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MARKET STRUCTURE, COMPETITIVE STRATEGY AND THE IPO GROSS SPREADS IN CHINA*

The article presents a hot debate on whether the IPO underwriting gross spreads are clustering and on the factors influencing underwriting pricing. Our analysis finds that the risk factors of issuing companies have been fully reflected in the current gross spreads, which indicates the high competitiveness of IPO underwriting market structure in China. We also argue that the going public strategy and reputation strategy significantly improve the gross spreads. However, conglomerate strategy and risk controlling strategy are ineffective in improving gross spreads.

Keywords: investment bank; IPO; underwriting; market structure; gross spreads; China.

Жонг Ксу

СТРУКТУРА РИНКУ, СТРАТЕГІЯ КОНКУРЕНТНОЇ БОРОТЬБИ ТА ВАЛОВІ СПРЕДИ НА ІРО: ЗА ДАНИМИ КИТАЮ

У статті представлено наукову дискусію навколо питання кластеризації спредів на ринку ІРО та чинників, які впливають на ціноутворення в андеррайтингу. Авторський аналіз виявив, що чинники ризику для компаній, які випускають акції, відбиваються на поточних валових спредах, що свідчить про високу конкуренцію на ринку ІРО у КНР. Також доведено, що стратегія виходу на ринок ІРО та стратегія покращення репутації позитивно впливають на валові спреди, у той час як стратегію конгломерації та стратегію контролю ризиків не можна назвати ефективними відносно покращення якості спредів.

Ключові слова: інвестиційний банк; ІРО; андеррайтинг; структура ринку; валові спреди; Китай.

Форм. 1. Табл. 4. Літ. 11.

Жонг Ксу

СТРУКТУРА РЫНКА, СТРАТЕГИЯ КОНКУРЕНТНОЙ БОРЬБЫ И ВАЛОВЫЕ СПРЕДЫ НА IPO: ПО ДАННЫМ КИТАЯ

В статье представлена научная дискуссия о кластеризации спредов на рынке IPO и факторах, влияющих на ценообразование в андеррайтинге. Авторский анализ показал, что факторы риска для компаний, выпускающих акции, отражаются в текущих валовых спредах, что свидетельствует о высокой конкуренции на рынке IPO в КНР. Также показано, что стратегия выхода на рынок IPO и стратегия повышения репутации позитивно влияют на валовые спреды, в то время как стратегию конгломерации и стратегию контроля рисков нельзя назвать эффективными относительно улучшения качества спредов.

Ключевые слова: инвестиционный банк; IPO; андеррайтинг; структура рынка; валовые спреды; Китай.

1. Introduction

IPO underwriting is the core business line and the most important profit source for investment banks, especially for Chinese investment banks due to their limited business scope. On the one hand, IPO of state-owned enterprises was used just as a partially privatized plan to ensure the equity financing of those state owned firms (Sun and Tong, 2003). And investment banks, which were state-owned enterprises

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themselves, acted just as agents of government and played no role in certification or monitoring, which are the essential financial functions of investment banks in most developed economies. On the other hand, the market-oriented reform has taken place in China for more than 30 years and made big advancements (Naughton, 2007), which may change the behavior of IPO firms as well as investment banks. Therefore, we argue in this paper, that the IPO underwriting market has become more and more competitive and investment banks have carried out different competitive strategies to compete on underwriting spreads.

Using 610 observations of IPOs in China between 2009 and 2011, we have carried out an empirical examination to answer the following two questions. First, are the risk factors embedded in the IPO issuing firms fully priced in the gross spreads charged by IPO underwriters? Second, how effective are different competitive strategies of investment banks in China? Using a set of variables to proxy for the risk of IPO issuing firms and different competitive strategies, we found supportive evidence for the relatively efficient IPO market in China and estimated the effects of different strategies on gross spreads.

Our work has potential contributions in two ways. First, as discussed by Torstila (2003), patterns of clustering in IPO gross spreads have been observed worldwide. Chen and Ritter (2000) interpreted the spreads clustering phenomenon as the evidence of tacit collusion, which even sparked the US Department of Justice antitrust investigation. Other research, such as Hansen (2001), favored a standardized IPO contracting explanation with the true competition taking place on quality. Therefore, our research of the underwriting gross spreads determination in China provides new evidence in this hot academic debate. Secondly, Allen, Qian and Qian (2005) argued that the Chinese stock market was mainly used to facilitate corporate financing for state owned enterprises, which were utterly inefficient. Other studies such as Du and Xu (2009) argued that substantial stock market investment funds were channeled into potentially productive companies, which was relatively efficient. Therefore, this paper provides evidence of whether the IPO underwriting market is competitively efficient, which contributed to the debate of the efficiency of Chinese stock market. The rest of the paper is organized as follows: we review the related literature and develop our hypotheses in Section 2; Sections 3 and 4 provide our dataset, variable definitions and empirical results. The conclusion is presented in Section 5.

