A review of theories on under pricing of IPOS

Divya Jindal[1], Ravi Singla[2]

[1]Apeejay School of Management New Delhi, India
[2]University School of Applied Management, Punjabi University, Patiala. India

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Abstract

IPOs throughout the world have been observed to be underpriced as their first day listing price is higher than their issue price, though the degree of under pricing may vary from country to country. As a consequence of under pricing of IPOs, positive returns are earned by investors on the first day of listing. The under pricing of IPOs and the reasons why companies under price their IPOs has, therefore, garnered a lot of interest from researchers. Different theories have been put forth to explain the existence of under pricing including the existence of information asymmetry between the different parties to the IPO process. The present study reviews some of the theories that explain why IPOs are underpriced.

1. Introduction

An IPO is successful if the company is able to obtain high subscription and is able to raise a sufficiently large sum of money from the public. The success or failure of the IPO depends on the efficient pricing of IPO. On the one hand, the issue price should be sufficiently high to enable the issuing company to raise adequate finance for its needs. On the other hand, the issue price should elicit a favorable response from potential investors and therefore ensure adequate subscription; else there exists high chances of IPO failure. For instance, in India if the subscription to an IPO is less than ninety percent of the offer, the issuer company must return all the money to the applicants and the IPO fails. Clearly, it is in the best interest of the issuer that the IPO is neither underpriced nor overpriced. In case of under pricing, the issuer raises a lower amount than what he can otherwise raise under the current market conditions. In case the issue is overpriced, then it may remain undersubscribed resulting into IPO failure.

The investors subscribe to a new issue with the intention of making short-term gains by selling the shares allotted to them upon listing of the share at a price higher than the offer price (referred to as initial returns). Alternatively, the investors may invest in the shares with the intention of retaining them over a long period of time and thereby benefiting from any long-term appreciation in company's share price. The price of an IPO must be based on the intrinsic value of the share coupled with the demand and supply conditions of stock in the market as well as the general stock market conditions which significantly affect IPO activities.

The market price of the share on the first day of listing (commonly referred to as listing price) is indicative of the demand for the stock and hence the price the market is willing to pay for the issued share. Listing price is therefore considered to reflect the market's view of the intrinsic value or the fair value of the shares offered (Purnanandam & Swaminathan, 2004). This means that the issuer should ideally offer the shares at a price close to the listing price. However, it has been observed throughout the world, including India, that IPOs are underpriced as they are issued at a price which is lower than the listing price.

Corresponding Author,
***E-mail address:** divyajindal@yahoo.com

Under pricing of IPOs, therefore, refers to a situation where the offer price is less than the listing price of the IPOs. One of the earliest studies that documented the under pricing phenomenon was by Stoll and Curley (1970). Subsequently, under pricing has been found to be a worldwide phenomenon by studies conducted in different countries. The extent of under pricing has varied among different countries. For instance, under pricing in the USA over a long period of time averaged between 10 to 20 percent and it was found to be as high as 100 percent in 2000 due to the internet bubble. The under pricing in France (on average 10% during 1990 to 2003) was found lower than that in Germany (on average 35 percent during 1990 to 2003). It was also observed to be lower in Latin American countries as compared to Asian countries (Ljungqvist, 2004).

Under pricing has also been observed in studies conducted in the Indian stock market. Singh and Mittal (2003), in their study found that the internationally observable phenomenon of IPO under pricing persists in India too with an average under pricing of 83.22 percent between 1992 and 1996. Karmakar (2002) found the initial return of IPOs in India to be abnormally high (289 percent) and much more than the average initial return of other developed countries. For the period 2001 to 2005, Sahoo and Rajib (2009) observed an under pricing of 46.63 percent. Ansari (2006) found average under pricing to be 40.9 percent for IPOs during 2005.

