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Board Characteristics of GEM Listed Companies and Earnings Management

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Abstract. As the core of corporate governance, the board has an internal influence on earnings management. This paper uses the 2011-2014 GEM listed companies to study the impact of the board characteristics on earnings management. The results showed that: the board size, the frequency of board meetings, the proportion of independent directors, women's independent directors of GEM listed companies and earnings management are significantly negative, effectively inhibiting the earnings management. The conclusions provide empirical evidence for the governance effect of earnings management.

Introduction

As the highest decision-making body, the board shall be established in accordance with the relevant laws, regulations and articles of association. The board elected by the general meeting, a permanent body of the general meeting, responsible for the company's business decisions, the general meeting and report the work. The board is an important part of corporate governance, plays a central role, including supervision management and the protection of the interests of the main stakeholders. Therefore, the board of directors has an important responsibility for the quality of financial reporting, and has a direct impact on earnings management.

Since 1980s, the research on the board and earnings management is more abundant, but there are few studies on the board and earnings management of GEM listed companies. This paper uses the 2011-2013 GEM listed companies as the research object, with the board size, the frequency of board meetings, the proportion of independent directors, whether chairman and general manager is duality, Whether the board has female independent directors, to study their impact on earnings management, providing certain reference for the GEM listed companies governance improvement, at the same time, providing references for the market regulatory.

Literature Review and Research Hypothesis

The Size of the Board and Earnings Management

Domestic and overseas scholars have studied the size of the board and earnings management, but the results are not consistent. Beasley et al. (2001), Xu Wencong (2007), Li Shuai (2007), Du Xiaoxu (2009) et al. showed that the scale of the board is negatively related to earnings management. But some scholars believe that the scale of the board and earnings management is not a simple linear relationship, it is difficult to determine positive correlation or negative correlation. Tang Min, etc. (2007), Yu Zhuoping, etc. (2011) showed that the relationship between the size of the board and earnings management is uncertain. Zhang Yijie et al. (2006), Xu Qun E (2007), Zhang Zhaoguo (2009) showed that the board size and earnings management is not significant. The board size of GEM listed companies is relatively small, thus enhance its size can enhance the internal constraints of the board, reduce the large shareholders' expropriation of minority shareholders interests, improve the transparency, reduce earnings management. Therefore, put forward the hypothesis 1:

Hypothesis 1: the size of the board of GEM listed companies and the earnings management are negatively related.

The Meetings Frequency of the Board and Earnings Management

Su Weidong, etc. (2006), Tang Min (2007), Li Yanxi (2010), Sun Jinshuai (2011) found that the times of the board and earnings management is positively related. Other studies have indicated that there is no significant relationship between board meetings and earnings management (Xu Qun e, 2007; Wu Qinghua et al., 2007; Yu Zhuoping et al., 2011; Zhao Tingting, 2011). Peng Qing (2013), Huang Wei (2010), Du Xiaoxu (2009), Yang Qingxiang, etc. (2008) through the empirical analysis found the times of the board and earnings management is negatively correlated, the increase of board meeting frequency can reduce the degree of earnings management at a certain extent. Overall, the board of directors held more times, the directors' sense of responsibility will strengthen, their further understanding of the company enhance, mutual understanding between the directors deepen, transaction costs reduce. Therefore, we believe the board meeting frequency can reduce the degree of earnings management, put forward the hypothesis 2:

Hypothesis 2: the frequency of the board meeting is negatively correlated with earnings management.

Chairman and General Manager of the two level-one and earnings management

GEM companies most developed by private enterprises before listed, in the enterprises, one person (the enterprise actual controller) say the count, the phenomenon of chairman as the general manager can be found everywhere. We can expect that if Chairman and General Manager of the two level-one, the actual controller’s interests will be better protected, the implementation opportunistic behavior is also more convenient. Therefore, put forward the hypothesis 3:

Hypothesis 3: Chairman and General Manager of the two level-one is positive related to earnings management.

The Proportion of Independent Directors and Earnings Management

Park et al.(2004), Du Xiaoxu (2009), Li Yanxi (2010) thought the proportion of independent directors and earnings management has no significant correlation. Guo Lingling (2012) concluded that the proportion of independent directors on earnings quality is not obvious, but the impact of conditions. When the proportion of independent directors is from 20% to 40%, the proportion of independent directors has a significant impact on earnings quality. The CSRC promulgated the “guidance on the establishment of independent director system in listed Corporation” in 2001, the provisions of the board of listed Corporation in China, the independent directors at least have more than 1/3. This provision makes the position and function of the independent director clear.GEM Listed Corporation implement the provisions of the Commission, with the size of its board relatively small, the increase of the number of independent directors will inhibit the company's earnings management behavior. Based on this, the paper puts forward the hypothesis 4:

Hypothesis 4: the proportion of independent directors in the board and the earnings management are negatively correlated.

