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Under-Pricing of IPOs: A Literature Review

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ABSTRACT

This paper aims to analyse the integral factors for IPO under-pricing. There have been a number of studies and the researchers have found out various factors behind under-pricing of IPOs. We list down the factors which affect IPO under-pricing such as information asymmetry, signalling, and underwriter reputation. The very first paper on under-pricing by Rock (1986) very well explains the concept of information asymmetry as the cause of under-pricing. Allen and Faulhaber (1989) explain that the firms use under-pricing as a mechanism of signalling for future prospects. Under-pricing is a well-documented phenomenon which exists since long and is still present in the IPO market.

Keywords: IPO, Under-pricing, Information Asymmetry, Signalling, Uninformed Investors

1. Introduction

Most companies start out by raising equity capital from a small number of investors, with no liquid market existing if these investors wish to sell their stock. If a company prospers and needs additional equity capital, at some point it generally finds it desirable to go public by selling stock to a large number of diversified investors. Once the stock is publicly traded, this enhanced liquidity allows the company to raise capital on more favorable terms than if it had to compensate investors for the lack of liquidity associated with a privately held company.

An initial public offering (IPO) happens when a security is issued to the general public for the first time. It is expected that a liquid market will develop, where the holders of equity can liquidate their holdings. The parties involved in an initial public offering (IPO) are the underwriter, the issuing firm, investors that buy shares at the subscription price and those that purchase or sell shares in the aftermarket. Firms go public for a number of reasons, such as, capital requirement for expansion or diversification, new product lunching, publicity etc. The IPO market is subject to sharp swings in valuation. There is uncertainty surrounding the market price that results from the IPO. Some investors feel that IPOs are low execution fruits. If investors were to get allocations in IPOs and were to flip these shares on the day of the listing of the firm, then on an average they would be able to get returns higher than the market. There is however an element of risk here. The risk is in blocking one's money in IPOs and getting no allocations. IPOs have historically had very large initial first day gains compared to the performance of the rest of the market. If we assume that the market price of the stock, dictated by supply and demand, is representative of the company's value, then the large gain reflects the fact that the IPO issuing price agreed upon by the underwriter and the firm making the offer is under the actual value of the firm.

IPO under-pricing is an issue discussed since decades. Number of researchers has found out number of causes behind under-pricing. One classic paper on under-pricing is Rock (1986), which explains the reason behind under-pricing as information asymmetry among investors and the underwriter and issuer. There are two types of investors; one informed investors (having more knowledge about the new issue market) and uninformed investors (less known about the new issues as compared to the informed investors). The informed investors bid out the uninformed investors in under-priced issues. The informed investors get all the allocation in under-priced IPOs, leaving the uninformed investors with no allotment. In overpriced issues the uninformed investors get all the allocation they applied for as the informed are not interested in such IPOs. The uninformed investors lose money in such IPOs and hence, devalue the new issues. To attract theses investors to the new issue market the issuers are required to under-price their issues. Ritter (1984), suggest that IPO under-pricing tends to be higher during the "hot" periods and lower during the "cold" periods in the market. Such behavior of investors in the "hot" IPO markets, which results in first-day positive abnormal returns, is consistent with investor sentiment theory of under-pricing. Furthermore, pro-cyclicality might be able to resolve the long-term IPO underperformance "puzzle". As investors are overly optimistic about "hot" IPOs, presumed under-pricing could simply arise from bubble-pricing, while long-term underperformance could be regarded as mean reversion of a price to a fundamental value.

Another reason for under-pricing is signalling. Allen and Faulhaber (1989) document that good firms knowingly under-price their stocks because they know that the money lost on this issue can be recovered from further issues; whereas bad firms price their issues high as they cannot recover it in further issues. These firms by under-pricing their issues signal to the market that they are good with high growth opportunities in future. Sharma &Sheraphim (2010) find that the magnitude of under-pricing is less for issues managed by prestigious investment banks compared to less prestigious ones. The study finds that Indian IPOs were significantly (46.3%) under-priced during the period 2001-02 to 2004-05. The issue price reflects more rationality in valuation when IPOs are managed by high rank underwriters compared to low ranked ones. Butler et al. (2014) using different methodologies quantify the robustness of variables used in prior research to explain initial IPO returns. They establish a list of robust variables and evaluate their implications for different theories of IPO under-pricing. Further they found by using US IPOs from 1981 through 2007 that fifteen out of forty eight variables they studied are robust. Klova V (2017) studied the under-pricing in shipping sector by taking 60 shipping IPOs from four different stock exchanges. They find an average under-pricing of 2.8% in shipping IPOs which is very low as compared to non-shipping IPOs. The shipping firms are family controlled or have a highly concentrated ownership. Furthermore this industry is more prone to business cycles. Due to these characteristics under-pricing in this sector is very low

