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Investigation of Effect Surplus Free cash Flow on Earnings Predictability with Emphasis on Moderating Role of Corporate governance of Listed Companies in Tehran Stock Exchange

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Abstract: The objective of this research is to investigate the effect of surplus free cash flow on earnings predictability with emphasis on the moderating role of corporate governance in listed companies on the Tehran Stock Exchange (TSE). For testing the hypotheses of research, multivariate linear regression model was used. In this study, the analysis of combined data is used. Significance test of the relationships between variables has been done using the t-statistic and significance level test. The results obtained from testing the hypotheses of research show that surplus free cash flow has a significant negative impact on earnings predictability in listed companies on the Tehran Stock Exchange. Independence and size of Board of directors have significant positive impact on earnings predictability in listed companies on the Tehran Stock Exchange. And finally, board independence has significant positive impact on surplus free cash flow and earnings predictability in listed companies on the Tehran Stock Exchange.

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Keywords: Free cash flow, board independence, board size, earnings predictability

Introduction:

Profit is one of the main and important information of financial statements that attracts the attention of investors and other users of financial statements. Information provided by the company such as information on earnings are based on past events while users of financial statements require information about the future of the company. Sometimes, directors tend to manage the profit for their own interests. One of the tools that management may benefit from for the purpose of earnings management is the Surplus free cash flow. Corporate governance is one of the mechanisms for reducing agency problems. Corporate governance mechanisms can reduce management opportunities and thereby increase earnings quality.

Resarch background

Internal reseraches

Zabihi & Asghari (2015) investigated in a study, the effect of surplus free cash flow, corporate governance and company size on earnings predictability in companies listed on the Tehran Stock Exchange (TSE). The results of this study indicate that there is a significant negative relationship between surplus free cash flow and earnings predictability.

Bassim & Hajiha (2014) conducted a survey of the impact of corporate governance index on corporate performance indices such as earnings per share and net income. The results of this research show that the variable of corporate governance is an important index for performance prediction model and has correlations with both indices of earnings per share and net income.

Rahimian et al. (2014) conducted an investigation of effective factors on cash holdings and the relationship between continued maintenance of surplus cash and stocks value in companies listed on the Tehran Stock Exchange. The results show that the variables of company size, working capital, operating cash flow and cash flow from financing activities have significant positive relationship with cash held by companies.

Bukit and Nasushen (2015) conducted a study on the effect of replacement of personnel and free cash flow on incentive of managers for earnings management in the period of 2011 to 2013. The results show that managers tend to manipulate the profit when a company has surplus cash and replacement of personnel.

Dahmari & Koesmaiel (2014) conducted an investigation of the effect of surplus free cash flow,

corporate governance and company size on earnings predictability in companies listed on the Stock Exchange of Malaysia. The results show that companies with high rates of surplus free cash flow experience lower earnings predictability.

Dahmari & Koesmaiel (2013) conducted an investigation of the relationship of governance structure and ownership structure with earnings predictability. Contrary to expectations, the results of this research show that earnings predictability has a significant negative relationship with board independence.

Hypotheses of research

1 hypothesis: Surplus free cash flow has a significant impact on earnings predictability.

2 hypothesis: Board independence has a significant impact on earnings predictability.

3 hypothesis: Board size has a significant impact on earnings predictability.

Research approach

In terms of method, this is a descriptive-inductive research. In terms of classification based on the method and nature, this is a correlational research and in terms of research design, it is a post-event research.

Statistical population

The statistical population of this study consist of 150 companies listed on the Tehran Stock Exchange (TSE) during the years 1389-1393 (2010-2014).

Testing model of research hypotheses

For testing the hypotheses, the following multivariate regression models are used:

$$\mathbf{CFO_{it+1} = \alpha_0 + \alpha_1 SFCF_{it} + \alpha_2 BIND_{it} + \alpha_3 BSIZE_{it} + \alpha_4 (BIND \times SFCF)_{it} + \alpha_5 (BSIZE \times SFCF)_{it} + \alpha_6 SIZE_{it} + \alpha_7 DEBT_{it} + \alpha_8 PRO_{it} + \mu_{it}}$$

CFOit+1= Operating cash flows for earnings prediction

SFCF= Surplus free cash flow

BIND= Board independence

BSIZE= Board size

SIZE= Company size

DEBT= Debt ratio

PRO= Profitability

Descriptive statistics:

As the image 4-1 shows, the averages of research variables are as follows:

Operating cash flows for earnings prediction: 5.69

Surplus free cash flow: 0.31

Board independence: 0.50

Board size: 5.15

Company size: 95.5

Dept ratio: 0.61

And profitability: 0.79

Also the average of board independence in surplus free cash flow is 0.26 and the average of board size in surplus free cash flow is 2.40.

Table 4-1: Descriptive statistics of research variables

Standard deviation	Middle	Average	Number	Variable statistics
0.41	5.56	5.69	750	CFO
0.46	00.0	0.31	750	SFCF
0.20	0.44	0.50	750	BIND
0.53	5.00	5.15	750	BSIZE
0.26	0.00	0.61	750	BIND. SFCF
2.40	0.00	1.61	750	BSIZE. SFCF
0.75	5.87	5.94	750	SIZE
0.15	0.65	0.62	750	DEBT
0.40	1.00	0.79	750	PRO

Testing of hypotheses

The significance level of test (p-value or sig) is less than 0.05.