2. Literature review and research hypotheses

There is a hot debate on the underwriting market structure as well as underwriting pricing. According to Chen and Ritter (2000), more than 90% of IPO issuers paid gross spreads of exactly 7% in the USA between 1995 and 1998. Chen and Ritter (2000) interpreted this as the evidence of tacit collusion among investment bankers. Contrary to their conclusions, Hansen (2001) favored the efficient contract theory which argued that investment banks compete on the basis of reputation, not pricing. Following the original work of Chen and Ritter (2000), Torstila (2003) observed that the gross spreads clustering was in fact a global phenomenon. Using the data set including nearly 11,000 IPOs from 27 countries from 1986 to August 1999, Torstila (2003) concluded that clustering patterns were not necessarily collusive because the amount of clustering is negatively related to the gross spread level of a country. Recently Liu & Ritter (2011) pointed out that the IPO underwriting market is best

characterized as a series of local oligopolies because IPO issuers care about non-price dimensions of underwriting.

Based on the above findings, we may assume that Chinese IPO underwriting market structure is monopolistic rather than competitive because most investment banks were set up by the government and they are still state-owned. Therefore, investment banks in China would charge a monopolistic commission for IPO underwriting business. We would observe the price clustering phenomenon in China, and gross spreads would not be affected by the individual risk factors of issuing firms and different competitive strategies taken by investment banks. Thus we can formulate the first hypothesis:

H1: There is price clustering in China IPO underwriting business and the risk factors of issuing firms and different competitive strategies of investment banks do not affect underwriting pricing.

However, the market-oriented reform has been taking place in China for more than 30 years, greatly increasing market competitiveness, especially at the financial market. Chinese IPO market has been ranked number one by the number of firms going public and the money raised since 2010. The ownership structure of investment banks in China is also becoming more and more diversified. There are central government-owned, local government-owned, private and joint-stock investment banks and they compete more and more fiercely. Thus, we have the second hypothesis:

H2: Chinese IPO underwriting market is relatively competitive and the risk factors of issuing firms and different competitive strategies of investment banks can influence underwriting pricing.

3. Data and variables

There are 610 IPO observations made between 2009 and 2011 on the Main Board and the ChiNext in China. We chose this time period because the Main Board reinitiated the IPO market since July 10th, 2009 after the year close period and the ChiNext was first set up on November 30th, 2009. There are 349 observations on the Main Board and 261 observations on the ChiNext. We collected all the data from GTA, a professional financial data vendor in China.

Following the literature on IPO underwriting (Chen and Ritter, 2000; Hansen, 2001), we chose underwriting gross spreads (rate) as the explained variable and defined the rate as the ratio of absolute amount an underwriter charges on the absolute amount the issuer raises through IPO.

We chose two sets of variables as explaining variables. The first set measures the risk of issuing firms. According to Ljungqvist (2007), company characteristics, issuing characteristics and aftermarket variables are the most commonly used proxies for IPO issuing risk. Therefore, we chose the amount of issuing equity (volume), the years since the issuing firm set up (time), the return on equity before the firm goes public (ROE) and the IPO underpricing (IPO) as the proxy for IPO issuing risk. The more the IPO firm issues stocks, the bigger the firm size is, and the lower is the uncertainty the firm involves in running its business. The longer the firm runs its business, the higher is the return on equity, the more stably the firm operates. And the higher the IPO underprices, the higher the information asymmetry is between the issuing firm and purchasing investors, the higher risk the underwriter bears. Furthermore, we added a specific variable of whether the issuing firm goes public in ChiNext (cm) as

a proxy of issuing risk because the issuing standards decrease significantly in ChiNext as compared with the Main Board, which increases the issuing firm risk.

