Journal of Management and Accounting studies

www.researchub.org

Investigating the relationship between management forecasting of profits and management incentives with managers' risk-taking in companies listed on the Tehran Stock Exchange

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Abstract

The purpose of this study was to investigate the effect of management forecasting of profit and managerial motivations on managers' risk-taking in companies listed on the Tehran Stock Exchange. The research method was correlational in nature and content of a research. The method of this research was descriptive and correlational based on composite data and multivariate regression statistical method was used to examine the relationship between independent and dependent variables. Data analysis was performed based on the method of studying composite data, regression of composite data with fixed effects (panel). The statistical population of this study was the companies listed on the Tehran Stock Exchange in the period from 1392 to 1397. Using elimination screening sampling method, 106 companies were studied as a statistical sample size. Data analysis and processing was performed using Eviews10 software and the results showed that fluctuations in management's estimate of the CEO's percentage of dividends, annual bonuses paid to managers on managers' risk-taking in companies listed on the Tehran Stock Exchange. It has a significant effect.

1. Introduction

Profit is one of the most important items in financial statements that attracts the attention of users of financial statements. Investors, Lenders, Managers, Company Employees, Analysts, Government and

Other Users of Profit Financial Statements as a Basis for Making Investment Decisions, Lending, Profit Policy, Corporate Valuation, Tax Calculation and Other Corporate Decisions use. Excessive emphasis of the capital market on profits and related information has made this figure one of the most important factors in stock price changes and makes the value of the company dependent on itself by creating an abnormal return. On the other hand, companies try to reduce investment risk to increase their value. Investment risk is a fluctuation in the realized and expected returns of the investor. From the investors' point of view, the higher the quality and quantity of information published by the company, the lower the information asymmetry of the company and consequently the clearer the outlook for the future performance of the company. In such a case, investors have more accurate estimates of return on investment and fewer adjustments are made to the estimates made. This reduces the risk of stocks of companies with high quality information. Investors, creditors and other users of corporate financial information, in addition to historical information, also need information about the future of entities and are always looking for information that shows the trend of future profits. One view is to provide only historical and current information to the entity so that investors can make future predictions themselves. Another view is that management, with the resources and facilities at its disposal, can make reliable forecasts and increase the efficiency of financial markets by publishing these forecasts publicly; because company managers are in the group of those users of financial statements who are present within the company and of course get more information than foreign users. In addition to financial statements, they also have access to information that is considered confidential to the company. In addition, faster and cheaper information is provided to managers. Deciding on the choice between the above two views seems difficult because there is no acceptable understanding of how information is processed by investors and efficient market theory emphasizes the extent and speed of the impact of financial information on stock prices. Various studies have reached conflicting conclusions in this regard. But in general, most stakeholders believe that publishing financial forecasts helps make investment decisions; Also, because the information about the profit and its forecast by the manager, compared to other information published by the company, is more important to investors and other stakeholders, it is necessary to pay attention to the characteristics of this information. On the other hand, the presence or absence of information about companies and their shares can affect the company's risk; If management, as an informed person, charts the future of the company by predicting earnings per share for shareholders and has reasonable management risk, investors will be more confident in assessing future cash flows. In it, the relationship between management forecasting of management profits and incentives and managers' risk-taking has been tried.

Problem Description

　　All managers deal with the decision-making process. In fact, decision-making and management can be considered synonymous; Because decision making is a key component of management. That's why knowing the decision is so important. Investment requires the study of the investment process and the management of shareholder wealth, and the investment process, in a coherent manner, requires an assessment of the core nature of investment decisions; Therefore, investment decisions must be made based on scientific principles and with due care. Decisions are made according to the availability of the necessary information in four situations of complete confidence, risk, uncertainty and ambiguity. Among these four factors in the decision-making process of investment company managers, the degree of risk acceptance according to the desired return. Is an important factor. The quality and manner of managers' decisions affect the success and achievement of organizational goals; In other words, the fate

