



Research Paper

## Impact of Internal Control Weaknesses on Financial Reporting Risk

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### ABSTRACT

The main role of financial reporting in capital markets is to provide the necessary conditions for the optimal allocation of resources and to make correct and timely decisions. Achieving this goal is possible if the financial statements are consistent with economic realities or even have the slightest deviation from economic performance. However, over the past few decades, fraud detected in corporate financial reporting has increased the risk of financial reporting. Therefore, the current paper aims at investigating the impact of internal control weaknesses on financial reporting risk in companies listed on the Tehran Stock Exchange. In order to achieve the purpose of the research, using the method of systematic elimination of information related to 143 companies among the companies listed on the Tehran Stock Exchange in the period from 2009 to 2019 was collected. A multivariate regression model based on composite data was used to test the research hypothesis. The research findings show the significant positive impact of internal control weaknesses on financial reporting risk. The results indicate that reducing the weaknesses of internal control can reduce the risk of financial reporting and reduce information asymmetry and consequently improve accountability processes.

## 1 Introduction

The main and general mission of the financial reporting process is to create data and information capable of expressing the financial effects of all financial events and transactions affecting the financial condition and performance of an economic unit, thus helping investors, financiers, and other users within and outside organization in deciding on the affairs of an economic unit (Iranian Financial Accounting Standards Board). This general goal is divided into more detailed goals that attaining require the collection of specific information, which: First, to provide the necessary information to assess the financial condition and economic strength of the corporate. Secondly, providing the information needed to evaluate the performance and profitability of the corporate [22]. It is important to note that in the process of accounting and financial reporting, it is necessary to take into account the economic realities in the

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business environment. One of these facts is the presence of risk and uncertainty in the financial reporting process. Uncertainty and risk are palpable and undeniable features of any economic environment. In general, the view of economic entities about uncertainty and risk causes the type of decisions, financial events, and stock market prices, as well. Appropriate, correct, and wise decisions are made based on information that takes into account risk and uncertainty or at least helps to create the right context for recognizing them. Financial reporting is the main sensitive part of an information system in any economic environment. When a corporate provides information about its financial status and performance to internal or external users, it willingly or unwillingly creates a situation in which direct the effect of various types of risk and uncertainty on the criteria and evaluation criteria of that corporate and also its future cash flows [3]. At present, financial reporting is supervised and controlled by professional organizations, and the necessary policies are made in accordance with the economic situation and conditions, as well as the information needs of users of financial reporting. information is an important infrastructure of the market in a capital market-based economy, and the provision of quality information by companies can improve the confidence of investors in the capital market and the flow of profits to productive investments.

Thus, companies that intend to attract capital and long-term activity in the market are expected to submit sound reports to the capital market. Businesses are competing with each other for access to limited and scarce capital resources, and voluntary disclosure of the information is essential to the success of this competition. The company's ability to raise capital will increase for reputed corporate. In addition, transparent financial reporting without information asymmetry will reduce the cost of capital of the corporate. Because there is less risk and uncertainty about entities that report financially extensively and reliably. At the same time, this will reduce the risk and uncertainty about investments and expected returns [14]. The internal control processes design and implementation is a way to deal with risk and uncertainty. Over the decades, different views and opinions have been expressed regarding internal controls. In recent statements, the concept of internal controls refers to a structure that is designed and implemented reliably by officials appointed by corporate managers to provide reasonable assurance about the credibility and quality of financial reporting providing the efficiency and effectiveness of the corporate's operations and, finally, the proper implementation of laws and regulations [21]. Internal controls are a vital and critical part of the company's governance system in a corporate, and their presence is essential for achieving organizational goals and creating value for stakeholders, and creating the ability to manage risks. On the other hand, an effective internal control structure creates a competitive advantage for the corporate; because corporates with effective and strong internal controls will be more capable of dealing with risks [9].

Weaknesses reporting the importance of internal controls to users inside and outside the organization provides valuable information about the weaknesses in the internal processes of the corporate and how managers operate. It is reasonably expected that the presence of weaknesses in a company's internal controls can affect the quality of financial reporting, assessing future cash flow, risk spending, and, consequently, the volume of investment in corporates [25]. Given that investors and managers rely on the information provided in the accounting system to perform their missions and tasks, the presence of weaknesses in internal controls that make it easier to manipulate accounting figures and the quality and capability will reduce the reliability of financial information, and thus may cause ambiguity and doubt. Weak financial reporting due to weak internal controls will affect the accuracy of internal management reports and will delay access to internal information. Therefore, the presence of weaknesses in the internal control structure will lead to inefficient allocation of resources by managers of corporates [26].