2. Information Asymmetry And Under-Pricing

Most of the studies have documented information asymmetry as a primary reason for IPO under-pricing. Information asymmetry is a phenomenon where a class of investors have superior information than the other class of investors. Information asymmetry deals with the study of decisions in transactions where one party has more information than the other. This leads to an imbalance of power in transactions.All corporate investments create information asymmetries because managers can continually observe changes in investment productivity on an individual asset basis, whereas outsiders obtain only highly aggregated information on investment productivity at discrete points of time (Aboody and Lev, 2000).

In an IPO several parties are involved; such as, the issuing firm, the investment bank, and the investors those buy the shares. There arises information asymmetry at various levels like between the issuing firm and the investment banker and between informed and uninformed investors. Rock (1986) documents that the soul cause of under-pricing is information asymmetry among various parties involved in an IPO. There may be information asymmetry between various class of investors, and between the issuing firm and the investment banker. There is a class of investors such as Financial Institutions, who hold superior information than the retail investors. They utilise this informational advantage to ration out the uninformed retail investors in profitable IPOs. These informed investors bid in such high quantity that the uninformed investors do not get any allocation in profitable IPOs. In the loos making IPOs the uninformed investors win the bid as the informed investors know about the result and do not subscribe for such IPOs. In such IPOs the uninformed investors get all the allocation but suffer huge losses and restrain themselves from the market. To bring these investors back the good firm price their IPOs below the fair value as an uninformed investor will bid for those IPOs which are priced less to compensate their losses.

Another level of information asymmetry is between issuer and underwriter. The underwriter is supposed to have more information regarding the market rather than the issuer. The underwriter plays a significant role in pricing the issue. The underwriter to play a safe bet keeps the price low. The issuer being unknown about the market accepts the price determined by the underwriter. Another reason of under-pricing is lack of the knowledge on the part of underwriter regarding the degree of information asymmetry between informed and uninformed investors. To avoid failure of the issue the underwriter/issuer intentionally under-prices the issue.

3. Winner's Curse Dilemma

Rock (1986) proved that retail uninformed investors might suffer from a winner's curse dilemma. They might get all the allocations that they have asked for in IPOs which are going to earn very low returns on the day of listing but may be rationed out in IPOs which will give very high returns on listing date, because of the high demand that such issues will generate. Thus retail uninformed investors might not be able to utilize the under-pricing inherent in IPOs to their gain. Besides this, uninformed investors might not be able to fully understand the risk factors which are outlined in the offer documents of the IPOs.

Welch I (1989) in his paper titled "Seasoned offerings, imitation cost, and the under-pricing of IPOs" highlight on an alternative explanation of IPO under-pricing that avoids some of the shortcomings of explanations based on a winner's curse dilemma. They focus on information asymmetry between firm owners and investors. High quality firm owners can signal their superior information to investors because their marginal cost of under-pricing is lower than the marginal cost of under-pricing of low-quality firms. To imitate high quality firms, low quality firms have to incur high imitating costs. The market may discover the true quality between IPO and SEO forcing an imitating firm to bear the cost of imitation.

4. Money on the Table

Who benefits from IPO under-pricing? That is a big question left unanswered. The issuers by under-pricing their equities leave a huge amount of money for the investors; which they could have gained by pricing the IPO at a fair value. Money left on the table is defined as the difference between the closing price on the first day of the trading and the offer price multiplied by the number of shares sold. It represents a wealth transferred from the issuing firm to the investors who apply for the IPO. Ritter and Welch (2002) examined the market from 1980 till 2001 and found an average initial return close to 20%. So there are many firms who leave substantial money on the table when they offer an IPO.One basic cause of the huge amount of money left on the table is information asymmetry and the uncertain prevailing in the IPO market.

5. Signalling by Under-Pricing

Under-pricing is inherent in issue of new stocks. Firms under-price their new issues to get liquidity and avoid uncertainty. Informed investor has better information than the investment bankers, issuer and the uninformed investors. Informed investors ration out uninformed investors in profitable issues.