of the organization depends on how managers make decisions and the results (Dostar et al., 2017). Increasing advances in technology, the globalization of the economy and trade, as well as the intensity of environmental changes and increasing uncertainty in the process of these changes have made risk and uncertainty an integral element of the decision-making process in the organization. It has become more complex than ever. In such an environment, managers, who are the main decision-makers of the organization, show different reactions that show how they behave. The desire for risk-taking and the attitude of managers towards risk, which is one of the characteristics of a particular personality, determine the type of their behavior. The importance of risk-taking is such that it is one of the most important and fundamental factors for success in managers' decision-making in terms of risk and uncertainty (Fallah Shams. 2008). Firms with more risk-averse managers reduce their changes and average profits when faced with risky situations and uncertainty; Because these managers are willing to accept lower profits in order to face less risk. The presence of risk-averse attitude in managers makes them reluctant to choose investment plans with high profitability and risk, which in turn, reduces the investment rate. Risk managers also choose low-risk, low-risk activities and avoid new and advanced high-risk technologies. In such a situation, the productivity of the organization may also decrease. Various factors affect the risk-taking of managers in companies and organizations. One of these factors, which in this study is to investigate its effect on managers' risk-taking, is the management of profit forecast. It should be noted that one of the purposes of accounting and preparing financial statements is to provide useful information for decision making. Statement 4 of the Accounting Principles Board states that one of the general purposes of financial statements is to provide information to help predict the future earnings of an entity. Profit is one of the most important items in financial statements that attracts the attention of users of financial statements. Forecasting this figure by the managers of economic units helps investors in making decisions about buying and selling stocks. On the other hand, the phenomenon of uncertainty in the market and lack of information makes managers look to the future with skepticism and have less desire to predict profits and disclose it (Saleh Nezhad & Vaghfi, 2016).

It was found that organizations, which give intentional MEFs, have essentially higher worth pertinence of profit and income segments (i.e., working incomes and typical/anomalous accumulations) in monetary reports. Also, the explicitness of MEFs is related with higher worth importance of profit (Dong et al., 2019). An experimental proof showed that profoundly remunerated directors are related with the probability of giving upwardly one-sided (for example more idealistic) income conjectures (Chi et al., 2019). Investigate the impact of management optimism and pessimism on earnings management showed that hopeful administrators keep an eye on profit the executives through incomes and accumulations techniques (Rezazadeh et al., 2020). Administrators as a rule report earnings forecasts with inclination and conceal the failure of speculations to secure their own advantages and the comfort of actual investors and different partners (Rezazadeh. 2020). The exactness and precision of the earnings forecasts will additionally decay for organizations with higher obligation proportions, demonstrating that liabilities might be one of the ways of expansion influencing deliberate data exposure (Zou. 2019).

Managers have access to information in addition to financial statements that is considered confidential to the company. Investors, creditors, and other users of corporate financial information need information about the future of entities in addition to historical information. One of this information is the profit forecast by the unit management, which is of particular interest and causes changes in the behavior of investors and the stock market (Hirst et al., 2008). Voluntary and mandatory

disclosure are basically the two most important communication channels for managers to transfer information to external stakeholders. Although the relevant literature shows that these two types of disclosures have valuable and relevant information and significantly affect the price of securities, however, these disclosures can also have errors. Examining this issue can lead to a better understanding of the value of information disclosure and can also be used by investors and standardization authorities (Gong et al., 2009). The second variable that in this study intends to investigate its effect on managers' risk-taking is managerial incentives. A closer look reveals that there are different procedures for managers' incentives. Therefore, the question has always been what method and how much reward is appropriate for managers, which on the one hand motivates managers and on the other hand causes them to strive more to achieve greater efficiency. What is certain; The capitalist view always emphasizes on increasing the wealth of shareholders and investors, so it should always be noted that the efficiency and effectiveness of business managers is important, and by encouraging successful managers, this increase in wealth can be accelerated. One of the basic procedures in this way is to own the managers (creating a system of collateral shares). Another way to evaluate their performance is to reward them accordingly, but the fundamental question is which evaluation method is best. Value added basis can be one of the desirable bases of performance evaluation; That is, based on value added, managers are evaluated and even rewarded as a percentage of it (Sheikholeslami. 2001). Value-added analysis always offers an answer that is consistent with maximizing shareholder profits. For managers to be motivated to act to increase shareholder profits, their rewards must be based on the added value they have created. Management goals based on increasing profits or market share, increasing the return on assets or equity, or other business metrics can create incentives that are incompatible with maximizing shareholder wealth. Maximizing value added always creates incentives to maximize shareholder wealth (Ely. 1991). In general, managerial motivations are thought to be the main solution to the agency problem. According to this belief, if a suitable model for reward payment is established; Managers work in the interests of shareholders and lenders. The main reason for the reward scheme is that managers should be rewarded for their organizational responsibilities and motivated to perform better Sajjadi & Zarezadeh Mehrizi. (2011). One of the most effective ways to reduce conflict of interest between managers and shareholders and improve the performance of managers is to motivate managers using reward-based schemes (Sajjadi & Zarezadeh Mehrizi. 2011).