Weak reporting on internal controls reduces the accuracy and reliability of financial information and thus provides a good environment for managers to be opportunistic and misrepresent cash flow. This has led businesses to have the incentive to correct weaknesses in the structure of their internal controls, while the results and findings of previous studies show that this has led to significant economic improvements and in some cases the quality of financial reporting [7]. However, the impact of internal control weaknesses on financial reporting risk in Iran has not been studied so far and this reveals the importance of the present study, for its results can help develop theoretical concepts and improve financial reporting as well as decision-making mechanisms of managers, investors and other stakeholders of corporates. Given the above explanations, this study aims at answering the question of whether internal control weaknesses affect the financial reporting risk incorporates listed on the Tehran Stock Exchange. For the first time in Iran, the present study examines the impact of internal control weaknesses on financial reporting risk, and therefore the research findings help to develop the theoretical foundations of financial auditing and reporting. Based on the results of the study, internal control weaknesses have a positive and significant effect on financial reporting risk and therefore reduce financial reporting risk and increase the level of disclosure and consequently reduce information asymmetry and improve the quality of corporate governance in environments. The commercial is to properly identify and improve internal control weaknesses and minimize them.

## 2 Theoretical Foundations, Literature, and Hypotheses

The recent decade's financial scandals have made the risk of financial reporting a very important and pervasive issue and have attracted the attention of scientific circles. The importance of this issue has led to a growing consensus among users, suppliers, and financial analysts that it is essential to reduce financial reporting risk and increase the level of confidence in financial reporting (England Association of Certified Public Accountants). In the United Kingdom, for example, the Financial Reporting Council issued a statement in November 2013 proposing an integrated approach to reducing financial reporting risk, linking financial reporting risk management to internal controls in entities. One of the ways to control financial reporting risk is to improve the corporate governance system by improving internal control weaknesses.

Internal control is a process that is designed and implemented by the managers and other personnel of a corporation with the objective to achieve reasonable assurance of achieving the goals of the corporate, effectiveness and efficiency of operations, reliance on financial reporting, and compliance with current laws and regulations of the corporate. The presence of internal control system provides the necessary ground for achieving organizational goals and protecting the interests of all stakeholders. On the other hand, integrated financial reporting and internal controls are prepared by managers and independent auditors and provided to other stakeholders. These integrated reports are very useful for business stakeholders because the presence of an effective internal control structure in the financial reporting process plays a vital role in detecting and preventing the occurrence of financial distortions and fraud [26]. Thus, internal control weaknesses can be expected to reduce the quality of financial information, thus creating a favorable environment for managers to take advantage of, increasing the risk of financial reporting, and providing the conditions for financial reporting to reflect the facts.

Therefore, improving internal control weaknesses are expected to reduce financial reporting risk, and improving financial reporting risk will improve corporate governance. Jamei et al [13] examined the

relationship between internal control weakness and audit fees, with an emphasis on the political relations in companies listed on Tehran Stock Exchange. The natural logarithm of audit costs is used to measure audit fees. Auditors' reports are also used to measure internal control weaknesses. To investigate the relationship between variables, multiple regression using a panel data model is applied. The findings of the research show that there is a positive and significant relationship between the weakness of internal control and audit fees and the company's political relations undermining the relationship between the weakness of internal control and audit fees. Sutan [27] in a study examined the effect of the government's internal control system implementation effectiveness on the fixed assets administration. The research findings showed that the effectiveness of the system execution of government internal control affected the fixed assets administration positively and significantly. Asare and Wright [2] examined the effect of disclosing important weaknesses in internal control on operational risk. Given the mediating effect of operational risk and risk adjustment, they examined the effect of weaknesses in the internal control structure on financial reporting risk and their results showed that operational risk and risk adjustment gradually affected weaknesses which explain the importance of internal control over financial reporting risk.

