Information Asymmetry in Financial Markets: A Theoretical Review of Its Impact on IPO Underpricing

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Abstract. Recent trends have highlighted a significant prevalence of IPO underpricing. The primary focus of this study will be on the influence of information asymmetry on IPO underpricing within the financial market, followed by an analysis of the causes and consequences of this trend. Firstly, it briefly introduces the overview of information asymmetry and links to its importance within the IPO market. Then, it reviews two important concepts from existing literature regarding information asymmetry and IPO underpricing: the market of “lemons” and the herding effect. However, the study does not merely dwell on illustrating these two concepts; it also critically evaluates their limitations while also addresses the pros and cons of IPO underpricing caused by information asymmetry. Finally, it offers potential solutions for the information asymmetry problem to lessen IPO underpricing. The findings and significance of this research are particularly significant for financial market participants and decision-makers, as they help to better address and manage concerns with information asymmetry in financial markets. Through this multi-faceted exploration, the paper aims to unravel avenues that foster transparency, equitable valuation, and sustainable long-term development within the IPO market.

Keywords: Information asymmetry, IPO underpricing, the market of lemons, herding effect.

1. Introduction

Approximately 10% to 20% of US enterprises exhibited underpricing in the IPO market, which brought attention to IPO underpricing in the financial market. The focus of this study is to investigate the influence of information asymmetry on this phenomenon.

In finance, IPO (Initial Public Offering) stands for the introduction of a company's shares to the general stock market. It’s a strategy for companies to raise capital, bolster reputation, enhance visibility, and improve stock liquidity. The concept of IPO underpricing describes the situation where the initial price of a newly issued stock is less than its closing price on the first day following its public launch. IPO underpricing can attract more investors to participate but might also lead to the loss of the company's market value.

Information asymmetry can be defined as an imbalance in the information obtained by two parties. This occurs frequently in the financial markets since no one throughout the IPO process is going to obtain complete information. Thus, information asymmetry can exist between entrepreneurs and investment banks, banks and investors, individual investors and venture capitalists, or any other stakeholders in the IPO process.

In general, the paper seeks to analyze the specific role information asymmetry plays in IPOs and the influences it brings to IPO underpricing. This understanding will equip financial market participants and decision-makers with insights into the relationship between information asymmetry and IPO underpricing, facilitating better strategies to mitigate associated challenges.

The paper is going to provide a systematic review of the literature on information asymmetry within financial markets and explore studies that have examined the relationship between information asymmetry and IPO underpricing. Then, it will identify two significant concepts regarding the association between information asymmetry and IPO underpricing, which are The Market of "Lemons" and the Herding Effect. For comprehension, the conclusion will succinctly summarize the primary findings, deliberate on the limitations of the study and potential impacts on the results, and suggest future research directions arise from both observations and acknowledged limitations.

2. Exploring Information Asymmetry's Significance in IPO Underpricing: A Theoretical Literature Review

2.1. Principal Reasons for Information Asymmetry

In the financial markets, to fairly disclose information often remains an elusive ideal. As argued in the journal "Informational Asymmetries, Financial Structure, and Financial Intermediation", borrowers retain a more intimate understanding of their collateral, diligence, and ethical integrity relative to lenders. Additionally, entrepreneurs hold "inside" information concerning the projects they are seeking funding for [1]. Prior to an IPO, the informational resources accessible to investors are confined to prospectuses and other select materials proffered by companies. This limited scope leaves investors lack the ability to ascertain whether entrepreneurs intentionally withhold some information that might be unfavorable to companies' valuation. Consequently, it creates challenges for investors to estimate the financial health and future prospects of these enterprises. Aside from a lack of knowledge from the buyer's perspective, sellers themselves are often uninformed regarding how potential buyers perceive the true value of their enterprise.