The second set of variables measure the competitive strategy chosen by different investment banks. The first two variables measure the market share of investment banks in IPO business, which are most commonly used to proxy for the reputation of investment banks. We chose two different ways to measure the market share, which are the ranking of investment banks according to the underwriting amount (amount) and the underwriting number (ms) of firms. The variable of amount takes the value of 1 if the investment bank is ranked within top 10 in 2007 and 2008, and 0 – if otherwise. Similarly, the variable of ms takes the value of 1 if the investment bank underwrote above average number of firms and 0 – below average in 2007 and 2008. The third variable is whether the investment bank was a listed firm or not (pub) during our sample period, which takes a value of 1 if listed and 0 if not. The fourth variable is whether the investment bank belonged to a financial conglomerate (conglomerate) in our sample period and takes the value of 1 if belong to a financial conglomerate and 0 if not. The fifth variable measures the risk controlling strategy (level). Because Chinese securities regulation committee (CSRC) rates all investment banks by their ability to control risk, we give the variable level the value of 1 if the investment bank received the level of A or above (AAA, AA), and the value of 0 if below A.

We also explored the industry and year fixed effects. We listed all the variable definitions in Table 1.

Table 1. Variables definitions

| variable | definition |
|--------------|--|
| | explained |
| rate | the ratio of absolute amount the underwriter charges on the absolute amount the issuer raises through IPO |
| | firm risk |
| volume | the amount of issuing equity |
| time | the years since the issuing firm was set up |
| ROE | the return on equity before the firm goes public |
| IPO | IPO underpricing |
| cm | whether the issuing firm goes public in ChiNext, 1 if yes and 0 if no |
| | competitive strategy |
| amount | the ranking of investment banks according to the underwriting amount, 1 if the investment bank ranked top 10 in 2007 and 2008, and 0 otherwise |
| ms | the underwriting number of firms, 1 if the investment bank underwrite above average number of firms and 0 below average |
| pub | whether the investment is a listed firm or not, 1 if listed and 0 if not |
| conglomerate | whether the investment bank belongs to a financial conglomerate, 1 if belong to a financial conglomerate and 0 if not |
| level | 1 if the investment bank received the level of A or above (AAA, AA), and the value of 0 if below A (from CSRC) |

Source: Developed by the author.

4. Empirical results

First, we listed the descriptive statistics of the main variables in Table 2. The mean value of the explained variable rate is 0.05 which is significantly lower than the 7% gross spreads in the USA. The standard deviation of rate is 0.02, which is primary evidence of no rate clustering in China.

Table 2. Descriptive statistics

| | mean | median | sd | N |
|--------------|-------|--------|------|-----|
| rate | 0.05 | 0.053 | 0.02 | 610 |
| volume | 8.04 | 7.9 | 0.74 | 610 |
| time | 8.85 | 8.8 | 4.43 | 610 |
| roe | 27.05 | 25.78 | 9.58 | 610 |
| pub | 0.49 | 0 | 0.5 | 610 |
| amount | 0.52 | 1 | 0.5 | 610 |
| ms | 0.5 | 1 | 0.5 | 610 |
| conglomerate | 0.57 | 1 | 0.5 | 610 |
| level | 0.75 | 1 | 0.44 | 610 |

Source: Developed by the author.

To avoid potential multicollinearity, we performed the Pearson correlation of the main explaining variables and listed the results in Table 3. All the strategy variables exhibit high correlation. Therefore, we run the regression on individual strategy variable once a time to avoid the multicollinearity problem. Furthermore, we also used VIF to examine the multicollinearity and found this not to be a serious issue in our regressions.

Table 3. Pearson correlations

| | IPO | volume | time | roe | pub | amount | ms | conglomerate | level |
|--------------|-----------|-----------|--------|----------|----------|----------|----------|--------------|-------|
| IPO | 1 | | | | | | | | |
| volume | -0.120*** | 1 | | | | | | | |
| time | -0.025 | -0.043 | 1 | | | | | | |
| roe | -0.180*** | -0.165*** | -0.046 | 1 | | | | | |
| pub | -0.054 | -0.045 | 0.027 | 0.026 | 1 | | | | |
| amount | -0.046 | 0.108*** | 0.008 | 0.038 | 0.404*** | 1 | | | |
| ms | -0.046 | 0.034 | 0.026 | 0.034 | 0.571*** | 0.833*** | 1 | | |
| conglomerate | -0.047 | 0.086** | 0.019 | 0.042 | 0.330*** | 0.375*** | 0.343*** | 1 | |
| level | -0.065 | 0.078* | 0.021 | 0.139*** | 0.311*** | 0.579*** | 0.557*** | 0.258*** | 1 |

***significant at the 1% level, **significant at the 5%, * significant at the 10% level

Source: Developed by the author.

