A Study on Impact of Registration System Reform on IPO Pricing Efficiency

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Abstract. This paper aims to explore the impact of China's registration system reform on IPO pricing efficiency, and analyzes the current status of research and its shortcomings through a literature review. Studies have shown that the registration system reform may trigger market speculation and inhibit IPO pricing efficiency in the short term, but in the long run, the reform shows a positive incentive effect and helps to improve market pricing efficiency. Although information asymmetry still exists and the market recognition of underwriters and intermediaries is low, the registration system reform has made significant progress in improving information disclosure, simplifying listing procedures, and strengthening market-based pricing mechanisms. This paper summarizes the shortcomings of existing research, including insufficient research on long-term effects, imperfect information disclosure mechanisms, low market recognition of intermediaries, narrow scope of heterogeneity analysis, and ineffective suppression of speculative behavior, and puts forward policy recommendations for further improving IPO pricing efficiency. Through these measures, it is intended to further improve the IPO pricing efficiency under the registration system reform, promote the healthy and stable development of China's capital market, and achieve high-quality economic growth.

Keywords: Registration System Reform, IPO Pricing, Investment Banking.

1 Introduction

Since the launch of the pilot registration system for China's Science and Technology Innovation Board in 2019, the China Securities Regulatory Commission has gradually promoted the reform of the registration system and implemented it in the Growth Enterprise Market and other market segments. This policy change has had a profound impact on the IPO market, especially putting forward higher requirements for IPO pricing efficiency. The traditional approval system has problems such as long approval cycle and insufficient information disclosure, which limits the efficiency and transparency of the capital market. Therefore, the registration system reform has become the focus of academic and market attention. Scholars have conducted extensive research on how this reform affects IPO pricing efficiency. However, most of the existing literature focuses on the research of specific markets or time periods,

J. Lu (ed.), *Proceedings of the International Workshop on Navigating the Digital Business Frontier for Sustainable Financial Innovation (ICDEBA 2024)*, Advances in Economics, Business and Management Research 315,
https://doi.org/10.2991/978-94-6463-652-9_29

lacking a systematic review and summary. In particular, academic research is still not in-depth enough in terms of information disclosure mechanism, market acceptance, and control of speculative behavior. This paper aims to explore the actual impact of the registration system reform on IPO pricing efficiency through literature review, reveal its effectiveness and shortcomings, and then provide reference for academic research and policy formulation, and promote the healthy development of China's capital market.

The significance of the topic of this paper is to explore the impact of the registration system reform on IPO pricing efficiency by systematically combing and summarizing existing literature, aiming to provide a clear theoretical framework and research ideas for academia and policymakers. Although the existing research on the registration system reform and IPO pricing efficiency has gradually increased, there is still a lack of systematic and comprehensive literature review. This paper summarizes the main findings and conclusions of the registration system reform in improving IPO pricing efficiency, providing a solid theoretical basis for further research. Secondly, this paper reveals the shortcomings of existing research. On the basis of summarizing the existing research results, this paper deeply analyzes the shortcomings of the existing literature, such as insufficient research on long-term effects, the need to improve the information disclosure mechanism, low market recognition of intermediaries, narrow scope of heterogeneity analysis, and ineffective suppression of speculative behavior. This paper reveals the direction of future research and can also provide ideas for follow-up research. This paper puts forward specific suggestions, provides specific ideas and clues for follow-up research, and helps to promote further exploration of academia and practice in this field.

2 IPO Pricing Efficiency

2.1 Definition

Generally speaking, IPO pricing efficiency refers to the extent to which the issue price of new shares can reflect the actual value of the company. Ritter (2003) found that IPO pricing is generally lower than the intrinsic value of the company, that is, IPO underpricing is also common [1]. Therefore, Stoll & Curley (1970) suggested using the IPO underpricing rate to evaluate IPO pricing efficiency [2]. They found that the smaller the gap between the issue price of new shares and the closing price on the first day (the lower the IPO underpricing rate), the higher the IPO pricing efficiency. Therefore, they used the deviation between the IPO pricing and the closing price on the first day as a quantitative standard to link the intrinsic value of the company with the closing price on the first day. This proposed method has good applicability and is easy to use. Many subsequent studies have adopted this method for analysis. It should be noted that Li (2021) believes that this method has a high degree of applicability in the markets of developed countries [3]. However, due to the large deviation between stock prices and actual values in China's A-share market, this indicator is not consistent with the study of IPO pricing efficiency in China's A-share market.