Along with the prevalent information asymmetry that exists between enterprises and investors, it is critical to acknowledge that the information shared among diverse investors is also not fairly distributed. This happens because not all investors have access to the same quality and amount of information. Institutional investors frequently gain a more extensive informational advantage compared to individual investors because they have multifaceted channels available to gather information. Moreover, institutional investors can learn more via the Book Building process employed by investment banking. In contrast, individual investors often don't have a deep understanding of enterprises.

2.2. Linking Information Asymmetry to IPO Underpricing

Having gained insight into the underlying reasons for information asymmetry within the IPO market, our attention now shifts to examining the potential impacts of this phenomenon on IPO pricing. Banerjee, Dai, and Shrestha propose that "a higher level of information asymmetry is associated with a higher level of IPO underpricing" in their study titled "Cross-country IPOs: What explains differences in underpricing?" [2]. They identify two distinct forms of information asymmetry: insider-outsider and outsider-outsider. Insider refers to managers and shareholders inside the company, while outsider refers to external investors. Their empirical findings demonstrate that both kinds of information asymmetry contribute to the escalation of IPO underpricing. Their findings could have various causes, including adverse selection, risk management, and herding behavior, which the study will go into more depth about later.

In "Underpricing of initial public offerings: A literature review", Katti and B.V. also indicate information asymmetry is a primary reason for IPO underpricing. Overall, information asymmetry creates uncertainty and increases investment risks, which can lessen investors' motivation to pay higher investment costs [3].

Among the various factors evidencing the correlation between information asymmetry and IPO underpricing, this paper will highlight two particular concepts: The Market for "Lemons" and the Herding Effect.

2.3. The Market for "Lemons"

In the paper "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism", Akerlof [4] introduces a pivotal theory, "The Market for 'Lemons'," where "lemons" means cars discovered to be flawed after purchase. Akerlof's research centers on the used car market, and he asserts that the uncertainty surrounding a used car's quality can exert a pronounced influence on its pricing. There is a disparity between the quality of used and new cars due to the former's prior usage; however, unlike the owners of these used cars, who possess a more comprehensive understanding of their cars' quality, buyers remain uninformed regarding the authentic condition of these cars. This creates a situation in which buyers with limited information about the car's true condition are inclined to offer only an average price for a used car of undetermined quality.

$$P_{avg} = \frac{P_{high\ quality\ used\ cars} + P_{lemons}}{Total\ number\ of\ cars} \tag{1}$$

Hence, given that buyers are inclined to only offer an average price, it's conceivable that a superior quality used car could encounter underpricing. Transposing this scenario to the context of the IPO market, where information asymmetry exists, considering companies might have different quality, investors are unlikely to take the risk of paying exceeding an average valuation for a company. Consequently, enterprises in the IPO market might be compelled to issue shares at a price below the true value of their stocks, mirroring the underpricing phenomenon witnessed in the market of "lemons".

2.4. Herding Effect

In general, the term "herding effect" often refers to a phenomenon where individuals or investors prefer to make decisions based on the actions of a bigger group rather than acting alone. Banerjee presents a simple sequential decision model in which each decision-maker takes into account the choices of their predecessors when arriving at their own decisions [5]. Intriguingly, this model suggests that even rational individuals may follow the herd instead of being driven by their own information and analysis. In the journal "The endogenous dynamics of financial markets: Interaction and information dissemination", Yang, et al. claim that the market's ongoing variance in information dissemination among investors leads to the herding effect. Oftentimes, due to information asymmetry, investors may find themselves hesitant to fully rely on their individual insights [6]. This uncertainty can lead them to doubts about the accuracy or validity of their own knowledge, thereby fostering an environment where they perceive others as possessing superior information. Consequently, this emotion can lead investors to follow the herd and make the same decisions as the larger group.

Shleifer and Summers introduced the investor sentiment theory in their paper "The noise trader approach to Finance" and defined the concept of "noisy trader" [7]. They think that noisy traders would make biased decisions because they can be effortlessly influenced by their emotions. This demonstrates that after enterprises transition to the public market, many investors will be willing to invest in the company due to their desire to imitate others because of information asymmetry (they believe others have more accurate information). This phenomenon may contribute to an increased demand for the company's stock, which is going to raise stock prices in the secondary market, ultimately culminating in IPO underpricing.