Lee et al. [19] in a study examined the impact of internal control weaknesses on investment efficiency. Their results show that companies with major internal control weaknesses are faced more with less investing. The results also showed that the number of internal controls weaknesses has an inverse effect on investment efficiency. At the same time, the presence of major internal control weaknesses in the system weakens the management oversight and prevents efficiency in investment. Davidson et al. [5] conducted a study entitled "The relationship between managers' behavior, company culture, and financial reporting risk". The results of this study showed that unprofitable executives have almost weak environmental monitoring, which is most likely characterized by increased fraud in the organization and unintentional reporting errors during the years of service of these managers. In addition, cultural changes associated with increased risk of fraud are more likely to occur during the management of non-thrifty managers (as opposed to thrifty managers), including the appointment of a non-thrifty chief financial officer, and an increase in salary-based incentives. The directors' shares are used to provide inaccurate reports and reduce the severity of the board's regulatory actions. Li [20], This paper investigates how analyst forecast optimism is associated with disclosures of internal control material weaknesses (ICMWs) and their remediation under Section 404 of the Sarbanes–Oxley Act (SOX). Using a sample of 20,875 firm-year observations with 10-K (10-Q) reports from 2004 to 2018, find a positive association between ICMW disclosures and analyst forecast optimism. In addition, analysts are found to issue less optimistic forecasts for firms with ICMW remediation disclosures compared with those without ICMW remediation disclosures. Overall, the research suggests that analysts have incentives to take the opportunity of firms disclosing ICMWs to bias their forecasts upward for self-interest.

Moslemi et al. [16], examined the Ranking of Banks' Risk Reporting Using Data Envelopment Analysis. In addition, evaluated factors affecting risk disclosure from the perspective of corporate governance. Moreover, we assessed risk disclosure based on linguistic analysis of the board report text and capital adequacy ratio. Words were applied as measurement units to measure risk disclosure. According to the theoretical foundations presented in this research, first identified risk disclosure words in reports provided to financial information users and divided them into two categories of positive and negative risk disclosure words. Another variable selected for risk disclosure was the capital adequacy ratio. Effective variables in the corporate governance system in banks included board independence, the duality of CEO duties, and major shareholders as input variables in the data envelopment analysis (DEA) model. On

the other hand, the BCC model of DEA was selected as output-based nature. Hasani et al. [10] examined the Investors' Behavioral Biases in Tehran Stock Exchange by emphasizing the Role of Significant Weaknesses in Internal Control. The results using univariate analysis showed that there is no significant difference between the number of behavioral biases in each of the two groups of companies with weakness and lack of weakness in internal control. While multivariate analysis of data in the form of regression models showed that the auditor's report on significant weaknesses in internal control, (which Weakness indicates high agency costs and high information asymmetry between managers and shareholders) strengthens It is the collective behavior of investors but it has no effect on their mental anchor. According to the results, it seems that the behavioral biases of investors are conditioned by the priority and importance of good and bad news in the market.

Alipour et al. [1], examined the Internal Control Quality Assessment based on the Characteristics of the Entity and Auditor and their Expected Goals in the Firm's Listed Tehran Stock Exchange. To achieve the research's goal, 86 Firms from all Firms accepted in Tehran Stock Exchange for the period 2012-2017 were selected. Given the research hypothesis that points out that the internal assessment model based on the characteristics of the economic units, the characteristics of auditors and their expected objectives may more accurately assess the quality of the internal controls, according to the significance level of less than 0.05, the independent variables indicate a significant relationship between the internal controls assessment model based on the characteristics of the economic units, the characteristics of auditor and their expected objectives as well as the weaknesses of the internal control of the Firm. Furthermore, the estimated coefficient of the control variables of the research indicates a significant relationship between these variables and the weaknesses of the internal controls.

Kravet and Shevlin [17] surveyed 299 companies in the United States using the Fama and French model to examine the relationship between financial statement restatement and information risk based on the quality of accruals and concluded that there is a significant increase in the optional information risk for resubmitted companies after the resubmission announcement. They also concluded that the restatement of financial statements was associated with increased capital costs and short-term stock price responses. Yazawa [29] in their research examined the factors affecting the important weaknesses in internal controls, the relationship between major weaknesses and earnings quality, as well as the stock market response to the disclosure of important weaknesses. They found that firms with major internal control weaknesses were smaller, more complex, financially weaker, and slower in growth, and found that internal control weaknesses had no effect on stock prices, and companies on the other hand may not identify major weaknesses.