2.2 Improvement of IPO Pricing Efficiency Indicators

Based on the method proposed by Stoll & Curley (1970), some domestic scholars have found a method that is more suitable for the Chinese market [2]. Zhao (2021) proposed using the IPO underpricing rate adjusted by the market as an indicator of the efficiency of IPO pricing for slow-moving companies [4]. However, this method also has advantages and disadvantages. Its advantage is that it excludes the influence of the market sentiment on the first day, so it is closer to the true degree of IPO underpricing. However, the disadvantage of this method is that it cannot identify the premium caused by factors such as the speculation sentiment of secondary market investors, and still overestimates the degree of IPO underpricing.

3 IPO Underpricing

IPO underpricing refers to the difference between the issue price of a new stock and the closing price on the first day of trading in the securities market. Based on the assumption that the subject of the behavior is rational, the reasons for IPO underpricing can be divided into two categories: information asymmetry theory and behavioral finance.

3.1 Information Asymmetry Theory

Information asymmetry theory refers to the fact that in the IPO pricing process, the main participants include issuers, underwriters, inquiry objects and investors. Because the information they have is not completely consistent, there is information bias.

Winner's Curse Theory. The winner's curse theory comes from the background of public value auctions, that is, the winner often overestimates the actual value of the auction item. Capen et al. (1971) extended this theory to IPO pricing, assuming that information asymmetry exists not only between issuers and investors, but also between different investors [5]. Rock (1986) proposed the "winner's curse" hypothesis. He believes that investors with information advantages will buy undervalued stocks, while those with information disadvantages often buy overvalued stocks because they find it difficult to distinguish the value of stocks, resulting in losses [6]. Beatty & Ritter (1986) believed that in order to compensate for the risk of uninformed investors, companies need to issue stocks at a discount price, which is also known as the risk-return hypothesis [7]. However, in the Chinese stock market, the situation is more complicated. However, in the Chinese market, different scholars have reached different conclusions on the underpricing phenomenon, showing that IPO underpricing has diverse causes in the Chinese market.

Underwriter-Related Theories. Underwriter-related theories include underwriter reputation theory and underwriter information collection theory. Since it is difficult for investors to obtain sufficient information, the independence of underwriters can alleviate information asymmetry to a certain extent, thereby affecting pricing. Some studies have also confirmed this finding, such as Beatty & Ritter (1986) [7]. In addition, Logue (1973) found through analysis that small companies are often willing to pay extra fees to attract well-known underwriters, which improves the company's ability to attract investors [8]. At the same time, the market may generally link underwriter fundraising with the quality of new shares, making some low-quality small companies profitable.

Since China's securities issuance market is still in its infancy, it is generally believed in research that the information of such markets is not preliminary and this phenomenon is becoming more serious, and the efficiency of information generation and transmission is low. Therefore, domestic scholars have used different data and methods to study and test this. Jiang et al. (2006) specifically analyzed the relationship between China's underwriter relationship and IPO underpricing [9]. They concluded that compared with foreign markets, factors such as the scale of stock issuance and the company's pre-issuance existence have a weaker impact on the underpricing rate in my country; and under different IPO issuance systems, underwriters happen to have significant differences.

The underwriter information collection theory is a theory about how underwriters collect and use information to obtain the price of newly issued stocks during the initial public offering (IPO) process. In studying the IPO pricing mechanism, Benveniste & Spindt (1989) found that underwriters lack the conditions for in-depth contact with a wide range of investors [10]. In contrast, some institutional investors are more aware of the demand information for new shares. Therefore, discount issuance becomes the most direct way of compensation. This conclusion was further verified in the research of Hanley (1993) [11]. She pointed out that underwriters can effectively attract institutional investors with information advantages to participate through discount issuance, thereby ensuring the successful issuance of new shares. Sherman (2000) found that the ability of underwriters to reduce IPO underpricing depends largely on whether they can attract ordinary uninformed investors [12]. The study emphasized that underwriters must find a balance between informed and uninformed investors to reduce IPO underpricing and ensure the effectiveness of the market.

