



Research Paper

A Study on the Behavior of Stock Issue Prices - Based on Behavioral Finance Perspective

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Abstract: The initial public offering (IPO) of stocks is a crucial financial policy for companies, carrying significant implications. However, concerns have arisen in the academic world due to anomalies observed in the IPO process, such as price suppression and underperformance in the aftermarket. Traditional economic thinking, based on assumptions of rational individuals and theories like efficient market hypothesis and asymmetric information theory, has been found insufficiently applicable to today's environment through empirical testing. Therefore, behavioral finance offers a promising approach by expanding upon the assumption of rational individuals with insights from psychology to better explain these anomalies present in the IPO issuance process. This theoretical framework holds potential for providing deeper insights into investor behavior - a key determinant of equilibrium within the IPO market.

Keywords: ipo; behavioral finance; price behavior; non-efficient market

Received 03 Oct., 2023; Revised 12 Oct., 2023; Accepted 14 Oct., 2023 © The author(s) 2023.

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I. Introduction

1.1 Background of the study

The IPO price behavior refers to the process of altering the price of an initial public offering. It can be divided into two distinct phases, with the first one encompassing the change in price from the offering price to the first day of listing. Typically, the offering price is considerably lower than the listing price, giving rise to a phenomenon known as IPO price suppression. The second phase involves observing changes in price subsequent to IPO listing, commonly referred to as after-market performance.

Several studies have indicated that long-term stock returns following IPO listings tend to be significantly lower compared to market or comparable non-IPO stock returns. This occurrence is often referred to as the weak performance of IPOs in the long term. Explaining these two phenomena presents a diverse range of perspectives and theories, with traditional economic and financial thinking struggling to provide conclusions that are both theoretically elegant and supported by empirical evidence.

Therefore, as finance is being studied in greater depth, an increasing number of empirical phenomena that contradict the classical theory of finance have been uncovered and are now regarded as anomalies or unresolved mysteries within the financial market. These empirical observations prompt further contemplation on the classical theory of finance due to disparities between people's decision-making behavior in reality and the assumptions made about rational economic agents. Drawing upon research findings from psychology to expand upon the assumption of rational economic agents provides a foundation for investigating financial issues and gives rise to a novel research direction in finance - behavioral finance.

This has led to the emergence of a novel research direction in finance known as behavioral finance. The subsequent section of this paper begins with an exploration of the efficient market hypothesis within classical finance, elucidating its fundamental principles and enumerating market anomalies and unresolved puzzles. This discussion aims to examine how empirical phenomena have influenced the theory of classical finance, thereby providing insights into the underlying factors that have given rise to behavioral finance. Furthermore, it delves into a comparative analysis between classical finance and behavioral finance in terms of rationality and irrationality.

There is a dispute between classical finance and behavioral finance regarding the impact of "rational" and "irrational" actors on the financial market. This paper aims to analyze the nuanced connotations of these terms, as well as explore how behavioral finance can be applied to psychological science in order to elucidate its principles. By delving into the meaning of "rational" and "irrational," while incorporating insights from

psychological science, this paper will explain the fundamental concepts and framework that underpin behavioral finance.

1.2 Literature review

There are three major anomalies in the IPO market: First, IPO first-day gains are generally high, i.e., the closing price of an IPO is generally significantly higher than its issue price (Loughran Ritter, 2002). Second, IPOs with high first-day gains tend to underperform in the long run, and their prices are subject to a very pronounced mean reversion process (Chen, Gongmeng and Gao, 2000). Third, the hot market phenomenon, where IPO returns and issuance volumes show cyclical fluctuations over time (Lee Shleifer Thaler, 1991).

In recent years, there has been a burgeoning academic interest in the realm of investor attention within behavioral finance, as it appears that significant fluctuations in stock prices are primarily driven by investor attention. Prior research has classified investor attention into two categories: Attention and Limited Attention. The latter refers to instances where investors allocate limited time and energy towards processing information that pertains to the fundamentals of a given stock, leading them to underreact to such information and ultimately impacting both price and volume within the stock market (Engelberg, 2009). Conversely, concern arises when investors overreact to specific events that capture their attention with respect to a particular stock, causing them to deviate from its underlying fundamentals (Engelberg, 2009). There have been many theoretical and empirical results on the study of limited attention (Hirshleifer Teoh, 2003), in contrast, because it is difficult for us to directly observe investor attention, although there have been theories that better explain the mechanism of the impact of investor attention on asset prices (Barber Odean, 2008), empirical testing is still difficult.

II. Theoretical studies

2.1 An overview of asset pricing in behavioral finance

Asset pricing is a central problem in finance, as it plays a crucial role in determining the value of financial assets. In classical finance, there are two main methods used to solve this problem: equilibrium pricing and non-arbitrage pricing.

