

An Empirical Study on the Influencing Factors of Dividend Allocation Policy based on empirical data from companies listed on GEM

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Abstract. Through theoretical and empirical research methods, this paper studies the main influencing factors of cash dividend distribution policy of listed companies, taking the GEM companies listed in 2013-2016 as the research object, hoping to enrich the current theory and help companies formulate a suitable dividend distribution system.

1. Introduction

At this stage, the GEM market has become a key part of China's capital market, which provides a continuous impetus for China's economic development. The growth enterprise market takes small and medium-sized enterprises as its service object, and its access threshold is lower than that of the main board market, but its requirements on information disclosure are relatively high, and the investment risk is relatively high. GEM provides financing opportunities for potential SMEs, and is also the cradle of incubating technology-based and growth-oriented enterprises. When making dividend policy, on the one hand, enterprises should strictly abide by the relevant provisions of the state, on the other hand, they should follow the company's departmental rules and actual operating conditions. After the company withdraws the provident fund, the remaining profits should be reasonably and fairly distributed among stakeholders. Dividend distribution policy is the result of checks and balances among different stakeholders. The adjustment of the policy will have a great impact on the shareholder structure, and even affect the company's future investment strategy.

2. Research design

2.1 Sample selection and data sources

This paper studies 355 companies listed on the GEM of Shenzhen Stock Exchange. The data span from 2013 to 2016. The data sources are Hexun, consulting platform and company annual report.

After analyzing the dividend policy of sample companies, it can be found that companies usually consider some common factors when making dividend policy, and further analysis of these common factors can obtain the factors with higher reliability. When choosing the research sample, the following issues should be considered: the sample must only carry out dividend distribution activities in the year, the sample only chooses enterprises that use cash dividend policy, and if the financial data of a company is not complete, the sample can not be selected. According to this criterion, the following screening results can be obtained:

Table 1. Statistical table of sample company selection results

| sample | 2013 | 2014 | 2015 | 2016 |
|--|------|------|------|------|
| Number of annual cash dividend companies | 136 | 260 | 318 | 324 |

2.2 Research hypothesis

Hypothesis 1: Profitability is positively correlated with cash dividend per share.

The fundamental purpose of the company's operation is to make profits. Only profit can dividend shareholders. Therefore, profit is the basis of cash dividend policy. The more profitable the company is, the more efficient the use of assets and capital will be, and the cash dividend will increase accordingly, which will further attract potential investors and form a virtuous circle. Therefore, net asset income and earnings per share are the key factors in this paper.

Hypothesis 2: Accumulative capacity is positively correlated with cash dividend per share.

The asset quality of listed companies directly affects the company's development speed. The better the company develops, the better it can guarantee the implementation of cash dividend policy. Therefore, the net asset per share is considered as one of the factors in this paper.

Hypothesis 3: Growth ability is negatively correlated with cash dividend per share.

After entering the GEM, enterprises will broaden financing channels and get more growth opportunities. In order to seize development opportunities, enterprises are often reluctant to pay shareholders through cash dividends. Therefore, this paper assumes that the relationship between growth ability and dividend per share is one by one, and the main indicators considered are: net profit growth rate and main business growth rate.

Hypothesis 4: Cash security ability is positively correlated with cash dividend per share.

The profitability of an enterprise should be considered in conjunction with cash flow. If the cash flow is insufficient, even if the current enterprise has a strong profitability, it will be difficult to sustain. In view of this, this paper regards cash return rate of operating assets and operating cash flow per share as important considerations.

Hypothesis 5: Solvency is positively correlated with cash dividend per share.

A company with high debt pressure has high financial risk. If an enterprise is weak in paying debts and has no time to take care of itself in its operation, the possibility of cash dividend is even lower. Therefore, when considering solvency, this paper mainly chooses liquidity ratio and asset-liability ratio.

Hypothesis 6: Scale is positively correlated with cash dividend per share.

Start-ups have higher operational risks, and they are more inclined to invest in projects that can grow themselves, with a lower willingness to pay cash dividends. Once the company develops to a certain scale, its profitability and ability to withstand risks are enhanced. At this point, in order to attract investors, the company will consider paying cash dividends. Therefore, this paper chooses the total equity as one of the indicators for analysis.

Hypothesis 7: Equity concentration is positively correlated with cash dividend per share.

