Determinants of Underpricing of Initial Public Offerings - An Evidence from India

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ABSTRACT

The Bombay Stock Exchange (BSE) is actually first stock exchange of India. It is also the first stock exchange of Asia as well as the it is the Fastest Stock Exchange on the planet. Earlier researches on Initial Public Offerings (IPOs) in Indian context happen to give major importance to the Bombay Stock Exchange (BSE) only rather than National Stock Exchange (NSE) or any other local exchange. The study seeks to find if Indian IPOs tend to be underpriced in short run. The study also tries to describe underpricing on day one with regard to the demand created throughout the book building process of IPO, the delay in listing which is the time period around the closing of the book building process and day the shares get listed on the exchange, the price at which the shares were issued and the size of the issue. Additionally, it tries to comprehend any kind of growing pattern in issue market of India with regards to the prior studies.

Initial public offerings getting underpriced can prove to be a severe concern for virtually every economy. On one side, excessive underpricing trend within the IPO market makes companies, that are not in a position to or simply do not desire underpricing to lose confidence in IPOs. Alternatively, it generates arbitrage opportunities in the exchanges as well as within the grey market of IPO. Issues getting underpriced, as a result hinders the expansion prospects as well as generates lack of stability within the secondary markets.

The current research on 107 IPOs which used book building mechanism, for the period of January 2012 to December 2017, discovered that the typical underpricing in those times was 9.44 % whilst the utmost underpricing had been close to 139.40%. Hence IPO underpricing continues to be a problem. The outcomes of the study claim that the demand produced for an IPO in the course of book building as well as the Issue Size had a positive influence on the underpricing on day one, whilst the Issue Price and Listing delay of the IPO had an insignificant impact.

Keywords: *Initial Returns, Initial Public Offerings, Determinants of Underpricing, Bombay Stock Exchange, Indian Capital Markets*

INTRODUCTION

Among all the firms that are traded publicly today, most of the firms are comparatively small, privately owned ventures or start-ups, that are controlled by a sole entrepreneur or a group. These people concurrently oblige as the major shareholder of the company, a body for its management as well as governance. Obtaining finance for growth of the corporate from numerous sources, ultimately by means of an initial public offering they sell their equity shareholding in the market to public. In an initial public offering the company's equity shares are sold to the public for the first time on a stock exchange. This is also identified as an unseasoned equity.

An IPO can offer various advantages for the companies that take this step. The main reasons for the first issue are the strengthening of the equity capital of the companies mostly financed by debt capital, the desire for expansion or internationalisation and the increase of the awareness. The inclusion of shareholders ' equity reduces the leverage and thus also the financing risk of the company. As a result, the company is given a better rating and can finance itself on more favourable terms in the case of foreign capitalists. If the company pursues the objective of expanding its business activities further, it can either be carried out internally by investing in its own company or externally through mergers or acquisitions. The capital required for both projects can be procured on the stock exchange at initial quotation or via capital increase with existing quotations. In addition, the company can flexibly and independently from foreign capitalists, in the case of liquidity bottlenecks, record new capital by issuing additional shares, seasoned equity offers, (SEOs). Further advantages for the company concern the strengthening of the reputation over roadshows, recruitment of new employees and the increase of work motivation through employee participation in the success of the company by means of stock options. Through the sale, the previous private or institutional owners can better diversify and sell their shares more flexibly.

Review of Literature

Asiri and Haji (2015) conducted their study on 194 firms that went public in six GCC countries, to check the phenomenon of underpricing and what factors possibly effect abnormal earnings on the IPO's first day of trading. Variables tested under this study were firm age, offer size, time of offering and industry type. The results suggested the firm age, offer size and month variables were statistically significant in almost all models tested.

Mumtaz and Ahmed (2014) studied about the determinants of underpricing of IPOs in Karachi Stock Exchange from 2000 to 2011. The authors measured the degree of underpricing in a period ranging from the day of listing to the 30th day. The authors used the Extreme Bounds Analysis to study the sensitivity and robustness of determinants. Out of the eleven variables tested, IPO' after market risk, oversubscription, price of offer and financial leverage were found to be statistically significant and had a positive impact on the degree of underpricing.

Jain and Padmavathi (2012), in their research work, empirically study the determinants of underpricing of new issues in India. Stepwise regression was used for the study because of the high correlation. The result suggests that even in highly accepted book-building process, IPOs were underpriced, leaving the "money on the table". The outcomes of regression analysis suggest that "return on opening", "index volatility", "subscription", and "the Pre-IPO leverage" are significantly explain underpricing.