Principal-Agent Theory. This theory is based on the principal-agent problem between issuers and underwriters. The proposed principal-agent theory holds that there is information asymmetry between issuers and underwriters. Issuers want high IPO pricing, while underwriters tend to lower pricing to reduce issuance risks. As an uninformed party, the issuer shareholder capital market has difficulty in effectively obtaining relevant information about their purchase of underwriting services from underwriters, while underwriters have higher professionalism and accurate market relationships, thus forming a pair of principals and agents. It is found that prestigious underwriters are more likely to win the trust of investors due to their rich experience, thereby reducing the risk of IPO pricing failure. The principal-agent theory provides a new perspective on the relationship between underwriters and IPO underpricing ,explaining why underwriters can play an important role in the market.

3.2 Behavioral Finance Theory

Compared with the theories mentioned above, this theory considers the causes behind it more from the perspective of investors, and focuses on the impact of the irrational behavior of secondary market investors on IPO underpricing. The following are some related theories based on behavioral finance theory:

Overconfidence Theory. There are two types of investors in the market, who are optimistic and bearish on issuers. Due to the market's restrictions on short selling, stock prices are more likely to reflect the sentiment of optimistic investors, thus showing a higher first-day return rate. When investors' judgments on the intrinsic value of listed new stocks are more extreme, the final market clearing price of the stock will be higher. At the same time, Ljungqvist et al. (2006) believe that the trading mechanism of the secondary market provides the basis for this phenomenon [13]. Due to the lock-up period regulations and the lack of a short-selling mechanism, the pessimistic sentiment of some investors towards new stocks cannot be effectively transmitted, resulting in the price of new stocks being dominated by optimistic expectations and unable to be quickly corrected in the short term.

Market Atmosphere Hypothesis. In the study, it was found that there is a "clustering" effect in the securities market. Ibbotson & Jaffe (1975) found in their study that after a large number of stocks were first issued and listed, a high market atmosphere was created, prompting more companies to follow suit and issue new shares [14]. This phenomenon and this theory were further summarized in subsequent research. Scholars believed that when the time interval between the newly listed stocks and the previously issued and listed companies is shorter, these new stocks are more likely to benefit from the market atmosphere.

Gambling Preference Theory. In the face of risk and uncertainty, people often show a preference, that is, they are willing to take risks in order to pursue potential high returns. The gambling preference theory based on irrational assumptions questions that since the first public offering companies have more uncertainty about future growth trends than the listed companies, investors are motivated to subscribe to new shares in pursuit of the possibility of small probability high returns. This investor behavior often leads to IPO underpricing, that is, the issue price of new shares is lower than its intrinsic value, attracting more investors to participate. Similarly, it is also found that investors’ limited attention leads to high attention to new stocks, thus driving up IPO demand.

4 The Impact of the Registration System Reform on IPO Pricing Efficiency

4.1 Registration System Reform and IPO Pricing Efficiency

Chu et al. (2019) found that the reform of the GEM registration system led to an increase in speculative sentiment in the short term, which suppressed IPO pricing efficiency [15]. However, in the long run, the reform played a positive role, especially in low underwriting markets and companies with low transaction volumes. This shows that the registration system can effectively improve pricing efficiency under certain conditions, but speculative behavior in the short term is still a problem that needs to be solved. It is found that the reform of the GEM registration system significantly increased the IPO underpricing on the first day of listing of new stocks. Although the reform failed to completely suppress speculative behavior, it prompted investors to behave more rationally and pay more attention to the comparison of risks and returns, while accelerating the return of the value of new stocks. Although speculative behavior still exists, the overall investment behavior of investors has improved.

4.2 Registration System Reform, Investor Sentiment, IPO Underpricing

Many literatures show that the registration system reform has a significant positive effect on the IPO pricing efficiency of my country's market. Yang (2023) found through empirical analysis that the registration system reform abolished the price limit system for new shares on the first day of listing, allowing them to be used as margin trading targets, enhancing the price discovery mechanism, suppressing speculative sentiment, and improving IPO pricing efficiency [16]. At the same time, the abolition of price-earnings ratio restrictions, the reduction of profit requirements, and the strengthening of information disclosure have all promoted the true reflection of the company's issue price and the improvement of market pricing efficiency. Liang (2021) found that the registration system reform has significantly improved IPO pricing efficiency by enhancing information transparency and reducing investor sentiment [17]. For companies with the highest proportion of analyst earnings forecast investors and equity participation in allotment, the registration system reform reduced the IPO underpricing rate, which shows that the enhancement of information disclosure and the management of investor sentiment play an important role in improving IPO pricing efficiency.

