls weakness has a significance level of more than 5% (0.566). Therefore, at the 95% confidence level, we can comment on the effect of this variable, i.e., the audit firm's size on the relationship between internal controls weakness and fraudulent financial reporting, there

is no statistically meaningful effect.

There is also a positive and meaningful relationship between financial leverage and profitability with fraudulent financial reporting among control variables. The significance of the regression model was done using exponential ratio statistics. As shown in table 10, LR statistics are meaningful at a level of less than 5%. This reflects the overall significance of the fitted regression model at the 95% confidence level. The coefficient is criterion determination that describes the strength of the relationship between independent and dependent variables: The value of this coefficient determines how many percent of dependent variable variations are explained by the independent variable. Ln logistic regression analysis, Mac Faden's determination coefficient have the same role as the determination coefficient.

According to Mac Faden's determination coefficient of the fitted model, it can be claimed that model variables explain about 0.019 changes in the dependent variable. According to the results, it is observed that VIF values are less than 10. In general, results indicate non – coherence. Also, in the logistic regression model, the Hasmer – LEM show test is used for goodness of model fitting. The significance level is also used in this statistic so that if it is more significant than 0.05, Zero assumption is confirmed and indicates that the model has a good fit. Considering the results, since the Hasmer-LEM show test's significance level is more than 5% ((0.204)10.952), the model has a good fit.

Hypothesis 4: Auditor tenure period affects the relationship between internal controls weakness and fraudulent financial reporting.

Table 11: The interactive effect of auditor tenure period on the relationship between internal controls weakness and fraudulent financial reporting.

$FRAUD_{i,t+1} = \alpha_0 + \alpha_1 ICW_{i,t} + \alpha_2 Tenure_{i,t} + \alpha_3 ICW * Tenure_{i,t} + \alpha_4 SIZE_{i,t} + \alpha_5 MB_{i,t} + \alpha_6 LEV_{i,t} + \alpha_7 ROA_{i,t} + \alpha_8 TANG_{i,t} + \varepsilon_{i,t}$					
VIF	Significance level	Parenta statistics	Standard error	Coefficient	Variable name
3.929	.543	-.608	.315	-.191	ICW
2.392	.026	-2.219	.094	-.210	Tenure
5.463	.396	.847	.125	.106	ICW * Tenure
1.491	.377	-.882	.065	-.058	SIZE
1.166	.402	.837	.046	.039	MB
1.684	.032	2.138	.389	.832	LEV
1.945	.000	3.416	.674	2.305	ROA
1.519	.057	1.897	.357	.679	TANG
---	.848	-.191	.915	-.175	C
.027	Mc Fadden determination coefficient			25.809	Exponential ratio statistics
(0.580)6.601	Fitting goodness test (Hosmer-Lem show test)			0.001	Significance level model

The results of a statistical test of hypothesis 4 are presented in Table 11; the internal controls weakness variable has a significant level of more than 5% (0.543). Hence, at the 95% confidence level, we can comment on this variable's effect, i.e., there is no statistically significant relationship between internal controls weakness and fraudulent financial reporting. The auditor tenure variable has a significant level of less than 5% (0.026) and a negative coefficient – 0.210. Hence, at the 95% confidence level, we can comment on this variable's effect, i.e., There is a negative and significant relationship between auditor tenure period and fraudulent financial reporting. The resultant variable from the multiplication of auditor tenure at internal controls weakness is significantly

higher than 5% (0.396). Therefore, at the 95% confidence level, we can comment on this variable's effect, i.e., Auditor tenure on the relationship between internal controls weakness and fraudulent financial reporting, there is no statistically meaningful effect. Among control variables, there is also a positive and meaningful relationship between financial leverage and profitability with fraudulent financial reporting, as shown in table 11. LR statistics are meaningful at the level of less than 5%. This reflects the overall significance of the fitted regression model at the 95% confidence level. The coefficient is criterion determination that describes the strength of the relationship between independent and dependent variables: The value of this coefficient determines how many percent of dependent variable variations are explained by the independent variable. In logistic regression analysis, Mac Faden's determination coefficient has the same role as the determination coefficient.