The importance of research

One of the most important responsibilities of managers at all levels of management is "decision making". The quality and manner of decisions affect the success rate and achievement of organizational goals. In other words, the fate of the organization depends on how managers decide and the results. Increasing advances in technology, globalization of the economy and trade, as well as the intensity of environmental changes and increasing uncertainty in the process of these changes have made risk and uncertainty an integral part of the decision-making process in the organization. Other times have become more complicated. In such an environment, managers, as the main decision makers of the organization, show different reactions and reactions that express how they behave. The desire for risk-taking and the way managers view risk as one of the special personality traits determine the extent of their risk-taking or elusive behavior when making decisions. Some managers seek to take risks and take risks. Others avoid accepting risk and avoid risk. Another group is indifferent to accepting or rejecting risk and is considered neutral.

The importance of risk-taking is such that it is considered as one of the important and fundamental factors of success in managers' decision-making in terms of risk and uncertainty. March Shapira (1987) reviewed the results of a number of studies on the risk-taking of top executives. These results show that senior executives believe that risk-taking is one of the basic and fundamental factors of success in decision making. The majority of them stated that there is a positive correlation between risk and return. These managers believe that risk-taking is very important in managerial jobs. Therefore, the study of factors affecting managers 'risk-taking is also of special importance and necessity. In this study, the intention is to examine the relationship between management's forecast of profit and management motivation on managers' risk-taking.

2. Literature and research background

Susan et al., (2018) in a study examined the relationship between management forecasting profit, management incentives and managers' risk-taking. In this research, data from 1994 to 2011 have been used to analyze the data. Findings of this study showed that management forecast of profit has a significant effect on managers' risk-taking. It was also found that managerial motivations have a significant effect on risk-taking of company managers.

Brockman & Cicon (2013) examined the content content of managers' earnings forecasts. They tested the information content of the effects of quantitative (hard) and qualitative (soft) information in predicting managers' profits. The results of their research show that there is a positive relationship between the components of profit reporting and the amount of abnormal returns. The results of their study also show that the explanatory power of qualitative information in announcing profit forecasting is more than quantitative information.

Hag choi & Ziebrat (2010) examined managers' earnings forecast and future earnings response ratio. Their findings show that quarterly and short-term forecasts increase the relationship between future returns and profits compared to long-term forecasts. Quarterly forecasts help investors form better expectations for future returns.

Foerster et al., (2009) investigated the effect of voluntary disclosure of management profit forecasts on investors' assessment of firm risk and value. They found that there was a significant inverse relationship between the release of management profit forecasts and the firm's information risk. They also proved that management profit forecasting has a direct and significant relationship with company value.

Dostar et al., (2017) in a study investigated the effect of mass behavior on the risk-taking of managers of investment companies in the Tehran Stock Exchange. Today, mass behavior, which is one of the most important behavioral biases among investment companies, managers and investors, plays a very important role in risk acceptance, stock returns and investment portfolio. The purpose of this study is to investigate the effect of mass behavior of managers of investment companies on their risk-taking. The statistical population of the study includes all CEOs and managers related to investing in investment companies listed on the Tehran Stock Exchange and the sample size was calculated using the Cochran's formula of 196 people. To analyze the hypotheses presented in the conceptual model of the research, the structural equation modeling method with partial least squares (PLS) approach was used. The results of the analyzes indicate the confirmation of the main hypothesis of the research and four related hypotheses related to it. The results showed that there is an inverse relationship between risk-taking and mass behavior of investment company managers.

Saleh Nejad & Waqfi. (2016), in a study examined the effect of profit forecasting by management on risk and value of the company. This study investigates the relationship between earnings forecast by

management with risk and value of companies using historical data from 2008 to 2013 related to 110 companies listed on the Tehran Stock Exchange. The results show the significant effect of earnings per share management forecast on the value of the company and the lack of effect of these forecasts on the stock risk of the studied companies during the research period.