Under pricing is beneficial to investors as positive initial returns accrue to investors on the listing day. The initial return is the percentage difference between the listing price and the offer price of the IPO. If on the first day of listing the stock trades at a price higher than the offer price, it implies that the issuer could have offered the stock at a higher price but by not doing so the issuer has left money on the table. Here money left on the table is equal to the number of issued shares multiplied by the difference in the offer price and the listing price on the first day of trading upon the listing of the share. The fact that under pricing is costly to the issuer raises the question as to why under pricing exists despite the free-pricing of IPOs. Further it can be asked whether it is a consequence of the deliberate action of the issuer or is due to some other reasons which are beyond the control of the issuer.

Researchers have put forth a number of theories to explain the existence of under pricing in IPOs. The various theories explaining under pricing are provided below:

2. Theories explaining the under pricing of IPOS

There are several theories that explain the existence of initial public offerings. Many of these theories assume that under pricing is due to the presence of asymmetric information among the investors, the issuers or the investment bankers. Other theories, however, assign other reasons for IPO under pricing. Ritter and Welch (2002) classified the various theories of under pricing into two categories on the basis of whether they assume under pricing is due to asymmetric information or due to factors other than asymmetric information. The various theories of under pricing have been discussed under these two broad categories:

2.1 Theories Based on Informational Asymmetry

Under pricing is attributed to the presence of informational asymmetries which may exist at the following three levels:

a) Information Asymmetry among Investor Groups
b) Information Asymmetry Between Issuing Company and Investors
c) Information Asymmetry Between Issuing Company and Investment Bankers

2.2 Information Asymmetry among Investor Groups:

One of the theoretical models that have ascribed underpricing to the information asymmetry among investors is the Winner's Curse Model (1986). Rock asserted that certain investors have more and better information than other investors (referred to as informed investors) about the fair value of the shares. Consequently, these investors subscribe to only the undervalued IPOs and avoid the overvalued ones. The uninformed investors on the other hand subscribe to all IPOs irrespective of whether they are overvalued or undervalued. As a result, the uninformed investors receive full allocation of the overvalued IPOs as the informed investors do not participate in them but get partial allocation in the underpriced shares which are demanded even by the informed investors. Therefore the issuing companies deliberately under price IPOs to compensate the uninformed investors for the allocation bias and ensure their continued participation in the IPO market. The greater the ex-ante uncertainty, the greater will be the degree of under pricing.

Michaely and Shaw (1994) found that IPO under pricing was absent in markets where investors knew beforehand that they do not have to compete with informed investors. This is consistent with the Winner's Curse Model. The findings of Shelly and Singh (2008) also supported Rock's (1986) phenomenon in the Indian capital market too.

3. Information Asymmetry Between Issuing Company and Investors:

The signaling theory proposed by Allen and Faulhaber (1989) and supported by Welch (1989) is based on the information asymmetry between the issuing company and investors. According to this theory, the issuer is better informed about the prospects and the true value of its shares. The firms with higher value, that is high quality firms use under pricing to signal their quality and thereby differentiate themselves from the firms of a lower quality. The under pricing acts as a signal of quality because the investors know that only the firms with higher value can afford to recover the cost of under pricing by returning to the market at a later date to make further public offerings (FPOs) at higher price. The signaling model therefore is based on the premise that the under pricing of the IPO leaves a favorable view in the investors' minds and will be followed by a seasoned offering which might be at a higher price (Welch, 1989). Cai et al. (2007) on the basis of data from the "dot-com" bubble also confirmed that high quality firms were able to signal their superior quality through under pricing.

The information revelation theory put forth by Benveniste and Spindt(1989)is also based on the information asymmetry between the issuing company and the investors. Whereas the signaling theory says that the issuer is better informed than the investors, the information revelation theory posits that there are some investors who, based on their knowledge of the market demand for the stocks, have information which is superior to that of issuers or the investment bankers. These investors are usually the regular institutional investors of the investment bankers who are approached in the pre-selling period to gather information on the market demand. According to Benveniste & Spindt (1989), the investment bankers deliberately under price the shares to compensate these informed investors for revealing their private information about the demand for the issue during the pre-selling period. In this way, the investment bankers are able to induce these informed investors to disclose their inclination to subscribe. This helps the investment bankers to establish an issue price which will ensure that the issue is a success.

