Factors Affecting IPO Premium Rate of Chinese Listed Companies
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ABSTRACT
With the continuous enhancement of China's economic strength, the status of China's stock market in the world market is also gradually rising, and the phenomenon of IPO underpricing in China's stock market has gradually attracted everyone's attention. IPO is the activity of an enterprise's initial public offering of shares. Listing through IPO is the key for an enterprise to successfully realize the financing in the stock market. In the process of IPO, the core problem is pricing. The level of pricing is directly related to the interests of issuers and investors. The most important symbol representing the issue pricing level and the division of interests of both sides is the degree of IPO underpricing. Therefore, this paper focuses on what factors affect IPO underpricing. Through the analysis of China's stock market, we can infer that the IPO underpricing rate is related to underwriter reputation, venture capital support, manager shareholding, total issuance scale, corporate governance, issuance and listing time interval, ranking of accounting firms undertaking IPO listing, ranking of law firms undertaking IPO listing, market inertia, issuance timing and other factors. By using the linear regression method, this paper finds that the IPO underpricing rate has a strong correlation with these factors, and puts forward some suggestions on some deficiencies in the Chinese market.

Keywords: IPO, Premium rate, China, Listed companies

1. INTRODUCTION
IPO is the activity of initial public offering of shares, and it is the key for enterprises to successfully realize the financing in the stock market.[1][9][10] The research on IPO underpricing has also become a more important issue in the economic field. [2][7] There are many factors affecting IPO discount, such as underwriter reputation, venture capital support, manager shareholding, total issuance scale, corporate governance, issuance and listing time interval, ranking of accounting firms undertaking IPO listing, ranking of law firms undertaking IPO listing, market habits, issuance timing, etc. [3][8] These factors directly or indirectly affect IPO Underpricing. Based on the original hypothesis that the above ten factors are related to the IPO underpricing rate, this paper demonstrates that these factors affect the IPO underpricing.[4] This paper collects 1369 currently listed stocks in China from wind, Guotai Junan and other databases, and analyzes that the IPO underpricing rate is affected by the ten factors mentioned above under different time intervals. Finally, the collected results are regressed with Eviews software, the correlation between these influencing factors and IPO and the size of influencing factors are obtained and confirmed, and on this basis, some suggestions are put forward for the results, so as to better develop China's IPO market in the future.

2. METHODOLOGY
The IPO listed companies surveyed in this survey are listed companies from 2016 to 2020, all of which are listed companies in Shanghai and Shenzhen, with a total of 1369. All relevant data required are from wind database and Guotai Junan database.[5] The collected aspects include underwriter reputation, venture capital support, manager shareholding, total issuance scale, corporate governance, issuance and listing time interval, ranking of accounting firms undertaking IPO listing, ranking of law firms undertaking IPO listing, market inertia, issuance time and other factors. The regression method used is based on the linear regression analysis under the assumption of Gauss Markov.[6] The required six regression equations are obtained by Eviews software, and the required assumptions are confirmed in three different cases.
3. RESULTS

In the following models, the required explanatory variables will be represented by the following characters: 

\( \text{Y}_{\text{IPO}(t)} \) is the value of IPO underpricing at time period \( t \). 

\( \text{X}_{\text{ROU}} \) is the underwriter reputation, and its size is the size of the IPO’s lead underwriter ranking. 

\( \text{X}_{\text{VC}} \) is the number of venture capital companies that have invested in a specific IPO company. 

\( \text{X}_{\text{SR}} \) is the proportion of shares held by major shareholders of a specific IPO listed company, and its value is measured by the sum of the shareholding proportions of the top ten shareholders, and expressed as a percentage. 

\( \text{X}_{\text{IS}} \) is the issuance scale of the IPO listed company when it goes public on the day of its listing, and its value is measured by the issuance scale and the total amount of funds raised on the IPO day, and the unit is one billion. 

\( \text{X}_{\text{CG}} \) is the proportion of the CEO in the company to the total number of board members of the company. 

\( \text{X}_{\text{II}} \) is the issuance time interval, which is used to measure the number of days between the filing of the company and the IPO listing. 

\( \text{X}_{\text{RAF}} \) is the ranking of accounting firms that undertake IPO listing, and its value is the ranking of accounting firms in that year. 

\( \text{X}_{\text{LFR}} \) is the ranking of law firms that undertake IPO listing, and its value is the ranking of law firms in that year. 

\( \text{X}_{\text{MI}} \) is the market inertia of the market where the IPO is located, and its value is the average of the Sharpe ratio over the past three years, expressed as a percentage. 