Keshtkar et al. [18] examined the mediating role of internal control weaknesses in the relationship between information content indicators of corporate profits and audit quality of for-profit units that are members of the Tehran Stock Exchange. Hence, profit information content and its criteria are dependent variables, audit quality and its criteria are independent variables, and internal control weaknesses and its criteria are mediating variables. The results showed that the financial reporting internal control weaknesses played a mediating role in the relationship between corporate profit information content indicators and audit quality. However, internal control weaknesses in operations and rules and regulations do not generally play such a role. These findings can help improve corporate earnings information content through audit quality. Razavi Iraqi et al. [28] examined the impact of major internal control weaknesses on investment inefficiency. Their research findings show that there is a positive and significant relationship between major internal control weaknesses and investment inefficiency. In fact, the results of

the study indicate that the presence of major internal control weaknesses leads to investment inefficiency in companies. Ghaderi et al. [8] examined the effect of managers' ability on the quality of internal control and used the two criteria of managers' reward and managers' efficiency as indicators to identify managers' ability. Also, the weaknesses index of the internal control system in the audit report was used to identify the quality of internal control. The results indicate that there is no significant relationship between managers' rewards and the quality of internal control. Also, the negative relationship between the variables of managers' efficiency and weaknesses in the internal control system indicates the improvement of the internal control system in the shadow of managers' abilities. Hajiha and Hedayati [12] examined the relationship between company culture and management behavior (optimism) with the financial reporting risk of companies listed on the Tehran Stock Exchange from 2008 to 2014. Results of multivariate linear regression analysis based on the panel data with constant effects showed that there is a direct and significant relationship between company culture and management behavior with the financial reporting risk of companies listed on the Tehran Stock Exchange. The cultural dimension of individualism is at the risk of financial reporting.

Cheraghizadeh and Moghadam [4] investigated the effect of internal control on the quality of financial reporting in listed companies using the McNichols model. The results of this study show that there is no significant relationship between internal control and the quality of financial reporting using the McNichols model. In other words, internal control does not affect the quality of financial reporting in the McNichols model. Hajiha and Hosseinnejad [11] examined the factors affecting the internal control weaknesses' importance. They tested the effect of eight explanatory variables on the dependent variable of internal control weaknesses importance. The results showed that there is a positive and significant relationship between stock price logarithm in the number of shares, the ratio of inventory to total assets and losses with weaknesses with the importance of internal control and the variables of the exchange rate, revenue growth, market value to book value, Altman z-score and the sum of total debt have nothing to do with the internal control weaknesses importance. According to the above literature and theoretical foundations, the hypothesis of this research has been formulated as follows:

**Research Hypothesis:** Internal control weaknesses have a positive and significant effect on financial reporting risk.

**Table 1:** The Research Sampling Method

Subject	Number
Total number of listed companies at march 20, 2019	328
Criteria:	
The number of companies listed on the stock exchange since 2009	(36)
The number of companies other than holding, investments, financial intermediation, banks or leasing	(55)
The number of companies whose fiscal year did not end at March 20, or have changed fiscal year during the scope of the research	(33)
The number of companies with trading interruptions of more than 3 months during the scope of the research	(61)
The sample	143

### 3 Research Methodology

This is an applied post-event approach paper. On the other hand, it is a descriptive-correlational study. In this study, the time period for measuring variables is 10 years (from 2009 to 2019). Multivariate

linear regression was used to examine the research hypotheses. Persian and English books and references were used to compile the theoretical foundations of the research. Data was collected using the Stock Exchange Organization and Rahavard Novin software. The statistical population of the current paper is companies listed on the Tehran Stock Exchange and the statistical sample is selected using the systematic removal method based on the criteria in Table 1. Given the above criteria, 143 companies were finally selected as a statistical sample, and the Excel spreadsheet was used to summarize and perform the required calculations and Eviews 12 was used to analyze the data.