According to Mac Faden's determination coefficient of the fitted model, it can be claimed that model variables explain about 0.027 changes in the dependent variable. According to the results, it is observed that VIF values are less than 10. In general, results indicate non-coherence. Also, I logistic regression model. The Hasmer – LEM show tests are used for goodness of model fitting. The significance level is also used in these statistics. It is more significant than 0.05. The zero assumption is conferrment and indicates that the model has a good fit. They are considering the results. Since the significance level of the Hasmer – LEM show test is more than 5% ((0.580)6.601), so the model has a good fit.

7. Discussion and conclusion

Today, fraud has become one of the key issues in the country's economy.

Considering membership of stock Exchanges at the international organization of securities commissions, the need to improve quality of financial information, special attention to the attraction of foreign investors in Post-Barjam condition, increase of the number of listed company and continuation of the privatization process in-country, Fraudulent financial reporting have special importance. Despite the importance of addressing fraudulent reporting instances and information about it, the list of fraudulent companies and fraudulent cases in financial statements is not presented by any organization or institution in the country. For this goal, the relationship between internal controls weakness with fraudulent financial reporting with an emphasis on the adjustment role of independent audit quality was investigated in this research. The present study is essential because it is one of the first domestic studies that address this issue and hence can contribute to the development of accounting and auditing literature in developing countries such as Iran. To achieve this goal, a sample of 114 companies listed in Tehran Stock Exchange was considered, and two hypotheses were introduced. The test results of hypotheses are as follows:

Hypothesis 1: According to the results obtained, this hypothesis is rejected. The internal auditor's influence on reducing the amount of distortions confirms that internal auditor existence prevents mistakes caused by. Non-compliance of regulations, whether domestic (resolutions of the general assembly and board of directors) and foreign (law of commerce and so on) and this is a crucial point because in the statutes of the audit committee and internal auditor reduce non-compliance of regulations and laws risk in companies is internal auditor duty which this relationship confirmation indicate internal auditor effect on reducing distortions and violations – It was expected that when increasing employee number, the volume of proceeding increase, internal control of companies becomes more effective. As a result, the probability of fraud occurrence in companies' statements decreases. The data analysis results show no significant

relationship between the internal control variable and the probability of fraud occurring in the company's financial statements. This hypothesis is contrary to the theoretical bases of Xi and Wang's research (2018).

Hypothesis 2: The auditors' expertise effect the relationship between internal controls weakness and fraudulent financial reporting. Considering the results obtained, this hypothesis is rejected. The more audit firm gains more experience in a special industry, the more it will become interested in providing better audit services because of its positive reputation. This leads to the reduction of internal controls weakness and ultimately decreases fraudulent financial reporting. This hypothesis's results are contrary to the theoretical bases of Xi and Wang's research (2018).

Hypothesis 3: The audit firm's size affects the relationship between internal controls weakness and fraudulent financial reporting. According to the results obtained, this hypothesis is rejected. It is expected that with the increasing size of the audit firm, the quality of audit information increase, and this increase lead to the decrease of internal controls weakness and ultimately decreases fraudulent financial reporting. The results of this hypothesis are contrary to the theoretical bases of Xi and wang research.

Hypothesis 4: Auditor tenure period affects the relationship between internal controls weakness and fraudulent financial reporting. According to the results obtained, this hypothesis is rejected. By choosing the variable of external auditor tenure, it is expected that this factor increasing cause mastery of managers I internal control, corporate accounts as well as their more efficient monitoring of financial statements that finally lead to increase ability to rely on financial statements and decrease the likelihood of fraud occurrence in financial statements. On the other hand, the long-term relationship between client and auditor impair the auditor's independence and thus affect the quality of audit done and, therefore, negatively affect the quality of reported accounting information. This hypothesis's results are contrary to the theoretical bases of Xi and Wang's (2018) research. The following suggestions are provided to recognize the existence or absence of weakness in the internal controls system re-reviewed by auditors because the state of establishing strong or weak internal controls does not reflect the company's financial reporting environment and fraud.

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