Under-pricing is a signal that firms are good. Good firms know that the losses suffered in under-pricing they can recoup subsequently. Bad firms price their IPOs high as they know that the losses they cannot recover in future. Another advantage of under-pricing is the publicity the firm gets. [Allen and Faulhaber (1989)]

Firms are set up with an innovative idea. When the promoters seek funds to implement the idea, they go for public issue by selling a certain portion of the equity in the primary market. There are two types of firms, one good and other one bad. Good firms have a higher probability to pay high dividend. Firms with bad ideas will remain bad. A firm's type can change through time. A good firm that fails to implement the idea properly may become bad. Investors cannot directly observe the quality of firm's innovation or the success or failure of its implement. They can only observe the price and proportion of the firm sold in the IPO, the dividend at the end of the each period. Through time the position of a firm may change.

6. Underwriter Reputation

The underwriter plays a major role in fixing the price of IPOs. When IPOs are managed by high ranking underwriters, the degree of under-pricing is less Bitty & Ritter (1986). The study of Sharma &Sheraphim (2010) in the Indian market reveals that there is an inverse relationship between underwriter reputation and under-pricing. They found that Indian IPOs were significantly under-priced (46.3%) during the period 2001-02 to 2004-05. The magnitude of under-pricing is less for high ranking investment bankers compared to the low ranking ones. Issue price reflects a fairer price when it is managed by prestigious bankers rather than the less prestigious ones.

7. Market Timing

Prior literature suggests that market timing is a crucial factor in pricing the new issues. Firms postpone their equity issue if they know they are currently undervalued. If in a bear market the value of the firm is too low, given the knowledge of entrepreneurs, they will delay the IPO until a bull market offers better pricing. In IPO there are two kinds of market; that is "hot and cold" market Ritter (1984). Issues in hot market fetch a better price and good response from investors. At times of cold market it is just the opposite of hot market. In hot market a large number of firms go public, investor sentiment in the market is very good being ready to pay a high price. Ritter (1984) studied 1028 IPOs from 1977 to 1982 and observed that the period of January 1980 to March 1981 was hot market period (325 issues) with the mean under-pricing of 48.4% as compared to 16.3% during other time period.

8. Other Factors

IPO under-pricing is also determined by some other factors such as size of the firm, age of the firm, industry to which the firm belongs, competitive advantage of the firm, brand loyalty, promoter's holding, and size of the offer. The regulatory framework differs from sector to sector. Firms with high regulatory requirements have lower degree of information asymmetry due to disclosure of informationunder the legal requirement and face less under-pricing.

9. Research Gap

IPO under-pricing is a more focused are of research. Still there are some areas in which under-pricing has not been considered, like sector specific under-pricing is an area which is less focused by the researchers. Another field is the timing of the IPO, no researcher has come out with a proper theory of timing the market, so that a firm can take maximum advantage of the IPO by minimisingunder-pricing. One more area where further research can be done the regulatory environment of a country which affects IPO pricing. The laws for new issues vary from country to country and they have a significant effect on pricing of the new issues. The improvement in technology and change in market microstructure have changed the way of trading in stocks over the years. These factors play a vital role in IPO pricing and provide an ample opportunity for future research.

10. Conclusion

IPO under-pricing is a major area of focus of research regarding new issues. A number of researchers have done enormous studies on this topic. In this study we focused on the various factors that affect IPO under-pricing by referring to the prior research work done. We found that many of the papers are based on information asymmetry as a primary cause for under-pricing of IPOs. Rock's 1986 paper is a seminal work based on IPO under-pricing and information asymmetry. Kevin Rock (1986) also explained about the winner's curse dilemma; how the uninformed investors loose the battle in under-priced IPOs to the informed investors but lose money by applying to overpriced IPOs. Allen and Faulhaber's paper on Signalling by under-pricing in the IPO market published in 1989 is another classic work on under-pricing which explains how firms use under-pricing as a signal of future prospects. Good firms intentionally under-price their IPOs because they know that the money lost on the current issue can be recovered in further issues. There are other factors such as underwriter reputation, timing of the issue which also the determinants of under-pricing of IPOs. Some other firm specific factors which also have effect on under-pricing are size, age, brand loyalty and competitive advantage of the issuing firm. IPO under-pricing is a phenomenon which exists since long and still present in the new issue market. Though a lot of research has been done in this field still there is scope for research in sector specific under-pricing and effect of regulatory framework prevailing in different countries on under-pricing.

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