Female Directors and Earnings Management

Women have the obvious differences from men in competitive behavior, social preferences and risk preferences and other aspects, these differences lead to changes in accounting behavior. Franci (2012) showed that when female finance director report the business performance information, it has a robust characteristics. While the relationship between female executives and earnings management, such as Thiruvadi and Huang, Gaviou and other scholars disagree. Pang Lusheng (2013) showed that when the company has two or more than two women directors, with greater extent to improve the earnings quality. In the weaker governance environment of managerial power, the role of enhance earnings quality is stronger, while in the stronger governance environment of managerial power, the original role of enhance will weaken and even disappear. Finally, the female directors' inhibition of earnings manipulation is mainly due to the high risk aversion awareness, low risk appetite, strong moral sense and lower self confidence. Based on this, the paper puts forward the hypothesis 5:

Hypothesis 5: female directors and earnings management are negatively related

Research Design

Sample Selection and Data Sources

This paper uses 2011-2014 all non-financial GEM listed companies as research sample, deleting samples the dependent variable is missing, received 1213 valid samples, then all continuous variables of the effective observation values by year on the level of 1% tail withdrawal, in order to avoid the extremum effect. Sample data source is from CSMAR and CCER database.

Variable Definition and Model Design

Explained Variable

This paper uses the Jones model revised by Dechow (1995) to measure the absolute value of discretionary accruals to measure the degree of earnings management. The specific calculation process is as follows:

①Total accrued profit($TA_{i,t}$)

$$TA_{i,t} = OI_{i,t} - CFO_{i,t} \tag{1}$$

Among them, $TA_{i,t}$ is total accrued profit in t of company i, $OI_{i,t}$ is operating profit in t of company i, $CFO_{i,t}$ is net cash flow of operating activities in t of company i.

②Non-discretionary accruals($NDA_{i,t}$)

$$\frac{TA_{i,t}}{ASSET_{i,t-1}} = \alpha_1 \times \frac{1}{ASSET_{i,t-1}} + \alpha_2 \times \frac{\Delta REV_{i,t}}{ASSET_{i,t-1}} + \alpha_3 \times \frac{PPE_{i,t}}{ASSET_{i,t-1}} + \varepsilon_i \tag{2}$$

$$\frac{NDA_{i,t}}{ASSET_{i,t-1}} = \alpha_1 \times \frac{1}{ASSET_{i,t-1}} + \alpha_2 \times \frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{AEEST_{i,t-1}} + \alpha_3 \times \frac{PPE_{i,t}}{ASSET_{i,t-1}} \tag{3}$$

$NDA_{i,t}$ is non-discretionary accruals in t of company i, $TA_{i,t-1}$ is total assets at the end of term in t-1 of company i, $\Delta REV_{i,t}$ is increase amount in main business income in t of company i,

$\Delta REC_{i,t}$ is increase amount of accounts receivable in t of company i, $PPE_{i,t}$ is net fixed assets in t of company i.

③Discretionary accruals($DA_{i,t}$)

$$\frac{DA_{i,t}}{ASSET_{i,t}} = \left| \frac{TA_{i,t}}{ASSET_{i,t-1}} - \frac{NDA_{i,t}}{ASSET_{i,t-1}} \right| \tag{4}$$

Among them, $DA_{i,t}$ is the discretionary accruals in t of company i, the meaning of other variables is the same as above.

Explanatory Variables

SCALE is the size of the board of the Sample Firms, with the number of the board; MEET is number of meetings of the board held in the annual financial report; DUAL is whether the chairman and the general manager is one, if it is one takes 1,or 0. INDEP is proportion of independent directors; GENDER is whether has female independent directors, at least 1 female independent director takes 1, or 0.

Control Variable

LOSS is whether sample company is loss, when loss is 1, or 0. ROA is the returns on the assets; DE is the assets liability ratio, SIZE is the size of the sample companies; YEAR is year control variables, when in the year is 1, otherwise 0; INDUSTRY is industry control variables, when in the industry is 1; otherwise 0.