Salafzoon et al., (2016) in a study examined the relationship between risk-taking, company value and management profit forecast in companies listed on the Tehran Stock Exchange. The purpose of this study is to investigate the relationship between risk-taking, company value and management profit forecast in companies listed on the Tehran Stock Exchange. The statistical sample of the research includes 115 companies from the companies listed on the Tehran Stock Exchange, which have been selected based on the screening method. Multivariate was used. The empirical evidence obtained from the hypothesis test indicates that the second hypothesis was confirmed and the other two hypotheses were rejected. According to the results, there is an inverse relationship between the future value of stocks and the high accuracy of management profit forecasting with the company's risk-taking. Also, the high accuracy of managers' profit forecasts, there is no significant relationship between risk-taking and the future value of the company.

Research objectives
The main objective

Investigating the effect of management forecast of profit and managerial motivations on managers' risk-taking in companies listed on the Tehran Stock Exchange.

Sub-objectives

1) Investigating the effect of profit forecast issuance by management on managers' risk-taking in companies listed on the Tehran Stock Exchange
2) Investigating the effect of fluctuations in management estimates of profits on managers' risk-taking in companies listed on the Tehran Stock Exchange
3) Investigating the effect of the percentage of CEO shares on the risk-taking of managers in companies listed on the Tehran Stock Exchange
4) Investigating the effect of loss avoidance on managers' risk-taking in companies listed on the Tehran Stock Exchange
5) The effect of the annual bonus paid to managers on the risk-taking of managers in companies listed on the Tehran Stock Exchange

Research Hypotheses
The main hypothesis

Management forecasts of profits and managerial motivations have a significant effect on managers' risk-taking in companies listed on the Tehran Stock Exchange.

Sub-hypotheses

1) The publication of earnings forecasts by management has a significant effect on the risk-taking of managers in companies listed on the Tehran Stock Exchange.

2) Fluctuation in management's estimate of profit has a significant effect on managers' risk-taking in companies listed on the Tehran Stock Exchange.

3) The percentage of CEO shares has a significant effect on the risk-taking of managers in companies listed on the Tehran Stock Exchange.

4) Annual bonuses paid to managers have a significant effect on managers' risk-taking in companies listed on the Tehran Stock Exchange.

3. Research method

This research is a quasi-experimental research in the field of financial management research. In fact, quasi-experimental research is used to bring research closer to the conditions of research experiments, in cases where it is not possible to control or use all relevant variables. This research is an applied research in terms of purpose-based research classification. Applied research is research that uses theory, regularities, principles and techniques to solve practical and real problems. This research is a descriptive research. Descriptive research describes and interprets what is without interference.

The purpose of the collection is to test the hypothesis or answer questions about the current state of the subject matter. In this study, a moderator variable has been used to investigate the issue. The moderator variable is a variable that affects the direction and intensity of the relationship between the independent and dependent variables.

Statistical population and sampling method

The statistical population of the present study includes all companies listed on the Tehran Stock Exchange over a period of 6 years, from 1392 to 1397.

In this study, in order for the research sample to be a suitable representative of the statistical population, the screening (elimination) method was used to select the sample. For this purpose, the following criteria have been considered and if a company has met all the criteria, it has been selected as one of the sample companies. The screening (elimination) sampling method is by applying the following conditions:

1. The information needed to calculate the operational variables of the research should be available to them.

2. They have been admitted to the stock exchange since at least 1392 and are active in the stock exchange until the end of the research period.

3. The end of their fiscal year should be Esfand 29.

4. Not to be part of financial intermediation, investment, banking, insurance and leasing industries.

5. Do not have a trading interruption of more than three months.

Methods and tools of data analysis

Regression estimation using panel data method is used to estimate the models. Panel data is a combination of cross-sectional data and time series. That is, information about cross-sectional data is viewed over time. Thus, such data have two dimensions, one of which is related to different units in each specific time period and the other dimension is related to time. In practice, using the panel method has two major advantages over cross-sectional data and time series methods :

The first is that it allows the researcher to consider and examine the relationship between variables and even sections over time, and the second advantage is the ability of this method to control the individual effects of sections that can be seen and measured. They are not catching. Eviews10 software is used to analyze the data.