In most cases, cash dividends are paid mainly to meet the needs of major shareholders. Compared with capital gains, cash dividends are obtained more directly and faster, so more shareholders prefer the latter. The investment share of the major shareholders makes them have greater decision-making power and higher dividend returns. Therefore, this paper chooses the proportion of the largest shareholders as one of the indicators for analysis.

2.3 Definition of variables and construction of models

The dividend policy of GEM companies is affected by complex factors, and these factors themselves will change with the changes of the market, but generally speaking, they can be divided into internal factors and external factors. External factors are difficult to control for GEM listed companies and have little reference for dividend policy making. Therefore, this paper focuses on internal factors. The variables selected according to the above hypothesis analysis are listed in the table below.

Table 2. Variable Definitions

| Serial Number | Variable Nature | Variable Symbol | Variable Name | Variable Meaning |
|---------------|-----------------|-----------------|---|-----------------------|
| 1 | dependent | Y | Cash dividend ratio | Cash dividend level |
| 2 | independent | X ₁ | Earnings per share | Profitability |
| 3 | independent | X ₂ | Return on net assets | |
| 4 | independent | X ₃ | net asset value per share | Accumulation ability |
| 5 | independent | X ₄ | Net profit growth rate | Growth ability |
| 6 | independent | X ₅ | Growth Rate of Main Business | |
| 7 | independent | X ₆ | Operating cash flow per share | Cash support capacity |
| 8 | independent | X ₇ | Cash Return Rate of Operating Assets | |
| 9 | independent | X ₈ | Asset-liability ratio | Solvency |
| 10 | independent | X ₉ | Liquidity ratio | |
| 11 | independent | X ₁₀ | Logarithm of total equity | company size |
| 12 | independent | X ₁₁ | Shareholding ratio of the largest shareholder | concentration ratio |

In the analysis of this paper, the main method used is multivariate linear regression, in order to determine the impact of different indicators on corporate dividend policy, and then refine and subdivide the impact of each specific indicator. The regression model used in this paper is:

$$Y = \beta_0 + \sum \beta_i \times X_i + \mu \quad (1)$$

$$(i=1, 2, 3 \dots 1)$$

3. Empirical analysis

3.1 Descriptive statistics

With the help of the data in Table 3, we can see that the dividend rate has been decreasing year by year in the four years since 2013, and the most serious decline was in the year of 2015. The key reason for this situation is that it has been affected by the world economic downturn, which makes the company lack of financial resources. At the same time, the company refuses to compromise on dividend distribution due to factors such as interests, which leads to the unoptimistic situation of the dividend rate.

In 2016, the coefficient of variation of net profit growth rate was 15.63, while the degree of dispersion increased sharply. At the same time, the increase of net profit in that year was not much, so that the coefficient of variation fluctuated. In the middle of the year, the growth rate of the main

business was relatively ideal, but overall the trend remained flat. Generally speaking, the net profit of GEM listed companies is unsatisfactory, and the gap between individuals is obvious.

At the profitability level, GEM listed companies showed a relatively stable state, with the average earnings per share fluctuating around 0.62 in four years, while the return on net assets remained basically 0.08, and the overall situation was good.