2. Information Asymmetry Between Issuing Company and Investment Bankers:

Baron and Holmström (1980) put forth a theory based on the information asymmetry between the issuer and the investment banker or underwriter. They argue that the investment bankers have superior knowledge of the value of IPO and the demand in the capital markets than the issuers themselves so the issuer delegates the pricing decision to the bankers. The investment bankers deliberately under price the issue so that they have to put in less effort in its marketing and still ensure the success of the issue. At the same time the under pricing help investment banker to gain and retain the goodwill of the investors. A higher level of uncertainty about the market demand for the issue increases the value of the services of the investment banker and would lead to greater under pricing of the IPOs.

5. Theories Not Based on Informational Asymmetry

5.1 Litigation Avoidance Hypothesis

In USA, the parties to an IPO such as the company representatives, investment banker, and consultant are prone to litigation for the presentation of false or insufficient information. There is usually lack of complete and verifiable information about new and unlisted company which increases the litigation risk. Companies deliberately under price the IPOs to reduce the probability of future lawsuits by investors of poor performing IPOs or even reduce the chances of an unfavorable judgement (Tinic, 1988). Under pricing acts as an insurance against litigation risk. However, this theory does not hold in countries such as India, where under pricing exists despite the fact that litigation risk is not significant due to the existence of a large number of small investors.

5.2 Informational Cascade Theory

This theory is also referred to as the Bandwagon theory. According to this theory by Welch (1992) the potential investors base their investment decision not only on their own assessment of the IPO but also on the behavior of other investors. A potential investor can behave irrationally and decide not to buy the shares if others are not buying them, even though he has favorable information about the IPO. The issuer therefore avoids such a situation by under pricing the issue and thereby encouraging the first few potential investors to invest in the IPO. Subsequently this creates informational cascades as other investors also do the same.

5.3 Naïve Hypothesis

According to this hypothesis, under pricing is the risk premium provided to the investors to compensate the investors for the risk arising due to the uncertainty surrounding a new and unlisted company which does not have a performance history (Jog & Riding, 1987).

6. Certification Hypothesis

According to this hypothesis the issuer hires highly ranked investment bankers, prestigious underwriters (Booth & Smith, 1986) or reputed auditors inorder to certify the quality of the IPO. This is because these reputed intermediaries associate themselves with only "high quality" issues. Therefore, their association with a particular IPO certifies its quality and reduces the need to under price such an IPO.

5.4 Irrational Behaviour / Investor Sentiments

Behavioral theories assume that under pricing is the consequence of the presence of "irrational" investors who bid up the price far in excess of the true or fundamental value of the shares offered in IPO. The reason behind the irrationality of investors is that it is difficult to determine the true value of the shares offered in IPO, as most of these firms are young, immature and there is little information about them.

5.5 Other Theories

Other explanations for under pricing have been put forth. One of these is the desire for ownership dispersion and retention of control by management. According to this theory by Brennan and Franks (1997), the management wants to protect its private benefits by ensuring dispersion of ownership. This is achieved by creating excess demand through under pricing of the IPOs. Krigman et al. (1999) have related under pricing to the trading volume in the aftermarket. The higher the under pricing, the higher will be the trading volume after listing of the IPO.

Under pricing has also been explained as a substitute of costly marketing expenses (Habib & Ljungqvist, 2001). This is because the high initial returns generate publicity for the company, resulting in increased investor interest or an increase in revenue. Under pricing may also be attributed to the existence of regulatory constraints on the pricing of IPOs or as means of achieving political goals (Krishnamurti & Kumar, 2002).

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