How to examine and measure variables

In this study, two regression models will be used to test the research hypotheses:

Model (1) : Investigating the effect of management forecast of profit on managers' risk-taking:

$$RISK_{it} = \alpha_0 + \beta_1 MEF_{it} + \beta_2 DMEF_{it} + \beta_3 SIZE_{it} + \beta_4 MTB_{it} + \beta_5 LEV_{it} + \beta_6 ROA_{it} + \beta_7 INST_{it} + \beta_8 DD_{it} + \varepsilon_{it} \tag{1}$$

Model (2): Investigating the effect of managerial incentives on managers' risk-taking

$$RISK_{it} = \alpha_0 + \beta_1 CEOSH_{it} + \beta_2 MR_{it} + \beta_3 SIZE_{it} + \beta_4 MTB_{it} + \beta_5 LEV_{it} + \beta_6 ROA_{it} + \beta_7 INST_{it} + \beta_8 DD_{it} + \varepsilon_{it} \tag{2}$$

In the above models:

Risk-taking (RISK)

Publication of earnings forecast by management (MEF)

Fluctuation in Estimated Profit Management (DMEF)

Percentage of CEO shares (CEOSH)

Annual Rewards Paid to Managers (MR)

Company size (Size)

Market value to stock book value (MTB)

Financial Leverage (LEV)

Return on Assets (ROA)

Institutional Shareholder Ownership (INST)

Payment of interest (DD)

How to measure research variables

The dependent variable

Risk-taking (RISK):

In this study, managers' risk-taking is obtained from the standard deviation of the following relationship:

$$r_{it} = \alpha_0 + \beta_1 r_{mt} + \varepsilon_{it} \tag{3}$$

In the above relationship:

r_{it} : Company stock returns at time t

r_{mt} : Market returns at time t

Independent variables

Profit forecast by management:

This study uses the framework provided by Venkataraman (2008) to evaluate how differences in management profit forecasting features affect corporate risk. Based on the above, companies with profit forecast disclosure policies are expected to have higher stock returns and less risk compared to other

companies, and this is due to the greater confidence of the capital market in these companies. Also based on this expectation, fluctuations or changes in earnings forecasts during the fiscal year seem to affect the company's risk. The main independent variable of this research is the forecast of earnings per share of listed companies. In this study, the effects of this variable have been investigated in two parts. In the first part, the effect of publishing or not publishing profit forecasts and in the second part, the effect of forecast fluctuations during a financial year are examined.

1) Publication of earnings forecast by management (MEF)

To explain the effect of publishing the management profit forecast, a virtual variable has been used that if the company has disclosed the mentioned figure in the desired period; Its value is one and otherwise zero.

2) Fluctuation in Management Estimation of Profit (DMEF)

One of the objectives of this study is to investigate the type and intensity of correlation between earnings forecast changes and research dependent variables. To measure the intensity of changes, the standard deviation of earnings per share forecasts published during a fiscal year has been used.

Managerial incentives:

In this research, two factors are used to examine management incentives:

1) Percentage of CEO shares (CEOSH)

In this study, the percentage of CEO shares is obtained from the amount of shares owned by the CEO at the end of the fiscal year.

2) Annual bonus paid to managers (MR)

Annual bonus paid to managers through Rial value Annual bonus paid to managers will be obtained.

Control variables

1) Company size (SIZE)

The size of the company will be obtained through the natural logarithm of the total assets of the company.

2) Market value to book value of stocks (MTB)

This variable is obtained from the ratio of the market value of stocks to the book value of stocks.

3) Financial Leverage (LEV)

Financial leverage will be obtained through the ratio of total corporate debt to total corporate assets.

4) Return on Assets (ROA)

It will be obtained through the ratio of profit or net income to the total assets of the company.

5) Institutional Shareholder Ownership (INST)

This variable will be obtained through the ratio of the number of shares of institutional shareholders to the total shares of the company.

6) Payment of interest (DD)

Interest payment is a virtual variable. Thus, if the company has paid dividend in year t, it is considered as number 1 and otherwise as number zero.

4. Findings

Descriptive Statistics

In order to better understand the nature of the community studied in the study and become more familiar with the research variables, it is necessary to describe these data before analyzing the statistical data. Also, statistical description of data is a step towards identifying the pattern that governs them and a basis for explaining the relationships between variables used in research. Information about the research variables and central indicators and criteria including mean, median and dispersion indices including standard deviation and skewness and minimum and maximum variables are reported in Table (1).