### 3.1 Variables Introduction and Measurement

#### 3.1.1 The Dependent Variable

The current paper's dependent variable is financial reporting risk, which measures the quality of accruals was used to measure it. Using Dechow & Dichev's [6] model, the values of accruals were calculated and then categorized into 5 categories the lowest the numerical value that represents the highest quality of accruals to the biggest numerical value that represents the lowest quality of accruals. Then the stock return is calculated per category and the stock return surplus is calculated relative to the average per category. The theoretical basis for measuring the quality of accruals is based on the assumption that if the time of realization and occurrence of revenues and expenses of the company coincides with the receipt or payment of cash, the quality of accruals is higher and if differs the time of realization and occurrence of revenues and expenses of the company, the quality of accruals will be low from the time of receipt or payment of cash. In this study, the high quality of accruals indicates less financial reporting risk and the lower quality of accruals indicates greater financial reporting risk [17]. According to Dechow & Dichev [6] accruals figures in Equation (1), operating profit is equal to cash flows and related accruals, where:

$$WCA_{it} = \lambda_0 + \lambda_1 CFO_{it-1} + \lambda_2 CFO_{it} + \lambda_3 CFO_{it+1} + \lambda_4 \Delta REV_{it} + \lambda_5 PPE_{it} + \varepsilon_{it} \quad (1)$$

( $WCA_{it}$ ) = accruals are current working capital and

$CFO_{it-1}$  = Company i cash flow in year t-1

$CFO_{it}$  Cash flow of company i in year t

$CFO_{it+1}$  Cash flow from the company's operations in year t + 1

$\Delta REV_{it}$  Changes in company sales from year t-1 to year t

$PPE_{it}$  The gross value of the company assets, property and equipment is estimated in year t

$\varepsilon_{it}$  = The residual factor in this model indicates the quality of accruals.

The following formula will be used to calculate the accruals of current working capital:

$$WCA_{it} = (\Delta CA_{it} - \Delta Cash_{it}) - (\Delta CL_{it} - \Delta STDebt_{it}) \quad (2)$$

Where:

$\Delta CL$  = Change in current liabilities,

$\Delta Cash$  = Changes in Cash and Cash Equations,

$\Delta CA$  = Change in current assets,

$\Delta STDebt$  = Change in short-term debt included in current liabilities

#### 3.1.2 Independent Variable

Internal Control Weaknesses: the current paper used a number of condition clauses mentioned in the auditor's report as a symbol of internal control weaknesses [8].

#### 3.1.3 Control Variables

The current paper used the following control variables:

ROA: The ratio of the return on assets that is obtained by dividing the net profit by the total assets.

LOSS: A virtual variable that if the company has a loss, it is assigned the number one and otherwise the number zero.

CFO: Cash generated by operating activities divided by total assets.

Size: The logarithm of the total assets of the company.

Growth: Changes in company sales divided by last year's total sales.

Leverage: Total liabilities divided by total assets.

Return-dev: A measure of risk equal to the standard deviation of quarterly stock returns during the 12 months of each fiscal year.

Turnover-A: Total accounts receivable divided by total sales.

Turnover-I: Total inventory divided by the cost of goods sold.

Age: The logarithm of the number of years the company has been operating.

Brndind: The percentage of non-executive board members.

Brdsiz: The logarithm of the number of board members.

Policon: A virtual variable such that if the CEO or chairman of a board is a government official, it is assigned the number one and otherwise the number zero.

Top 3: The percentage of ownership of the three major shareholders of the company.

Code-State: a virtual variable such that if the company is under the controls imposed by the government, the number one and otherwise the number zero is assigned to it.

Code-Big: is a virtual variable such that if the auditor of the company is the auditing organization, the number one and otherwise the number zero is assigned to it.

According to the variables introduced above, the conceptual model of the research will be as follows:

