

# The Influence of Ownership Concentration of GEM Listed Companies on Corporate Performance

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## ABSTRACT

This paper selected 267 listed companies on the GEM market from 2014 to 2016 as a research object, with a total of 801 samples to discuss the impact of ownership concentration on corporate performance. The results show that the proportion of the top ten shareholders of GEM listed companies and the number of shareholders at the end of the period significantly affect the corporate performance. The shareholding ratio of the largest shareholder and the H<sub>5</sub> index positively affect the company's performance, while the shareholding ratio of the top five shareholders and the Z index negatively affect the company's performance, but neither of them passed the significance test.

**Keywords:** *GEM listed company, ownership concentration, corporate performance*

## 1. INTRODUCTION

The long-awaited Growth enterprise market (the second stock exchange market, also known as the second board market) was officially opened on the Shenzhen Stock Exchange on October 30, 2009, which is a milestone in the development of China's stock market[1]. The GEM market has dealt with the difficulty of financing for some small and medium-sized enterprises, while also providing them with a platform for rapid growth and development. However, their company performance showed a clear differentiation, and when a group of companies with high growth emerged one after another, there were not a few companies with declining profits or losses. Research results of domestic and foreign scholars on the impact of GEM's ownership concentration on corporate performance are different, but they can be mainly divided into positive[2-5], negative[6] and nonlinear effects[7-11].

## 2. HYPOTHESIS

Based on the theory of separation of two rights, principal-agent theory and stakeholder theory, we propose the following hypotheses.

### 2.1. Ownership Concentration

In this paper, the indicators used to measure the ownership concentration are the shareholding ratio of the largest shareholder (CR1), the shareholding ratio of the top five shareholders (CR5), the shareholding ratio of the top ten shareholders (CR10) and the H<sub>5</sub> index. In the long run, large shareholders will encroach on the interests of small and medium shareholders or even damage the company's interests in order to maximize their own interests, which is

not conducive to the improvement of company performance. Therefore, companies with more dispersed shareholding structures will have better performance[12]. In addition, the more shareholders the company has, the more difficult it is for large shareholders to complete internal joint manipulations and the less likely internal transactions will occur. Therefore, the greater the number of shareholders, the lower the concentration of equity and the higher the company's performance. Therefore, this paper proposes the following hypotheses:

Hypothesis 1: the CR<sub>n</sub> index has a negative impact on corporate performance;

Hypothesis 2: the H<sub>5</sub> index has a negative impact on corporate performance;

Hypothesis 3: the number of shareholders has a positive effect on corporate performance.

### 2.2. Equity Balance Degree

In this paper, Z index is selected as the index to measure the equity balance degree of listed companies in GEM market. In the decision-making process of the company, the remaining shareholders have limited supervision and binding force on the controlling shareholders. The controlling shareholders may damage the company's performance in order to seek the maximization of their own interests[13], which is not conducive to the improvement of operating performance. Therefore, this paper proposes the following hypotheses:

Hypothesis 4: the Z index has a negative impact on corporate performance.

### 3. RESEARCH DESIGN

#### 3.1. Sample Selection

According to the database query, there are 722 listed companies in China's growth enterprise market at present. In this paper, 267 companies from 2014 to 2016 were selected as research objects, a total of 801 research samples were collected, among which ST companies and companies with incomplete data were excluded. The data in this paper are from CSMAR database, and the statistical analysis software is Eviews7.0.

#### 3.2. Variable Definition

The explained variable is corporate performance. In this paper, return on equity (ROE) is selected as an indicator to measure the level of company performance.

Explanatory variables are divided into ownership concentration and ownership balance degree. In terms of ownership concentration, this paper selected the shareholding ratio of the largest shareholder (CR<sub>1</sub>), the shareholding ratio of the top five shareholders (CR<sub>5</sub>), the shareholding ratio of the top ten shareholders (CR<sub>10</sub>), the natural logarithm of the number of shareholders at the end of the period (OC<sub>11</sub>), and H<sub>5</sub> index (H<sub>5</sub>), namely the sum of squares of the top five shareholders. In terms of ownership balance degree, this paper selected Z index (Z), which is the

ratio of the shareholding ratio of the largest shareholder to the shareholding ratio of the second largest shareholder in the company.

The control variables of this paper are: natural logarithm of total assets (SIZE), asset-liability ratio (DA), net profit/main business income (S<sub>3</sub>), net profit growth rate (S<sub>4</sub>), (fixed assets + inventory)/total assets (S<sub>5</sub>).

#### 3.3. Model Construction

$$Y = \beta_0 + \beta_1 * X + \beta_2 * SIZE + \beta_3 * DA + \beta_4 * S_3 + \beta_5 * S_4 + \beta_6 * S_5 + \varepsilon \quad (1)$$

Among them, Y represents company performance, X is an explanatory variable, represents CR<sub>1</sub>, CR<sub>5</sub>, OC<sub>11</sub>, H<sub>5</sub>, Z index and other indicators used to measure equity concentration, and ε represents a random disturbance term.

### 4. RESULTS

#### 4.1. Variables Correlation

From Table 1, we can see that the correlation between some of the explanatory variables is relatively strong. In order to avoid multicollinearity, this paper uses a stepwise regression method to explore the impact of ownership concentration of GEM listed companies on corporate performance.