Table (1): Abbreviation of research variables

Row	Variables	Observations	Average	Medium	Maximum	Minimum
1	RISK	636	0/566	0/554	4/349	-3/216
2	MEF	636	0/551	1	1	0
3	DMEF	636	0/107	0/069	0/782	-0/771
4	CEOSH	636	4/994	4/234	8/645	0
5	MR	636	0/371	0/308	0/868	0/013
6	SIZE	636	6/230	6/040	8/297	4/640
7	MTB	636	0/380	0/327	1/372	0/0006
8	LEV	636	0/588	0/623	0/908	0/042
9	ROA	636	0/150	0/120	0/832	0/0006
10	INST	636	0/635	0/693	0/986	0/131
11	DD	636	0/557	1	1	0

4.1. Jurqe-Bra test

The porbablity value can be observed to make it easier to check the normality of the variable. If the value of porbablity is greater than 0.05, the null hypothesis that the variable is normal will not be rejected with 95% confidence. As can be seen in Table (2), all variables in this study have a normal distribution.

Table (2): Jurqe-Bra test results to determine the normality of the data

Row	Variables	jarque-Bera	porbablity
1	RISK	0/569	0/752
2	MEF	2/869	0/238
3	DMEF	0/668	0/715
4	CEOSH	1/207	0/546
5	MR	0/371	0/830

6	SIZE	2/396	0/301
7	MTB	0/288	0/865
8	LEV	2/201	0/315
9	ROA	0/569	0/752
10	INST	2/869	0/238
11	DD	1/207	0/546

Regression analysis (1)

To test the main hypothesis of this research, regression model (1) was used using composite data and the fixed effects method was used. The summary of the results using Eviews software is given in Table (3).

Table (3): Results of Regression Model Analysis (1)

Independent Variable	Coefficient	Standard error	t-statistics	P-Value	Relationship type	Probability
C	-10/432	0/586	-17/876	0/000	-	-
MEF	-0/025	0/074	-0/336	0/7366	Meaningless	-
DMEF	-1/289	0/393	-3/278	0/0011	Significant	99%
SIZE	1/410	0/086	16/270	0/0000	Significant	99%
MTB	0/853	0/113	7/491	0/0000	Significant	99%
LEV	0/498	0/184	2/701	0/0071	Significant	99%
ROA	5/970	0/460	12/952	0/0000	Significant	99%
INST	1/323	0/225	5/866	0/0000	Significant	99%
DD	-0/0005	0/064	-0/008	0/9936	Meaningless	-
	R-Squared	Adjusted R^2	Deviation from the mean of regression	F-statics	Prob.	D-W
Statics	0/683	0/615	0/667	9/995	0/000	1/503

According to the results of the regression model test (1) as described in Table (3), it can be seen that the numerical value of P-value related to F statistic, which indicates the significance of the whole regression, is equal to 0.000 and indicates that The model is significant at 95% confidence level. The adjusted coefficient of determination R^2 is equal to 0.667 and indicates that approximately 66.7% of the changes of the dependent variable can be explained by the independent variables of the model, which shows the explanatory power of this regression.

Test of the first hypothesis: the publication of earnings forecasts by management has a significant effect on managers' risk-taking in companies listed on the Tehran Stock Exchange.

H0: The publication of earnings forecasts by management does not have a significant effect on managers' risk-taking in companies listed on the Tehran Stock Exchange.

H1: The publication of earnings forecasts by management has a significant effect on the risk-taking of managers in companies listed on the Tehran Stock Exchange.

As can be seen in Table (3), the coefficient of the independent variable (publication of profit forecast by management) is equal to -0.025 and its significance level (Prob) is 0.7366. According to the t and p-value statistics of this variable, the results indicate that this variable is not significant. These findings show that the publication of earnings forecasts by management does not have a significant effect on

managers' risk-taking in companies listed on the Tehran Stock Exchange. Therefore, the first hypothesis of this study was not confirmed.

Test of the second hypothesis: Fluctuation in management's estimate of profit has a significant effect on managers' risk-taking in companies listed on the Tehran Stock Exchange.

H0: Fluctuation in management's estimate of profit does not have a significant effect on managers' risk-taking in companies listed on the Tehran Stock Exchange.