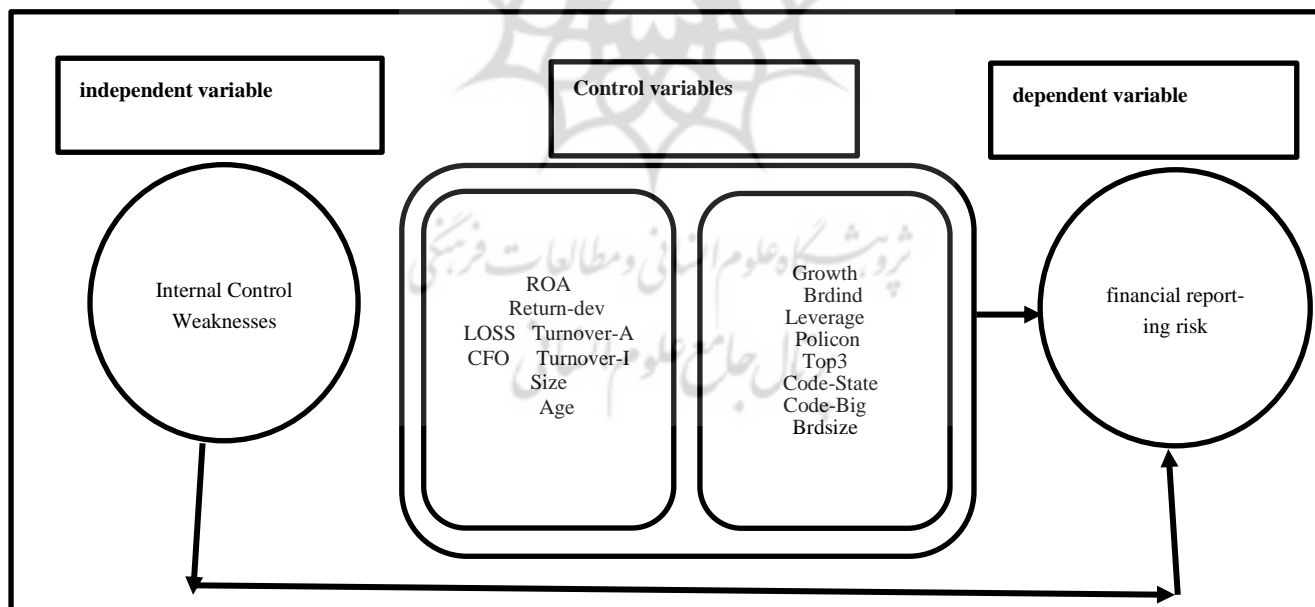


Fig. 1: Conceptual Research Model

### 3.4 Research Model



The multivariate linear regression model has been used in accordance with the theoretical framework and research background to test the research hypothesis following the research by Dong Jie et al. (2017), as follows:

$$\begin{aligned}
 \text{REP} = & \alpha_1 + \beta_1 \text{DISWEAK}_{it} + \beta_2 \text{ROA}_{it} + \beta_3 \text{CFO}_{it} + \beta_4 \text{LOSS}_{it} + \beta_5 \text{SIZE}_{it} + \beta_6 \text{LEV}_{it} + \\
 & \beta_7 \text{GROWTH}_{it} + \beta_8 \text{RETURN DEV}_{it} + \beta_9 \text{TURNOVER-A}_{it} + \beta_{10} \text{TURNOVER-} \\
 & \text{I}_{it} + \beta_{11} \text{AGE}_{it} + \beta_{12} \text{BRDSIZE}_{it} + \beta_{13} \text{BRDIND}_{it} + \beta_{14} \text{SUPERSIZE}_{it} \\
 & + \beta_{15} \text{POLICON} + \beta_{16} \text{TOP3}_{it} + \beta_{17} \text{CODE STATE}_{it} + \beta_{18} \text{CODE BIG}_{it} + \epsilon_{it}
 \end{aligned}
 \tag{3}$$

**Table 2:** Results of Descriptive Analysis of Quantitative Research Variables

Variable	Symbol	Mean	Median	Max	Min	SD	Skewness	Elongation	Observations
Financial reporting risk	REP	0.066	0.064	0.134	0.020	0.028	0.550	3.122	1430
Internal control weaknesses	DISW	0.527	0.000	5.000	0.000	0.151	2.201	6.877	1430
Company life	AGE	3.404	3.583	4.174	0.000	0.602	-1.517	5.784	1430
Independence of the board	BRDI	0.439	0.428	1.000	0.000	0.213	-0.334	2.895	1430
Board size	BRDS	1.679	1.609	1.945	1.609	0.136	1.433	3.053	1430
Cash flow ratio	CFO	0.118	0.100	0.810	-0.380	0.126	0.686	5.147	1430
Sales growth	GROW	0.185	0.141	4.689	-0.931	0.385	3.391	32.914	1430
Financial Leverage	LEV	0.586	0.606	0.996	0.012	0.191	-0.417	2.804	1430
Stock returns fluctuations	RETD	1.6749	1.8675	127.580	0.000	15.355	1.840	8.076	1430
Return on assets	ROA	0.117	0.097	0.726	-0.293	0.122	0.894	4.975	1430
size of the company	SIZE	1.7803	1.6143	19.066	9.880	1.499	0.754	4.094	1430
Major ownership	TOP3	0.678	0.750	0.989	0.000	0.263	-1.274	3.781	1430
Accounts receivable ratio	TURA	0.111	0.050	3.344	0.000	0.218	6.733	71.022	1430
Inventory ratio	TURI	0.549	0.286	163.338	0.000	4.556	33.123	116.051	1430
Return standard deviation	RETURNND	0.189	0.159	0.490	0.035	0.125	0.873	2.899	1430