It is confirmed that the registration system can indeed reduce the IPO underpricing rate and improve the pricing efficiency of the capital market. Through heterogeneity analysis, they found that the registration system plays a greater role in the case of high information asymmetry, low underwriter symbols, and low auditor duplication.

4.3 Registration System Reform, Underpricing Rate, and IPO Pricing Efficiency

According to the research of Yan & Wang (2022), they pointed out that the registration system reform failed to completely solve the problem of untimely information in the initial stage, but instead increased the IPO underpricing rate [18]. This is due to the capital market supervision mechanism, domestic institutional responsibility mechanism, corporate information disclosure and investment. The registration system reform needs to be further improved to reduce the negative impact of information unfairness and irrational investment on market behavior. In addition, Wu & Zhang (2024) found that the IPO underpricing rate under the registration system is relatively high, especially in GEM companies, but there is no significant difference in STAR Market companies [19]. The study shows that the mandatory follow-up investment system implemented by the STAR Market, foreign-invested underwriters, IPO review inquiries and issuance time can effectively suppress the IPO underpricing rate. Li et al. (2023) conducted a study based on the GEM registration system reform using the DID model to explore the impact of the registration system reform on IPO underpricing [20]. They found that investor sentiment for GEM new stocks increased significantly after the reform, leading to an increase in IPO underpricing, especially among main board new stocks.

5 Conclusion

This paper reviews the impact of the registration system reform on the pricing efficiency of China's IPO market. The research shows that in the short term, the reform triggered speculative behavior and suppressed pricing efficiency, but in the long run, the registration system gradually improved IPO pricing efficiency by simplifying the listing process, improving information transparency and market-based pricing mechanisms. However, the problem of information asymmetry still exists, and the function of underwriters has not yet been recognized by the market, indicating that the information disclosure mechanism and the professionalism of intermediaries need to be improved. At the same time, the existing research is insufficient in heterogeneity analysis, especially the consideration of the differences in pricing efficiency of enterprises of different industries and sizes. Although the registration system has promoted the rationalization of investor behavior, speculative behavior has not been effectively curbed. In the future, more effective measures are needed to guide rational investment and promote market stability.

Existing research has some deficiencies in exploring the impact of the registration system reform on IPO pricing efficiency. Most studies focus on short-term effects, and rarely involve in-depth analysis of long-term effects. Although some studies have shown that the registration system reform has a positive effect in the long run, its specific mechanism and impact path are still unclear, and there is a lack of sufficient empirical research. Secondly, the problem of information asymmetry has not been completely resolved. Although the reform has improved market transparency, the function of underwriters has not been widely recognized, reflecting that the information disclosure mechanism still needs to be further improved to enhance market transparency and investor confidence. Finally, speculative behavior has not been effectively curbed. Although the study pointed out that the reform has affected speculative sentiment in the short term, there is a lack of specific measures to guide investors to invest rationally and reduce speculative behavior.

In order to further improve the efficiency of IPO pricing under the registration system reform, I believe that it is necessary to strengthen research on long-term effects. It is recommended that the government and research institutions deeply understand the impact of the reform through longitudinal data analysis and long-term empirical research, and provide a scientific basis for policy making. At the same time, improving the information disclosure mechanism is the key to solving the problem of information asymmetry. The market recognition of intermediaries is low, and underwriters have not fully played their role. Regulators should improve the professional level and reputation of intermediaries through strict supervision and evaluation systems to play their key role in IPO pricing. This will help improve the reasonable pricing of the market and promote the healthy development of the market. Strengthening market supervision is equally important. Regulators should strengthen monitoring of market manipulation and insider trading to ensure market fairness and transparency, and curb illegal activities by improving laws and regulations and increasing the cost of violations, enhance market deterrence, and further improve IPO pricing efficiency. Finally, promoting the international development of the capital market can effectively improve pricing efficiency. Drawing on international experience, opening up the capital market and attracting international investors can not only improve market transparency, but also promote the improvement of market mechanisms through international competition and promote the sustainable development of the capital market.

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