H1: Fluctuation in management's estimate of profit has a significant effect on managers' risk-taking in companies listed on the Tehran Stock Exchange.

As can be seen in Table (3), the coefficient of the independent variable (fluctuation in management's estimate of profit) is equal to -1.289 and its significance level (Prob) is 0.0011. According to t and p-value statistics of this variable, the results indicate the significance of this variable at the level of 99% confidence. These findings show that fluctuation in management's estimate of profit has a significant effect on managers' risk-taking in companies listed on the Tehran Stock Exchange. Therefore, the second hypothesis of this study was confirmed.

Regression analysis (2)

To test the sub-hypothesis of the research, regression model (2) was used using composite data and the fixed effects method was used. The summary of the results using Eviews software is given in Table (4).

Table (4): Results of Regression Model Analysis (2)

Independent Variable	Coefficient	Standard error	t-statistics	P-Value	Relationship type	Probability
C	-10/809	0/799	-13/518	0/000	-	-
CEOSH	-0/024	0/012	-1/975	0/0488	Significant	95%
MR	-1/378	0/393	-3/504	0/0005	Significant	99%
SIZE	1/645	0/086	18/977	0/0000	Significant	99%
MTB	1/072	0/109	9/838	0/0000	Significant	99%
LEV	0/128	0/181	0/704	0/4813	Meaningless	-
ROA	4/638	0/295	14/807	0/000	Significant	99%
INST	0/631	0/488	1/406	0/1604	Meaningless	-
DD	0/056	0/058	0/953	0/3407	Meaningless	-
	R-Squared	Adjusted R^2	Deviation from the mean of regression	F-statics	Prob.	D-W
Statics	0/754	0/687	0/624	11/217	0/000	2/120

According to the results of the regression model test (2) as described in Table (4), it is observed that the numerical value of P-Value related to F statistic, which indicates the significance of the whole regression, is equal to 0.000 and indicates that The model is significant at 95% confidence level. The adjusted coefficient of determination of R^2 is equal to 0.624 and indicates that approximately 62.4% of the changes of the dependent variable can be explained by the independent variables of the model, which shows the explanatory power of this regression.

Test of the third hypothesis: The percentage of CEO shares has a significant effect on the risk-taking of managers in companies listed on the Tehran Stock Exchange.

H0: The percentage of CEO shares does not have a significant effect on the risk-taking of managers in companies listed on the Tehran Stock Exchange.

H1: The percentage of CEO shares has a significant effect on the risk-taking of managers in companies listed on the Tehran Stock Exchange.

Findings of the study in the regression model (2) also showed that the coefficient of the independent variable (percentage of CEO shares) is equal to -0.024 and its significance level (Prob) is 0.0488. According to the t and p-value statistics of this variable, the results indicate the significance of this coefficient at the level of 95% confidence. These findings show that the percentage of CEO shares has a significant effect on managers' risk-taking in companies listed on the Tehran Stock Exchange. Therefore, the third hypothesis of the research was confirmed.

Fourth Hypothesis Test: Annual bonuses paid to managers have a significant effect on managers' risk-taking in companies listed on the Tehran Stock Exchange.

H0: Annual bonuses paid to managers have no significant effect on managers' risk-taking in companies listed on the Tehran Stock Exchange.

H1: Annual bonuses paid to managers have a significant effect on managers' risk-taking in companies listed on the Tehran Stock Exchange.

As can be seen in Table (4), the coefficient of the independent variable (annual remuneration paid to managers) is equal to -1.378 and its probability level (Prob) is 0.0005. According to the t and p-value statistics of this variable, the results show the significance of this coefficient at the level of 99% confidence. These findings show that the annual bonus paid to managers has a significant effect on managers' risk-taking in companies listed on the Tehran Stock Exchange. Therefore, the fourth hypothesis of this study was confirmed.

5. Discussion

According to the research findings, we evaluate the results of this research:

Evaluating the results of the first hypothesis

The publication of earnings forecasts by management has a significant effect on managers' risk-taking in companies listed on the Tehran Stock Exchange.