\( \text{X}_{\text{RT}} \) is the issuance timing of the market when the IPO is listed, and its value is the average of the ROE ratios in the past three years, expressed as a percentage. 

\( \epsilon \) is the value of the error term. This paper assumes that:

\[ H_0: \text{Y}_{\text{IPO}(t)} = (\beta_0 + \beta_1 \text{X}_{\text{ROU}} + \beta_2 \text{X}_{\text{VC}} + \beta_3 \text{X}_{\text{SR}} + \beta_4 \text{X}_{\text{IS}} + \beta_5 \text{X}_{\text{CG}} + \beta_6 \text{X}_{\text{II}} + \beta_7 \text{X}_{\text{RAF}} + \beta_8 \text{X}_{\text{LFR}}) \times (\text{X}_{\text{MI}} + \text{X}_{\text{RT}}) + \epsilon \]

\[ H_1: \beta_i = 0 \quad (i=1,2,3,4,5,6,7,8,9) \]

Now bring all the IPO data collected into Eviews for regression analysis.

Without considering the influence of market inertia and issuance timing:

\[ (\text{Y}_{\text{IPO}(t)}) = \beta_0 + \beta_1 \text{X}_{\text{ROU}} + \beta_2 \text{X}_{\text{VC}} + \beta_3 \text{X}_{\text{SR}} + \beta_4 \text{X}_{\text{IS}} + \beta_5 \text{X}_{\text{CG}} + \beta_6 \text{X}_{\text{II}} + \beta_7 \text{X}_{\text{RAF}} + \beta_8 \text{X}_{\text{LFR}} + \epsilon \]
When considering the impact of market inertia and issuance timing:

\[ \text{IPO}(t) = (\beta_0 + \beta_1 \text{ROU} + \beta_2 \text{VC} + \beta_3 \text{SR} + \beta_4 \text{SR} + \beta_5 \text{IS} + \beta_6 \text{CG} + \beta_7 \text{II} + \beta_8 \text{RAF} + \beta_9 \text{LFR}) \]

\[ * (\text{MI} + \text{RT}) + \epsilon \]

It can be found from the above chart:

1. In the overall model, the influence coefficient of SR and SR on dependent variables is the largest (close to 0.6), followed by the correlation coefficient of VC. Excluding the regression results on the first day, the analysis focused on the situation considering RT and MI. The constant term is positive at all times and increases continuously, indicating that the IPO underpricing rate of the company is increasing without considering all other factors, which is line with real life. The coefficient of CG is negative, and the absolute value of slope coefficient increases with the increase of T value. Every time CG increases by one unit, the IPO underpricing rate will decrease by one unit, indicating that the increase in the number of senior executives can reduce the company's behind-the-scenes behavior, so it can promote the increase of IPO premium rate, which is in line with real life. The coefficient of SR is positive, and the absolute value of slope coefficient increases with the increase of T value. Every time SR increases by one unit, the IPO underpricing rate will increase by one unit. It indicates that when the shareholding ratio of major shareholders increases, the rights of the company's shares are more concentrated. It may lead to behind the scenes behavior, resulting in the increase of IPO underpricing rate, which is in line with...
real life. The coefficient of II is positive, and the absolute value of slope coefficient increases with the increase of T value. II for each additional unit, the IPO underpricing rate will increase by one unit. It indicates that with the increase of issuance time interval, there may be more transactions behind the company, resulting in the increase of IPO underpricing rate, which is in line with real life. The coefficient of is is negative, and the absolute value of slope coefficient increases with the increase of T value. Every time it is increased by one unit, the IPO underpricing rate will decrease by one unit, which indicates that with the increase of the issuance scale, the degree of concern of the company will increase, and the more people invest, the IPO underpricing rate will decrease, which is in line with real life.

4. CONCLUSION

In short, IPO underpricing rate is affected by many factors. The factors that can be observed and have significant correlation are the ten factors. IPO underpricing rate can be divided into the top eight endogenous factors: underwriter reputation, venture capital support, manager shareholding, total issuance scale, corporate governance, issuance and listing time interval, ranking of accounting firms undertaking IPO listing and ranking of law firms undertaking IPO listing, as well as two exogenous factors, market inertia and issuance timing, which affect the whole stock market, and are overall significant. Through this paper, the government can strengthen the governance of IPO listed companies and market supervision to some extent. Except the limitation in this paper, it is hoped that future research can further explore how investors solve the problem of information asymmetry in investment and bring more benefits to investors.

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