Research Model

According to the research questions, we set up the model as follows:

$$\begin{aligned} DACC &= \alpha + \beta1 \times SCALE + \beta2 \times MEET + \beta3 \times DUAL + \beta4 \times INDEP + \beta5 \times GENDER \\ &\quad + \beta6 \times LOSS + \beta7 \times ROA + \beta8 \times DE + \beta9 \times SIZE + \beta10 \times YEAR + \beta11 \times INDUSTRY \end{aligned} \tag{5}$$

Empirical Results

Descriptive Statistics

Table 1 shows the standard deviation, minimum, maximum, median, and mean values of the variables used in the model.

Table 1. Descriptive statistics of variables.

Variable	N	Std Dev	Minimum	Maximum	Median	Mean
DACC	1213	0.075	0.000	0.312	0.038	0.049
SCALE	1213	1.402	5.000	12.000	9.000	8.200
MEET	1213	3.044	4.000	23.000	9.000	9.193
DUAL	1213	0.498	0.000	1.000	0.000	0.449
INDEP	1213	0.055	0.333	0.600	0.333	0.378
GENDER	1213	0.519	0.000	3.000	0.000	0.427
LOSS	1213	0.176	0.000	1.000	0.000	0.032
ROA	1213	0.043	-0.205	0.218	0.055	0.056
DE	1213	0.148	0.020	0.696	0.197	0.231
SIZE	1213	0.611	19.308	23.078	20.848	20.909

From Table 1,the fluctuation range of earnings management of GEM Listed Companies is 0 to 0.312,each company has larger difference; The board size is between 5 to 12, and the mean value is 8.20;The board meeting most held 23 times, least held 4 times, each company has larger difference, the mean and median are both 9 times; 49.8% of the chairman and general manager is duality, which may due to the GEM companies before listed, mostly private, the separation of two rights is not high. The proportion of independent directors in average is 37.8%, slightly higher than the provisions of the Commission, with heavy visible traces; 3.2% of the company's loss and the ratio is not high, reflecting the GEM companies with strong profitability.

Regression Result

Table 2 shows the test results of the model.

Table 2. Model test.

VARIABLE	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	coefficient	coefficient	coefficient	coefficient	coefficient	coefficient
INTERCEPT	-0.0323	-0.0367	-0.0233	-0.0211	-0.0345	-0.0109
SCALE	-0.0039*					-0.0040*
MEET		-0.0035*				-0.0039*
DUAL			-0.0067			-0.0063
INDEP				-0.0286**		-0.0311**
GENDER					-0.0057**	-0.0050**
LOSS	0.0052	0.0048	0.0043	0.0050	0.0046	0.0037
ROA	0.0104*	0.0119*	0.0123*	0.0102*	0.0112*	0.0121*
DE	0.0426 *	0.0476 *	0.0419*	0.0431*	0.0454*	0.0466*
SIZE	0.0027	0.0031	0.0029	0.0027	0.0031	0.0033
YEAR	control	control	control	control	control	control
INDUSTRY	control	control	control	control	control	control
Sample Size	1213	1213	1213	1213	1213	1213
F-measure	12.33***	12.12***	12.54***	12.001***	12.33***	13.14***
R^2	0.1734	0.1745	0.1901	0.1923	0.1931	0.2011

Regression results show that both single explanation variables (model1-5), and more explanatory variables test (Model 6), results show that the coefficient of board size (SCALE), the proportion of the independent directors (INDEP), female independent directors (GENDER) is significantly negative, the coefficient of two post separation (DUAL) is negative but not significant, showing that hypothesis 1, hypothesis 2, the hypothesis 4, Hypothesis 5 has been verified, and hypothesis 3 was not confirmed.

Robust Test

In order to verify the stability of the above results, this paper also uses the Jones model to measure the earnings management. Results show the coefficient of size of the board (MEET), proportion of independent directors (INDEP), female independent director (GENDER) was negative, The coefficient of two job separation (DUAL) is negative but not significant. Verify the hypothesis 1, hypothesis 2, hypothesis 4, hypothesis 5.

Research Conclusion

This paper uses the 2011-2014 GEM Listed Corporation as the research object, the results showed that the board size of GEM Listed Corporation is negatively related to the earnings management, indicating that the increase of the number of the board contributes to the inhibition of earnings management. The frequency of board meeting is negatively related to the earnings management, the board meeting held more times, more beneficial to inhibit earnings management; The proportion of independent directors is negatively related to the earnings management, showing that the more number of independent directors on the board , the more able to reduce the earnings management; female independent directors is negatively related to the earnings management, showing that female independent directors in the board will reduce the company's earnings management.

This paper provides evidence for the impact of the board characteristics on earnings management. For the majority of investors, invest the earnings quality of GEM listed companies, pay attention to the scale of board, the frequency of meetings, the proportion of independent directors, female directors, in order to further enhance the effect of investment decision.

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