3. Discussion

3.1. Limitations and Critiques: Assessing the Boundaries of the Market for "Lemons" and Herding Effect

According to the Market of "Lemons" theory, individuals would only be willing to offer an average price for a used car whose quality remains uncertain. This situation arises from buyers' limited information, which prevents them from accurately assessing the car's condition; therefore, raises the risk for investors of paying a higher price for a used car of uncertain quality. Yet, high-quality cars can provide sellers with the incentive to share comprehensive information, as their transparency reflects their confidence in their cars. By substantiating the quality through tangible evidence, sellers can encourage buyers to offer fairer pricing decisions that align with the actual value of the cars.

Applying this to the IPO market, a correlation emerges between the state of the company and the extent of information asymmetry. Companies with healthy management and finances often have incentives to disclose relevant information to differentiate themselves in the market and build their reputation. This could lead to a situation where not all enterprises are necessarily hiding information. As the condition of the enterprise increases, the level of information asymmetry should decrease.

Those companies boasting a high level of information asymmetry might have some invisible problems. In these instances, the prices offered by investors might genuinely align with fairness.

According to the Herding Effect theory, investors tend to follow others because they lack information and believe others have better knowledge than they do. Nonetheless, a counter perspective emerges from the study "Firm opacity and financial market information asymmetry," authored by Ravi and Hong, which presents a non-linear correlation between investor-to-investor information asymmetry:

“If the information asymmetry between the firm and the investors is very high, all investors are largely uninformed, so information asymmetry between investors should be low. At the other extreme, if all investors are fully informed about the firm, again the information asymmetry between investors should be low” [8].

Accordingly, the extent of information asymmetry among investors is significantly influenced by the degree of information that enterprises choose to disclose. It is hard for a single investor to gain significantly more information than others. Especially for institutional investors, through their superior research capabilities and professional expertise, are less likely to engage in blind herding. Their decisions are often based on rational analysis rather than emotional reactions.

3.2. Leaving Money on the Table: Good or Bad?

The concept of “leaving money on the table” indicates the occurrence in which the initial investors of an IPO earn positive financial returns on the first trading day; paradoxically, the issuing company potentially forfeits the opportunity to secure a higher share price. In essence, when an IPO is underpriced, it is going to leave money on the table. In “Why do IPOs leave money on the table for investors on the first day of trading? A theoretical review”, Perera, W. discusses, that entrepreneurs would occasionally choose to issue their stock at a relatively lower price compared to its true value because doing so can often culminate in immediate positive returns for initial investors, amplify investor interest, and increase the demand for the company's shares [9].

However, money left on the table caused by information asymmetry always causes a detrimental impact on the company's sustained prosperity. The primary reason driving a company's choice to become publicly traded lies in the aspiration to raise capital for its expansion or growth opportunities. However, if a company encounters significant underpricing in the IPO market, it could grapple with the lack of funds required to fuel its strategic development initiatives. Also, IPO underpricing caused by information asymmetry implies the company's management is not fully transparent, which will raise concerns regarding the capability of accurately valuing the company's underlying assets, thereby amplifying the potential risks associated with investments in the financial markets. Additionally, the company's credibility and reputation may suffer. Over time, market trust in the company is also going to decline, making it potentially more challenging to raise capital at a fair price in future rounds.

3.3. Addressing Information Asymmetry: Strategies for Mitigating IPO Underpricing

As previously discussed, IPO underpricing caused by information asymmetry always causes a negative influence on the long-term success of the company; consequently, the imperative to alleviate information asymmetry becomes urgent. Drawing from the earlier discourse, this paper discusses three relevant solutions in detail: bolstering financial regulations and enhancing disclosure requisites, refining the Book Building process; and considering the adoption of alternatives such as direct listings or Special Purpose Acquisition Companies (SPACs).