**Table 3:** Results of Descriptive Analysis of Nominal Research Variables

Variable	Symbol	Measure	Percentage
Managing Director or Chairman of the Board of Directors	POLIC	Be a government official (1)	41.4
		Not a government official (0)	58.6
Losing	LOSS	Loss (1)	8.5
		Profitability (0)	91.5
Government-controlled company	CODSTA	Companies under government control (1)	25.9
		The company is not controlled by the government (0)	74.1
Type of auditor	CODBIG	Auditing organization (1)	44.9
		Other institutions (0)	55.1

## 4 Research Findings

## 4.1 Descriptive Statistics

Tables "2" and "3" show the results of the descriptive analysis of research variables. The results of this analysis show that the stock return volatility variable had the highest average and dispersion and the financial reporting risk variable had the lowest average and dispersion. Also, the internal control weaknesses have a minimum of zero and a maximum of five with an average of 0.527.

## 4.2 Research Hypothesis Test

The regression model was used to test the research hypothesis, in which the financial reporting risk as a dependent variable is a function of independent and control variables. In order to fit the mentioned regression model, it is necessary to first measure the appropriateness of the regression model with the help of statistical tests. Thus, Limer and Hausman's tests were used. The F- Limer test helps to choose the best estimation method between the Pooled method and the Panel method and the Hausman test compares the fixed effects estimation method and the random effects method. Thus, first, the regression model based on the combined method was fitted and then the F-Limer test was performed on the fitted regression.

### 4.2.1 F -Limer and Hausman Test

A summary of the results of the F-Limer test is given in Table 4. As can be seen, the probability value is equal to 0.000 which is less than 0.05, so the panel data method should be used to estimate the regression model.

**Table 4:** F-Limer Statistic

p-value	Statistic F	Result
0.000	8.77	Panel model

In the next step, the Hausman test is performed. As can be seen in Table 5, since the F-statistic of the Hausman test is significant at the 95% level, it would be appropriate to fit the regression model of the research using the panel data model using the fixed effects method.

**Table 5:** Hausman Test

p-value	Statistic F	Result
0.027	29.81	Panel with fixed effects

### 4.2.2 The Absence of Residual Autocorrelation

As can be seen in Table 6, Given the statistic of Watson- Durbin, which is equal to 2.018, it was found that the above model is not autocorrelated.

**Table 6:** Watson- Durbin Statistics

Limits of absence of autocorrelation	Watson- Durbin Statistic
$1.5 < WD < 2.5$	2.018

### 4.2.3 Results of Research Hypothesis Test

The current paper aims at investigating the impact of internal control weaknesses on financial reporting risk. To achieve this goal, the research hypothesis was stated as follows: Internal control weaknesses have a positive and significant effect on financial reporting risk. Given the results obtained from the classical regression hypothesis test, the multivariate linear regression model of the research was fitted. The obtained results are presented in order to test the research hypothesis in Table 7.

**Table 7:** Data Analysis Result

Variable	Symbol	$\beta$	t- statistic	Sig
Fixed coefficient	$\alpha_1$	5.1135	7.7879	0.0000
Internal control weaknesses	DISWEAK	0.0841	-3.7931	0.0002
Return on assets	ROA	-0.5692	-3.1926	0.0014
Losing	LOSS	-0.0918	-1.2896	0.1974
Cash flow ratio	CFO	-0.2459	-1.6164	0.1062
Size of the company	SIZE	-0.0238	-0.6610	0.5087
Financial Leverage	LEVERAGE	-0.1509	-1.8555	0.0638
Sales growth	GROWTH	-0.0504	-0.9705	0.3320
Return standard deviation	RETURN_DEV	0.0525	0.2692	0.7878
Accounts receivable ratio	TURNOVER_A	0.0354	0.3582	0.7202
Inventory ratio	TURNOVER_I	-0.0977	-0.2948	0.7682
Company life	AGE	-0.4131	-2.5597	0.0106
Board size	BRDSIZE	-0.1236	-1.2783	0.2013
Independence of the board	BRDIND	0.4363	3.4433	0.0006
Managing Director or Chairman of the Board of Directors	POLICON	0.0358	1.4278	0.1536
Major ownership	TOP3	-0.1698	-2.7705	0.0057
Government control	CODE_STATE	0.0129	0.2103	0.8334
Type of auditor	CODE_BIG	-0.0475	-1.1148	0.2651
Adjusted coefficient of determination: .867 F statistic: 59.649 F statistical significance: .000				