Table 1 Variables correlation

	CR <sub>1</sub>	CR <sub>5</sub>	CR <sub>10</sub>	OC <sub>11</sub>	H <sub>5</sub>	Z	SIZE	DA	S <sub>3</sub>	S <sub>4</sub>	S <sub>5</sub>
ROE	0.10***	0.09**	0.10**	0.06	0.09**	0.02	0.11***	0.02	0.49***	0.06	-0.10***
CR <sub>1</sub>	1	0.68***	0.55***	-0.18***	0.96***	0.56***	-0.16***	0.01	0.05	0.01	0.17***
CR <sub>5</sub>		1	0.95***	-0.40***	0.77***	0.12***	-0.22***	-0.06	0.09**	-0.03	0.12***
CR <sub>10</sub>			1	-0.47***	0.64***	0.05	-0.18***	-0.07*	0.14***	-0.03	0.07**
OC <sub>11</sub>				1	-0.23***	0.01	0.48***	0.09**	-0.004	-0.05	-0.21***
H <sub>5</sub>					1	0.54***	-0.18***	-0.02	0.05	0.003	0.18***
Z						1	-0.06	0.02	0.02	0.001	0.09***
SIZE							1	0.42***	0.05	0.04	-0.22***
DA								1	-0.39***	0.06	0.13***
S <sub>3</sub>									1	0.05	-0.35***
S <sub>4</sub>										1	-0.004
S <sub>5</sub>											1

\*, \*\* and \*\*\* represents the significance level of 10%, 5% and 1% respectively.

**4.2. Regression Analysis**

It can be seen from Table 2 that the stepwise regression results are:

$$Y=5.144+3.326*CR_{10}+0.848*OC_{11}-0.759*SIZE +7.874*DA+30.477*S_3+0.023*S_4+1.636*S_5 \quad (2)$$

On the whole, five regressions were carried out above, and the F value of each regression result was large enough. The test at the 1% significance level indicated that the model was statistically significant. Moreover, each regression equation was tested by Haussmann test, and the null hypothesis was accepted, that is, the random effect model was adopted. The R<sup>2</sup> value of the equation obtained by stepwise regression is 0.321, indicating that the model fits generally.

CR<sub>10</sub> and OC<sub>11</sub> are included in the equation obtained by stepwise regression, and both of them have a significant

positive effect on corporate performance. By comparing the two, it can be found that the more shareholders there are, the more dispersed the ownership structure of the company is, and the more conducive it is to the improvement of corporate performance. However, the shareholding ratio of the top 10 shareholders is relatively dispersed compared with the shareholding ratio of the first and the top 5 shareholders, so the larger the shareholding ratio of the top 10 shareholders is, that is, the more dispersed the shareholding is, the higher the company's performance level will be. The results are not contradictory. In addition, CR<sub>1</sub> and CR<sub>5</sub> play a certain role in corporate performance. However, H<sub>5</sub> index and Z index were excluded in the early stage of stepwise regression, indicating that they had a weak and insignificant effect on corporate performance. Therefore, hypothesis 1, hypothesis 3, hypothesis 4 is true, and hypothesis 2 is not true.

**Table 2** The impact of equity concentration on company performance

	Y=f(X <sub>1</sub> ,X <sub>2</sub> ,X <sub>3</sub> ,X <sub>4</sub> ,X <sub>5</sub> ,X <sub>6</sub> )	Y=f(X <sub>1</sub> ,X <sub>2</sub> ,X <sub>3</sub> ,X <sub>4</sub> ,X <sub>5</sub> )	Y=f(X <sub>1</sub> ,X <sub>2</sub> ,X <sub>3</sub> ,X <sub>4</sub> )	Y=f(X <sub>1</sub> ,X <sub>2</sub> ,X <sub>3</sub> )	Y=f(X <sub>1</sub> ,X <sub>2</sub> )
C	5.936	5.7702	5.534	4.582	5.144
CR <sub>1</sub>	2.483	3.428*	2.604	1.313	
CR <sub>5</sub>	-7.309	-6.858	-6.299		
CR <sub>10</sub>	8.222*	8.069*	8.033*	2.611	3.326**
OC <sub>11</sub>	0.891***	0.889***	0.888***	0.815***	0.848***
H <sub>5</sub>	1.854				
Z	-0.017	-0.016			
SIZE	-0.814***	-0.815***	-0.808***	-0.714***	-0.759***
DA	7.928***	7.914***	7.876***	7.736***	7.874***
S <sub>3</sub>	30.399***	30.393***	30.362***	30.357***	30.477***
S <sub>4</sub>	0.023	0.024	0.024	0.022	0.023
S <sub>5</sub>	1.549	1.556	1.559	1.507	1.636*
Chi-Sq Statistics	17.132	15.848	14.299	12.239	12.031
Chi-Sq degrees of freedom	11	10	9	8	7
P	0.1040	0.1041	0.1121	0.1409	0.0996
Haussmann test	Random effects	Random effects	Random effects	Random effects	Random effects
R-sq	0.324	0.323	0.323	0.321	0.321
F-statistic	34.304	37.770	41.932	46.891	53.489
N	801	801	801	801	801

\*, \*\* and \*\*\* represents the significance level of 10%, 5% and 1% respectively.

## 5. CONCLUSION

This paper draws the following conclusions: CR<sub>1</sub>, CR<sub>5</sub>, H<sub>5</sub> and Z indexes have no significant influence on corporate performance; CR<sub>10</sub> and the number of shareholders significantly positively affected corporate performance. That is to say, in China's GEM market, ownership concentration is negatively correlated with corporate performance. In other words, more dispersed ownership distribution will be conducive to the improvement of corporate performance.

Therefore, the following suggestions are proposed: (1) the government regulation should further improve the relevant laws and regulations and strengthen the supervision of the GEM market; (2) strengthen the decentralization of the company's equity and effectively restrain the controlling shareholders.

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