Absolute value of t-statistic statistic in confidence level of 95% is more than 2.

For testing the null hypothesis, t student statistic is used.

The statistical hypotheses of research are formulated as follows:

Therefore, if the Sig (p-value) <0.05, so the H0 will be rejected and we will confirm H1.

Table 5-4. Analysis of variance Regression Model Research

Sig.	آماره F	Model
0.000	**22.07**	**I**

In the image 4-7, in column B, constant and variable independent coefficients in the regression equation are shown. Coefficients also include two categories of non-standardized coefficients (B) and standardized coefficients (BETA).

Table 6-4: Estimated results earnings forecast models

$CFO_{it+1} = 392902 + 0.67EARN_{it} + \varepsilon$			
p-value	**T-statistic**	**Beta**	**Description**
0.00	**3.90**		**α_0**
0.00	**25.32**	**0.67**	**EARN**
0.46			**R Square**
641.45 (0.00)			**F-static (Sig)**
1.82			**D-W**
750			**Number of Views**

Table 4-7: The results of regression testing of Model 1

Sig.	t	Beta	B	Model
0.000	**14.59**	**-**	**5.21**	**Constant**
0.010	**2.97-**	**0.12-**	**0.28-**	**SFCF**
0.000	**3.15**	**0.10**	**0.31**	**BIND**
0.001	**2.96**	**0.13**	**0.30**	**BSIZE**
0.016	**2.77**	**0.17**	**0.27**	**BIND.SFCF**
0.084	**1.52**	**0.09**	**0.21**	**BISIZ.SFCF**
0.24	**2.50**	**0.10**	**0.10**	**SIZE**
0.36	**2.35-**	**0.10-**	**0.12-**	**DEBT**
0.000	**4.57**	**0.11**	**0.32**	**PRO**

The results of research hypothesis testing:

1 hypothesis

In this hypothesis, dependent variable is earnings predictability and the independent variable is Surplus free cash flow. The statistic for determining the significance of coefficients is t student statistic. The results of testing the research model and the t statistic related to the 1st hypothesis are shown in the image 4-5. The results indicate that the value of t student statistic and p-value for the variable of 1st hypothesis (Surplus free cash flow) are respectively –2.97 and 0.00. Given that the considered significance level for this research is 0.05, so the variable of Surplus free cash flow has significant impact on earnings predictability of companies and the first hypothesis of research (H1) is approved with confidence level of 95%.

2 hypothesis

In this hypothesis, dependent variable is earnings predictability and the independent variable is Board independence. The results of testing the research model and the t statistic related to the 2nd hypothesis are shown in the image 4-5. The results indicate that the value of t student statistic and p-value for the variable of 2nd hypothesis (Board independence) are respectively 3.15 and 0.00. Given that the considered significance level for this research is 0.05, so the variable of Board independence has significant impact on earnings predictability of companies and the second hypothesis of research (H1) is approved with confidence level of 95%.

3 hypothesis

In this hypothesis, dependent variable is earnings predictability and the independent variable is Board size. The results of testing the research model and the t statistic related to the 3rd hypothesis are shown in the image 4-5. The results indicate that the value of t student statistic and p-value for the variable of 3rd hypothesis (Board size) are respectively 2.96 and 0.001. Given that the considered significance level for this research is 0.05, so the variable of Board size has significant impact on earnings predictability of companies and the third hypothesis of research (H1) is approved with confidence level of 95%.

Results of hypothesis testing

First hypothesis results

In the 1st hypothesis, the researcher intended to investigate the impact of Surplus free cash flow on earnings predictability in listed companies on the Tehran Stock Exchange. Surplus free cash flow has a negative and direct impact on earnings predictability. It means that by increasing Surplus free cash flow, the earnings predictability will be reduced.

For measuring the earnings predictability, the relationship between net income and operating cash flow was used. According to the statistical tests of the fourth chapter, there is a direct and significant relationship between operating cash flow and net profit. Therefore, the operating cash flow was used to predict the profit.

Companies with low growth and high free cash flow use discretionary accruals that increase earnings to compensate their low or negative profits; low profits are inevitably associated with negative NPV. Free cash flow associated with low investment opportunities is represented as a main agency problem. In this situation, managers create some costs for shareholders that reduce the wealth of shareholders. As a result, earnings predictability by using operating cash flow will be decreased.

Second hypothesis results

In the 2nd hypothesis, the researcher intended to investigate the impact of board independence on earnings predictability in listed companies on the Tehran Stock Exchange. As it is shown in the 4th chapter, board independence has positive and direct impact on earnings predictability. By increasing the proportion of outside directors of board to all board members, earnings predictability will be increased.

The results obtained from this study are consistent with representation theory. In representation theory, controlling is the most important task of board of directors and board independence plays an important role in increasing the performance of control. So in general, the presence of outside directors on the board of the company helps managers to reduce conflicts of interests of shareholders. Therefore, when the independent board includes a high proportion of non-executive members, the ability to monitor the activities of managers to manipulate earnings will be raised and the performance of the company will improve and as a result, earnings predictability will be increased.

Third hypothesis results

In the 3rd hypothesis, the researcher intended to investigate the impact of board size on earnings predictability in listed companies on the Tehran Stock Exchange. Governance mechanisms are composed of several components. An efficient board of directors is one of these components.

When the number of board members increases, the ability to monitor the activities of managers to manipulate earnings will be raised and the performance of company will improve and as a result, earnings predictability will be increased.

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