Table 3. Descriptive statistical analysis of sample of listed companies on GEM

| | year | Y | X ₁ | X ₂ | X ₃ | X ₄ | X ₅ | X ₆ | X ₇ | X ₈ | X ₉ | X ₁₀ | X ₁₁ |
|--|------|------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|
| mean value | 2013 | 0.13 | 0.72 | 0.07 | 10.03 | 0.33 | 0.28 | 0.26 | 0.03 | 12.99 | 0.13 | 12569.44 | 0.33 |
| | 2014 | 0.23 | 0.62 | 0.08 | 7.48 | 0.30 | 0.16 | 0.01 | 0.01 | 9.58 | 0.17 | 14470.85 | 0.34 |
| | 2015 | 0.18 | 0.51 | 0.08 | 6.23 | 0.22 | 0.07 | 0.19 | 0.03 | 7.19 | 0.19 | 17336.02 | 0.34 |
| | 2016 | 0.17 | 0.48 | 0.08 | 4.11 | 0.27 | 0.06 | 0.08 | 0.02 | 5.16 | 0.22 | 19558.68 | 0.34 |
| varian ce | 2013 | 0.25 | 0.38 | 0.02 | 4.83 | 0.32 | 0.35 | 0.63 | 0.05 | 12.46 | 0.10 | 12262.92 | 0.13 |
| | 2014 | 0.19 | 0.49 | 0.03 | 3.08 | 0.28 | 0.39 | 0.69 | 0.07 | 11.26 | 0.11 | 11411.68 | 0.13 |
| | 2015 | 0.15 | 0.35 | 0.04 | 2.63 | 0.34 | 0.77 | 0.58 | 0.07 | 9.43 | 0.12 | 133394.48 | 0.13 |
| | 2016 | 0.12 | 0.32 | 0.05 | 1.31 | 0.33 | 0.92 | 0.58 | 0.08 | 8.02 | 0.13 | 13487.92 | 0.13 |
| Coeffi cient of variati on | 2013 | 0.81 | 0.52 | 0.33 | 0.48 | 0.96 | 1.22 | 2.24 | 2.02 | 0.96 | 0.79 | 0.98 | 0.39 |
| | 2014 | 0.84 | 0.79 | 0.38 | 0.41 | 0.95 | 2.49 | 48.61 | 7.44 | 1.18 | 0.65 | 0.77 | 0.37 |
| | 2015 | 0.88 | 0.70 | 0.51 | 0.42 | 1.58 | 11.71 | 3.12 | 2.48 | 1.18 | 0.65 | 0.77 | 0.37 |
| | 2016 | 0.89 | 0.71 | 0.50 | 0.38 | 1.78 | 15.63 | 18.87 | 4.44 | 1.33 | 0.57 | 0.64 | 0.37 |

With the help of analysis and research, we can conclude that there are three indicators with obvious fluctuations, namely, net profit growth rate, operating cash flow per share and cash return on assets operation, while the remaining indicators have little change. Detailed information will be described in table 3. Over the past four years, GEM listed companies have shown a state of overall equilibrium, no serious ups and downs, and the main financial indicators are relatively calm.

3.2 Regression analysis

In data processing, this paper uses EViews, an econometric analysis and prediction software, to do regression analysis for four years. The result coefficients are detailed in table 4. The numerical criteria in this table are as follows: if between 0.8 and 1.0, the correlation between single independent variable and dependent variable is very strong; if the value is between 0.6 and 0.8, the correlation between single independent variable and dependent variable is strong; if the value is between 0.4 and

0.6, the correlation between single independent variable and dependent variable is moderate; if the value is between 0.2 and 0.4, the correlation between single independent variable and dependent variable is moderate. It shows that there is weak correlation between single independent variable and implicit variable, and that there is no correlation or only weak correlation between single independent variable and dependent variable when the value is between 0 and 0.2.

Table 4. Multivariate Regression Analysis of Independent and Dependent Variables of Listed Companies on GEM

| | Profitability | | Accumulation | Growth | Cash Guarantee | | Solvency | Company Size | Equity Concentration | | |
|------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------------|-----------------|-----------------|
| year | X ₁ | X ₂ | X ₃ | X ₄ | X ₅ | X ₆ | X ₇ | X ₈ | X ₉ | X ₁₀ | X ₁₁ |
| 2013 | 0.624 | 0.081 | 0.590 | 0.647 | 0.483 | 0.507 | 0.328 | 0.492 | -0.550 | -0.052 | 0.095 |
| 2014 | 0.377 | 0.263 | 0.524 | 0.535 | 0.352 | 0.463 | 0.311 | 0.488 | -0.531 | -0.960 | -0.076 |
| 2015 | 0.561 | 0.324 | 0.437 | 0.515 | 0.313 | 0.417 | 0.368 | 0.499 | -0.520 | -0.135 | -0.008 |
| 2016 | 0.580 | 0.335 | 0.472 | 0.521 | 0.289 | 0.452 | 0.373 | 0.492 | -0.543 | -0.145 | -0.012 |

4. Research results

Data analysis shows that there is a certain relationship between the dividend rate and the size of a company and whether the ownership is centralized, but this relationship is not obvious, or even can be said to have no impact. The main reason is that GEM listed companies serve small and medium-sized enterprises and do not require large-scale enterprises. Moreover, shareholding will not shake the status of its major shareholders, and the interests of major shareholders are closely related to the interests of the company, which has an irreversible responsibility for the development of the company. Big shareholders are more concerned about the long-term development of the company than the short-sighted benefits of cash dividends. Therefore, the proportion of the largest shareholder will not have a significant impact on the dividend rate.

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