Pande and Vaidyanathan (2009), in their study, empirically explain the first day underpricing of an IPO and its relation to several determinants such as demand generated during book building, the listing delay and money spent on marketing. It additionally tries to explain a growing trend in the primary market of India. The authors used Ordinary Least Squares regression. It was found that while amount spend on marketing was insignificant, the listing delay and demand generated had positive impact on the degree of underpricing.

Agarwal, Liu and Rhee (2008), analyzed the relationship among demand that existed before offer and post-offer performance of firms that went public in Hong Kong. They ound that issues with higher demand get underpriced in short term but tend to come out as overpriced in long run, whereas issues having lower demand come out as overpriced in short term but tend to come out as underpriced in long run.

Carter and Manaster (1990) in their paper, give a hypothesis, commonly known as "Underwriters Reputation" and empirical evidence supporting the same. The model says that prestigious underwriters have access to better information and thus they are able to set the final offer price closer to its market price, resulting to lesser underpricing. In contrast, because of scarcity of resources, underwriters with lower prestige are not able to determine an accurate offer price, resulting to a formation of gap amid the offer price and its intrinsic value, causing IPO to underprice to a great degree.

Welch (1989) gave a theoretical model for underpricing of offerings. According to his theory, firms of high quality deliberately underprice the issue so as to provide a signal. As a repercussion, companies may not obtain high proceeds in their IPO and it can be seen as a cost to them, but the firms will be able to issue the subsequent seasoned offerings to the investors at higher prices because of this signal.

Beatty and Ritter (1986) made their empirical study to extend the "Winner's Curse" model by K. Rock (1986). They used weighted least squares due to the heteroscedasticity in the regression model. The authors came out with a hypothesis that there exists an equilibrium and a monotonous relationship amid the expected degree of underpricing of issue as well as the ex-ante uncertainty related to the value of company going public and provided empirical evidence for the same. The problem of winner's curse strengthens with the increase in the ex-ante uncertainty. This is often called as "ex ante hypothesis".

Rock (1986) developed a model that explained the reason for underpricing of IPO. The author's model is based on the existence of two types of investors, informed and uninformed. If an issue is priced more than its value, the informed investors have a lesser likelihood to be "cursed", as they can differentiate between good from poor

quality investment, and will withdraw from the market, leaving the uninformed investors with a larger allocation. Similarly, If an issue is priced lesser than its value, the informed investors will crowd in, leaving the uninformed investors with a smaller allocation. This will leave the uninformed investors with losses, which is also called "Winner's Curse". The losses if happen repeatedly, uninformed investors will ultimately exit the Primary market. To attract the investors, particularly those who are uninformed, the issuer and the underwriter must compensate them by deliberately undervaluing the issue, persuading them to participate in issue.

RESEARCH GAP

This study plays a role in the prevailing underpricing literature in a number of means. First of all, I concentrate on underpricing of IPOs in the capital markets of India that has not been investigated as thoroughly as initial public offers in other, bigger nations around the world. Furthermore, the choice of appropriate proxies as well as research variables will probably differentiate itself from all those of previous studies on Indian initial public offers, providing scope for new discoveries.

The data I used, additionally, belongs to a time period which is after financial crisis, making the study the first in India to employ such data. Researching distinctive data lets me discover results which have not already been found, and also employing by far the most up-to-date data lets me investigate whether or not former results found by other researchers continue to hold true. The results of this study will certainly add up to literature with regard to supporting the pre-existent theories or discarding them altogether as prospective reasons for the Indian IPOs underpricing.

METHODOLOGY

Since the review of literature illustrates, numerous variables are already tested to find out how they influence underpricing. The variables entail the age of the firm, size of the offer, offer price, underwriters' prestige and earnings per share, et cetera. The variables analysed within this study include Market Adjusted Underpricing, as the dependent variable and Issue Size, Listing Delay, Issue Price and amount of Subscription as the independent factors. The following equation will be tested for Linear Regression:

$$MAUP = \alpha_0 + \alpha_1 IPRICE + \alpha_2 SUB + \alpha_3 IDELAY + \alpha_4 ISIZE + \varepsilon_x \ (1)$$

Where MAUP is Market Adjusted Underpricing, IPRICE is Issue Price, SUB is amount of Subscription IDELAY is Listing Delay and ISIZE is Issue Size.

After taking into consideration the literature introduced within 2nd Chapter of the report, the research developed certain hypotheses for the variables which can be employed to explain the underpricing of the IPO. The hypothesis are as follows:

- **Listing delay**

$H1_0$: There is no relationship between degree of underpricing and listing delay of the issuing company.

$H1_1$: There is a negative association between the level of underpricing and the listing delay of the issuing company.