Equilibrium pricing is considered the basic theoretical framework of classical finance. It revolves around the concept of expected utility function, which describes an actor's preferences when making financial decisions. Actors assess future uncertainties and aim to maximize their expected utility by making rational choices. This process leads to the generation of demand and supply for financial assets. The price system then regulates these forces of supply and demand until an equilibrium state is reached.

On the other hand, non-arbitrage pricing focuses on eliminating opportunities for risk-free profits through exploiting market inefficiencies. It assumes that there should be no possibility for investors to make riskless profits without taking any risks themselves. While classical finance has been widely studied and applied in asset pricing, behavioral finance has emerged as a field with abundant research work in this area. Behavioral finance shares similar research ideas with classical finance but differs in its application of psychological findings to modify actors' beliefs and preferences. Behavioral finance recognizes that human behavior often deviates from perfect rationality assumed by classical models. It takes into account various cognitive biases, emotions, social influences, and heuristics that affect decision-making processes related to asset prices. By incorporating insights from psychology into asset pricing models, behavioral finance aims to provide a more realistic understanding of how individuals form beliefs about future outcomes and make investment decisions based on those beliefs.

Overall, both classical finance and behavioral finance contribute valuable perspectives towards solving the central problem of asset pricing. While classical approaches focus on rational expectations within an equilibrium framework, behavioral approaches consider psychological factors that influence actors' decision-making processes regarding asset prices. So far, the main work of behavioral finance in this field is to provide explanations for those market anomalies.

2.2 Behavioral finance investor analysis

The study of investor behavior under real market conditions is crucial in understanding the presence of "irrational" behavior among investors. This field serves as a fundamental and significant aspect of behavioral finance. Academic research in this area primarily focuses on two main concerns. Firstly, researchers aim to identify whether there are irrational behaviors exhibited by investors that cannot be explained by classical finance theories when formulating investment strategies and engaging in trading activities. By examining real market scenarios, researchers can observe deviations from rational decision-making processes and explore alternative explanations for these behaviors. Secondly, academic research seeks to determine if these so-called irrational behaviors can be attributed to psychological biases present within investors.

Psychological factors such as cognitive biases, emotions, and heuristics play a vital role in shaping investment decisions. Understanding how these biases influence individual investors' choices allows for a deeper comprehension of their decision-making processes. It is important to note that compared to institutional investors,

individual investors often lack advantages such as professionalism, team decision-making capabilities, and access to comprehensive information resources. Consequently, it is generally believed that the investment behavior of individual investors is more significantly influenced by psychological factors. By expanding our knowledge through the study of investor behavior under real market conditions, we gain valuable insights into the complexities surrounding financial decision-making processes. This research contributes towards developing effective strategies for managing investments while considering both rational and irrational aspects of human behavior in financial markets. The fact that the research results in this field mainly focus on individual investors also confirms this view.

2.3 Investment Strategy

The classical portfolio theory of finance suggests that rational investors "do not put their eggs in one basket" and should be fully diversified. However, there is a large body of evidence that suggests that the degree of diversification of investors' portfolio holdings is much lower than that suggested by classical portfolio theory. One reason for this lower level of diversification can be attributed to the complexity and time-consuming nature of managing a highly diversified portfolio. Investors may find it challenging to keep track of numerous assets, especially if they have limited resources or lack expertise in certain sectors or markets. As a result, they may choose to invest in only a few financial assets that they are familiar with or believe will yield higher returns. Moreover, individual investors often face constraints such as transaction costs and minimum investment requirements imposed by financial institutions.

These limitations can discourage them from spreading their investments across multiple assets. Instead, they may opt for concentrated portfolios consisting of a few carefully selected securities. Psychological factors also play a role in shaping investors' decision-making when it comes to diversification. Some individuals exhibit behavioral biases such as overconfidence or loss aversion, which can lead them to concentrate their investments rather than spreading risk across different asset classes. Additionally, some investors may have specific preferences or beliefs about certain industries or companies, leading them to overweight those particular stocks in their portfolios. Furthermore, cultural and regional differences can influence the level of diversification among investors globally. In some countries where stock markets are less developed or access to various investment options is limited, individuals may have fewer choices available for building diversified portfolios. It is important to note that while the degree of diversification among individual investors might deviate from what classical portfolio theory recommends, this does not necessarily imply irrational behavior on their part. Each investor has unique circumstances and objectives when it comes to investing; therefore, their approach towards diversification will vary accordingly.

In conclusion, despite the principles advocated by classical portfolio theory regarding full diversification among rational investors' portfolios, empirical evidence indicates that many individuals tend to hold relatively concentrated positions within just a few financial assets. This phenomenon can be attributed to various factors including practical constraints associated with managing diverse portfolios effectively and psychological biases influencing decision-making processes.