Analysis of data on the first hypothesis of this study based on the effect of management forecast earnings release on managers' risk-taking in companies listed on the Tehran Stock Exchange showed that the variable coefficient of earnings forecast release by management is equal to -0.025 and its significance level is 0.7366. These results indicate that this variable is not significant. These findings show that the publication of earnings forecasts by management does not have a significant effect on managers' risk-taking in companies listed on the Tehran Stock Exchange. Therefore, the first hypothesis of this study was not confirmed. The findings of the results of this hypothesis are not in line

with the findings of Susan et al., (2018) which can be explained by the difference in the statistical population.

Evaluation of the results of the second hypothesis

Fluctuation in management's estimate of profit has a significant effect on managers' risk-taking in companies listed on the Tehran Stock Exchange.

Analysis of data on the second hypothesis of this study based on the effect of fluctuation in management estimates of earnings on risk-taking of managers in companies listed on the Tehran Stock Exchange showed that the coefficient of variation in management estimates of earnings equal to -1.289 And its significance level is 0.0011. These results indicate the significance of this variable at the level of 99% confidence. These findings show that fluctuation in management's estimate of profit has a significant effect on managers' risk-taking in companies listed on the Tehran Stock Exchange. Therefore, the second hypothesis of this study was confirmed. Based on the findings of the second hypothesis of this study, it can be stated that with increasing fluctuation in earnings management estimation, managers' risk-taking in companies listed on the Tehran Stock Exchange decreases. The findings of the results of this hypothesis are consistent with some of the results of Salafzoon et al., (2016).

Evaluation of the results of the third hypothesis

The percentage of CEO shares has a significant effect on the risk-taking of managers in companies listed on the Tehran Stock Exchange.

Analysis of data on the third hypothesis of this study based on the effect of CEO stock percentage on managers' risk-taking in companies listed on the Tehran Stock Exchange showed that the variable coefficient of CEO stock percentage is equal to -0.024 and the level its significance is 0.0488. These results indicate the significance of this coefficient at the level of 95% confidence. These findings show that the percentage of CEO shares has a significant effect on managers' risk-taking in companies listed on the Tehran Stock Exchange. Therefore, the third hypothesis of the research was confirmed. The results of this hypothesis showed that with increasing the percentage of CEO shares, the risk-taking of managers in companies listed on the Tehran Stock Exchange will decrease. The findings of the results of this hypothesis are consistent with some of the results of Susan et al., (2018).

Evaluating the results of the fourth hypothesis

Annual remuneration paid to managers has a significant effect on managers' risk-taking in companies listed on the Tehran Stock Exchange.

Finally, the results of data analysis on the effect of annual bonuses paid to managers on the risk-taking of managers in companies listed on the Tehran Stock Exchange showed that the variable coefficient of annual bonuses paid to managers is equal to -1.378 and a significant level it is 0.0005. These results indicate the significance of this coefficient at the level of 99% confidence. These findings show that the annual bonus paid to managers has a significant effect on managers' risk-taking in companies listed on the Tehran Stock Exchange. Therefore, the fourth hypothesis of this study was confirmed. The results of this study showed that with increasing the annual payment bonus to

managers, managers' risk-taking in companies listed on the Tehran Stock Exchange will decrease. The findings of this hypothesis are consistent with some of the results of Susan et al., (2018).

6. Uggestion

According to the results of this research, the following suggestions are presented:

1. According to the results of the second hypothesis of this study based on the effect of fluctuation in estimating management from profit on managers' risk-taking in companies listed on the Tehran Stock Exchange, it is suggested that since the essential nature of fluctuation in estimating earnings management, It should not be fully shown and also, such fluctuations should not be in the interests of shareholders, so shareholders who invest in companies with high volatility in estimating earnings management, should always pay attention to this point and according to the results of this study, Always examine and analyze the risk-taking of managers.

2. According to the results of the third sub-hypothesis of this study based on the negative and significant effect of CEO percentage on the risk-taking of managers in companies listed on the Tehran Stock Exchange, it is suggested that companies listed on the Tehran Stock Exchange that Employing risky managers should always avoid managers who have a high percentage of shares in the company.

3. According to the results of the fourth hypothesis of this study based on the effect of annual bonuses paid to managers on managers' risk-taking in companies listed on the Tehran Stock Exchange, it is suggested that different groups of shareholders, creditors, stock exchange organizations, auditors, financial analysts and Like them, pay attention to the effective role of rewarding managers on their risk-taking. Awareness of these cases as well as understanding how these factors affect can be a necessary guide to determine the risk of company managers based on these components to make appropriate decisions for different groups.

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