Primarily, the financial market necessitates the implementation of more stringent regulations to reduce information asymmetry. Katti and B.V. demonstrated the significance of mandating enhanced issuer disclosure encompassing financial statements, management framework, and business strategies [3]. Furthermore, it is also important to make sure information is fairly shared across all participants in the IPO market. Achieving this equilibrium mandates limiting private transactions between VCs and investment banking. Such measures are vital to prevent the potential information asymmetry that disfavors individual investors.

The Book Building process is a crucial strategy employed by investment banks to come up with accurate pricing of IPOs, especially when considering the limited knowledge investment banks have regarding investors' true valuations of the companies. However, this method always doesn't work as investment banks expect. Since investors won't be able to profit if they provide accurate information based on their assessment of the company, they will offer a relatively lower price compared to the true valuation of the company. To solve this problem, financial regulators can enforce strict rules that require transparent and accurate information sharing, and create punishments for investors who offer low prices intentionally. Moreover, investment banks should use greater caution when gathering information. They should perform Book Building from a variety of sources, and carefully identify whether the information provided by investors is reasonable or not.

If both strategies do not work well, companies can use direct listing or SPACs instead to prevent their price from being underpriced in the IPO market. A direct listing is a method by which a company can go public and have its shares traded on a stock exchange directly without a traditional IPO. It is better for companies that do not need to raise money urgently when it goes public. In a direct listing, the opening price on the stock exchange is determined through buy and sell orders from investors, allowing the market to set the initial trading price based on supply and demand, which solves the underpricing issue effectively. This is also more transparent.

Unlike direct listings, SPAC was established with the idea of initiating an IPO to raise capital with the goal to acquire an existing private company. The SPAC itself doesn't have any operational business; its primary goal is to raise funds in order to later buy an existing business and float it on the stock market. SPACs are often formed and led by experienced investors, industry experts, or executives with a strong track record. Their involvement can provide greater credibility and transparency, reducing information asymmetry concerns for potential target companies and investors and offering the companies more control over pricing. Nevertheless, "A Sober Look at SPACs," written by Klausner, Ohlrogge, and Ruan declares that SPACs harbor a notable opacity regarding their cost structure in contrast to traditional IPOs [10]. The authors illuminate that as SPACs consummate mergers with private entities for a public listing, the net cash per share held by SPACs to contribute to the resultant composite company significantly diminishes. Its analysis spanning the period between June 2020 and November 2021 revealed that net cash per share consistently languished well below the $10 threshold.

4. Conclusion

In conclusion, this paper centers on the theme of "Information Asymmetry in Financial Markets: A Theoretical Review of Its Impact on IPO Underpricing." Through the incorporation of relevant theories extracted from existing research and literature, it meticulously studies the influences of information asymmetry on IPO underpricing. The study draws multiple conclusive insights from its comprehensive observations.

Firstly, the inescapability of information asymmetry emerges as a foundational reality. The market of “lemons” and the herding effect play two significant concepts of how information asymmetry causes IPO underpricing along with some limitations. Contrary to the market for "lemons" argument, entities with robust management and financial structures often find incentives to disclose more information. Furthermore, the study highlights that extreme asymmetry between firms and investors can lead to lower information asymmetry among investors, while institutional investors are less likely to impulsive herding due to their rational decision-making. Transitioning to potential solutions, the study points out the efficacy of more strict financial regulations and disclosure requirements, an enhanced Book Building process, and the exploration of direct listing or SPAC alternatives in curtailing information asymmetry within IPO markets.

In light of the study's discoveries and limitations, future research directions include addressing the challenge of the high costs of SPACs and seeking innovative solutions to mitigate this concern, investigating the impact of diverse communication channels, encompassing social media and online platforms, on information dissemination and their influence on investors' decision-making process, exploring the relationship between underpricing and ESG factors (Environmental, Social, and Governance) in the investment field, and examining the prospects of direct listing and SPACs within the IPO market.

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