To examine whether the gross spreads that investment banks charge are affected by risk factors of IPO issuing firms and competitive strategies, we run the following regression,

$$rate_i = \alpha_i + \beta_1 \cdot Strategy_i + \sum \beta_i \cdot Company_i + \varepsilon_i \quad (1)$$

"Strategy" is on behalf of different competitive strategies the investment banks take and "Company" means the different proxy of risk factors of IPO issuing firms. We also explored the industry and year fixed effects. And we listed the regression results in Table 4.

First, 3 measures of competitive strategy of investment banks are statistically significant in the above 5 regressions. The coefficient of pub is positive and significant at the 1% level, which means that listed investment banks will charge 0.5% higher gross spreads than their unlisted competitors. The coefficients of amount and ms are also positive and significant at the 5% level, which means that investment banks with reputation will charge 0.3% higher gross spreads. The coefficients of conglomerate and level are relatively small and statistically insignificant, which means that those two strategies cannot win higher gross spreads for investment banks. It is noteworthy that

the above regression results are not only statistically significant, but also has important economic implications. The average amount of the money those IPO issuing firms raised in our sample is 1,025.821 mln yuan, which means that investment banks taking listing strategy will get 5.51 mln yuan higher commission fees.

Table 4. Regression results

| | (1) | (2) | (3) | (4) | (5) |
|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 |
| pub | 0.00537*** (4.20) | | | | |
| amount | | 0.00336** (2.58) | | | |
| ms | | | 0.00395** (3.04) | | |
| conglomerate | | | | 0.00154 (1.17) | |
| level | | | | | 0.00144 (0.95) |
| volume | -0.0112*** (-10.99) | -0.0117*** (-11.38) | -0.0115*** (-11.21) | -0.0116*** (-11.21) | -0.0116*** (-11.19) |
| time | 0.0000811 (0.55) | 0.0000963 (0.65) | 0.0000892 (0.61) | 0.0000976 (0.66) | 0.0000975 (0.66) |
| roe | -0.000273*** (-3.92) | -0.000276*** (-3.92) | -0.000274*** (-3.90) | -0.000273*** (-3.86) | -0.000277*** (-3.89) |
| ipo | 0.0161*** (5.93) | 0.0154*** (5.65) | 0.0156*** (5.73) | 0.0153*** (5.57) | 0.0154*** (5.59) |
| cm | 0.00404** (2.61) | 0.00390* (2.50) | 0.00421** (2.69) | 0.00385* (2.46) | 0.00377* (2.41) |
| cons | 0.169*** (9.05) | 0.170*** (9.04) | 0.167*** (8.88) | 0.172*** (9.09) | 0.171*** (9.02) |
| industry | v | v | v | v | v |
| year | v | v | v | v | v |
| Adjusted R ² | 0.408 | 0.398 | 0.400 | 0.392 | 0.392 |
| N | 610 | 610 | 610 | 610 | 610 |

t-statistics is reported in parentheses.

***significant at the 1% level, **significant at the 5%, * significant at the 10% level

Source: Developed by the author.

Second, the coefficients of volume and roe are negative and significant at the 1% level, which means that investment banks charge lower gross spreads for larger and more profitable issuing firms. The coefficients of IPO underpricing and cm are positive and statistically significant, which means that investment banks charge higher gross spreads for IPO issuing firms with higher risks.

5. Conclusion

First, we provided empirical evidence to support the argument that Chinese IPO underwriting market is relatively competitive. The variables to proxy for the issuing firm risk such as the issuing size, ROE before going public, IPO underpricing and whether going public in ChiNext can statistically influence the gross spreads that the investment banks charge. The argument for a high competition at the IPO underwriting market is consistent with the observation of a rapid expanding financial market and a relatively efficient market-oriented reform in China (Du, Xu, 2009).

Second, we measured the influence of different competitive strategies on the gross spreads. The strategy of going public and having higher reputation at IPO market will get those investment banks higher commission fees while conglomerate and risk controlling strategies do not work well. These empirical evidence shed new light on the debate of whether IPO underwriting rates cluster and the reasons for clustering.

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