2.4 Transactional behavior

One of the predictions of classical finance is that in a world where rationality is common knowledge, if an investor is willing to sell a stock at a certain price, no investor will buy at that price due to the problem of adverse selection. However, in the real market, the trading volume of the stock market is very large, and studies have found that investors have a tendency to over-trade to a large extent. Odean (1999) studied the trading behavior of all trading accounts in a stock brokerage firm, and found that, after taking into account factors such as portfolio adjustment needs, liquidity needs, tax benefits, risk control, etc., the frequent trading of investors is still the main reason for a significant reduction in investment returns. After taking into account factors such as portfolio adjustment needs, tax benefits and risk control, investors' frequent trading is still the main reason for investment returns to be greatly reduced. The behavioral finance explanation for excessive trading is overconfidence, i.e., people believe that their information is sufficient to support their trading behavior. In fact, this so-called information does not contribute to profitability. One corollary of over-trading explained by over-confidence is that the more over-confident an investor is, the more frequently he or she trades, and the lower his or her returns are due to the existence of transaction costs. Empirical studies confirm this view. For example, Barber and Odean (2001) show that investors who trade the most in their sample data also have the lowest average returns. In addition, some psychological experiments have shown that men exhibit more overconfidence than women, and Barber and Odean (2001) find that male investors trade more frequently and also have lower investment returns. This trading behavior can likewise be explained by prospect theory.

III. Behavioral Finance's Explanation of Visions

The essential idea of IPO pricing research from the perspective of behavioral finance is actually the same as that of traditional finance, except that behavioral finance applies the results of psychology to modify the formation of beliefs and preferences of the actors. For example, using the search engine search volume, which can represent the level of investor attention to IPO stocks, as a variable for empirical analysis, it can be found that the cyclical change of investor attention is one of the reasons for the cyclical fluctuation of the first day of high returns; the overreaction of stock prices caused by the investor's attention, which leads to the deviation of the price of IPO stocks from their intrinsic values on the first day of the IPO, is an important reason for the first day of high IPO returns; after the level of investor attention returns to the normal state, the price of IPO stocks deviates from its intrinsic value. After the level of investor attention returns to the usual state, the IPO price begins the process of returning to the intrinsic value, and the long-term performance is low.

On the other hand, when considering the issue of information asymmetry in IPOs, it becomes evident that the reputation of underwriters plays a crucial role in determining various aspects such as the offering price, initial return, and long-term return for the IPO company. Numerous studies have delved into this topic by examining how underwriter reputation affects these factors under different offering regimes. Interestingly, some research suggests that underwriter reputation does not significantly impact the IPO issue price and initial return either in scenarios with free pricing or regulated price-earnings ratio conditions. Instead, it is observed that prevailing market conditions primarily influence the determination of the issue price. Particularly noteworthy is the significant positive feedback effect on setting an appropriate issue price based on market dynamics. Furthermore, initial returns are found to be predominantly influenced by investor demand. In cases where there is lower competition among investors (reflected by a lower winning rate), we observe larger initial returns. This implies that higher demand from investors leads to greater potential gains for early shareholders during an IPO's early trading period. Overall, understanding how underwriter reputation interacts with information asymmetry provides valuable insights into pricing dynamics and investor behavior within IPO markets. These findings contribute to enhancing our comprehension of capital market efficiency and offer guidance for both issuers and investors involved in future offerings.

Similarly, another research paper explores the use of data from mainstream financial media reports on IPO firms to analyze investor sentiment and its impact on various aspects of the IPO process. By examining positive and negative terms used in these reports during different time periods leading up to the IPO, the researchers construct a proxy variable known as "media tone" to measure investor sentiment at the firm level. The study focuses on understanding how investor sentiment affects the IPO price suppression rate at an individual stock level. The results reveal that negative media tone is more effective in explaining this phenomenon compared to positive media tone. In other words, when there is a higher prevalence of negative sentiments expressed in financial media reports about an IPO firm, it tends to lead to greater suppression of its stock price during initial trading. Furthermore, this research also investigates additional variables such as first-day turnover rate and oversubscription ratio. Surprisingly, negative media tone proves to be a better predictor for these variables as well. This suggests that not only does negative sentiment influence price suppression but it also impacts trading activity and demand for shares during the early stages of an IPO.

Overall, this study contributes valuable insights into behavioral finance by highlighting the significance of investor sentiment derived from financial media coverage. It emphasizes that market participants' perceptions and emotions play a crucial role in shaping various aspects of the IPO process. Understanding these dynamics can provide investors with a deeper understanding of market behavior and potentially help them make more informed investment decisions based on prevailing sentiments surrounding an upcoming or ongoing IPO.

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