The results of the statistical analysis regarding the validity of the regression model are given in the first part of the table above. The adjusted coefficient of the regression model is 0.867 and indicates that this model has been able to explain 86% of the changes in the financial reporting risk of statistical sample companies through independent and control variables. Also, the results show that the Watson Durbin statistic value is between 1.5 and 2.5 and therefore, there is no strong correlation between the regression model errors and the lack of autocorrelation between the errors as one of the basic regression assumptions about the fitted model and thus it is accepted. Figure 7 last two columns show the results of ANOVA, which is decided based on the F statistic for the fitting pattern in the research hypothesis test. Since the significance level of the F statistic for the model is less than the test error level ( $\alpha = 0.05$ ), the estimated regression is statistically significant and there is a linear relationship between the research variables. According to the above results regarding the general validity of regression, it can be concluded about the coefficients of each variable.

The estimated coefficient for the internal control weaknesses variable that reflects the impact is equal to 0.0481 and the significance level is 0.0002 which is less than 0.05 (test error level). This finding indicates a direct and significant relationship between these variables and shows that the financial reporting risk of companies increases with increasing internal control weaknesses. This finding is consistent with the claim made in the research hypothesis and this hypothesis is accepted at a 95% confidence level.

## 5 Discussion and Conclusion

Corporations should have a proper financial reporting system to achieve short-term and long-term goals and properly perform missions and fulfill the vision, maintain and enhance financial strength and profitability, deal with unexpected events, and transparent, convincing, and appropriate responses to respondents. The growing need of institutions and organizations for accurate and timely information to be used in the decision-making processes of different groups is inevitable and becomes more necessary with the complexity of business activities. What is important is that financial reporting should be honest and consistent with economic realities and free from any distortion or abuse, so that users of financial reporting feel the least risk of financial reporting. The current paper aimed at investigating the effect of internal control weaknesses on financial reporting risk in companies listed on the Tehran Stock Exchange. Based on the results of the research hypothesis test, internal control weaknesses have a positive and significant effect on financial reporting risk.

Therefore, it can be concluded that one of the appropriate strategies to reduce the risk of financial reporting and increase the level of disclosure and consequently reduce information asymmetry and improve the quality of management systems in companies is to properly identify internal control weaknesses, improve them and reduce them to a minimum. Internal controls are a process designed and implemented by management and other staff to achieve the unit's objectives in terms of reliability of financial reporting, effectiveness and efficiency of operations, and compliance with relevant laws and regulations. Therefore, internal controls are designed and implemented to identify those business risks that threaten the achievement of each of these goals [1]. Weak internal controls can lead to shareholder information risk and as a result, increase the cost of the company's capital, increase bias (intentional or unintentional) bias in profitability reporting, reduce the effectiveness and efficiency of business operations, and thus the company's lack of continuity of profitability. It was concluded that weak internal controls have a direct effect on the systematic risk index of companies, which is calculated based on the correlation between stock returns and market returns, and also on financial reporting risk.

Given the research findings, the following suggestions can be made:

- Investors are recommended to increase the amount of information and their level of knowledge of internal control weaknesses, and in their annual reports to properly disclose the status of internal control of the company and based on the number of observed weaknesses to assess the National Reporting risk.
- Company managers are recommended to make well-organized plans to identify and correct internal control weaknesses in companies.
- In order to improve the corporate governance system practices, company managers are recommended to conduct a more accurate assessment of financial reporting risk and to disclose how to manage and control financial reporting risk in their annual reports.

Researchers who intend to conduct future research are also encouraged to consider the following topics:

- Investigate the impact of internal control weaknesses at different levels (at the level of a specific account or at the company level) on financial reporting risk.
- Investigate the impact of various types of internal control weaknesses on financial reporting risk in various industries.
- Investigate the impact of internal control weaknesses on audit quality.

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