- **Size of the offer**

$H2_0$: There is no relationship between degree of underpricing and size of the offer of the issuing company.

$H2_1$: There is a positive relationship between degree of underpricing and size of the offer of the issuing company.

- **Subscription**

$H3_0$: There is no relationship between degree of underpricing and amount of subscription of the issuing company.

$H3_1$: There is a positive relationship between degree of underpricing and amount of subscription of the issuing company.

- **Issue Price**

$H4_0$: There is no relationship between degree of underpricing and amount of Issue Price of the issuing company.

$H4_1$: There is a positive relationship between degree of underpricing and amount of Issue Price of the issuing company.

FINDINGS

- The typical underpricing in those times was 9.44 % whilst the utmost underpricing had been close to 139.40%, minimum was around - 97.15%.
- The average issue size was around 1055.06 crores.
- The average issue price was around 388 Rupees.
- The average subscription during this period was 28.77 times.
- The average listing delay during this period was 11.46 days.
- The model was successful in explaining underpricing at 0.002 significance level.
- The variable "amount of Subscription" (SUB) was found to be significant at 99% in explaining underpricing on first day and with every 1 unit increase in SUB the underpricing on first day(MAUP) increases by 0.004.
- The variable "Issue Size" (ISIZE) was found to be significant at 90% in explaining underpricing on first day and with every 1 unit increase in ISIZE, the MAUP increases by 0.069.
- "Listing Delay" and "Issue Price" were found to be insignificant.
- The Durbin Watson test showed zero autocorrelation.

RESULTS

The results signify the following things

- The research confirmed that the Indian initial public offerings have been underpriced in the short term. This finding verified the underpricing anomaly of Initial public offerings, which has been acknowledged as a worldwide phenomenon.

- Rock (1986) found that the degree of underpricing is dependent upon asymmetry of information between the investors. Additionally, the author found that the degree of asymmetry raises with the increase in demand for stocks for the company. This demand is reflected by the rate of subscription. Thus, information asymmetry suggests subscription and underpricing are negatively corelated. The findings are inconsistent with the Rock's hypotheses as we found a positive relation between subscription and underpricing. It is consistent with the findings of Agarwal, Liu and Rhee (2008).

- Beatty and Ritter (1986) found a positive relationship amongst the issue underpricing as well as the "ex ante uncertainty" of the company. They discovered that smaller sized IPOs tend to be more underpriced as smaller the issue, greater is the uncertainty. The findings of this study are inconsistent with the "ex ante uncertainty" hypothesis as we discovered a positive relationship amid the size of issue and underpricing. It is consistent with the signaling Hypothesis of Welch (1989) which suggests that the high-quality firms (firms with large issue size) deliberately underprice to send a signal to the market.

- Listing delay and issue price do not explain underpricing.

- The outcomes from the research suggest that underpricing may be the consequence of higher readiness to pay of investors as well as excessive demand of the offer.

CONCLUSION

Initial public offering underpricing can be described as a phenomenon which happens all over the world, which appertains to the first day return upon the listing of the

Company. The underpricing is usually triggered because of information heterogeneity among issuing company, underwriters as well as investors. Between investors as well, one can find 2 groups: informed investors as well as uninformed investors. The divide additionally raises the information asymmetry. Every party value company in accordance with their information, leading to various price for that issuing company. The lack of good price discovery results in underpricing.

The comprehensive evaluation of initial public offering underpricing regarding capital market of India has been performed for the interval of Jan, 2012 – Dec, 2017. The adjusted preliminary return for this interval has been discovered to be excessive. Factors that affect underpricing have been recognized through the existing theory as

well as other empirical sources and have been examined upon capital market of India. The very first factor considered has been listing delay. The connection discovered among listing delay as well as underpricing had been positive, that is certainly opposing as to what had been anticipated. Nevertheless, the relationship had been discovered not to be significant. It had been discovered that market failed to think about the listing delay of the company's IPOs.

The next factor was issue price. Their relationship not surprisingly had been discovered to be inversely proportional, however insignificant. Therefore, for the reason that price in regards to the issue elevated, underpricing lowered. Subsequent, we discovered the connection among oversubscription as well as underpricing. The end result had been as expected, through oversubscription factor directly associated with underpricing, which had been significant. The Indian subcontinent caters like a great screening floor for winner's curse model. The results supplied support against the model. Rock (1986) found that the degree of underpricing is dependent upon asymmetry of information between the investors. Additionally, the author found that the degree of asymmetry raises with the increase in demand for stocks for the company. This demand is reflected by the rate of subscription. Thus, information asymmetry suggests subscription and underpricing are negatively corelated. The findings are inconsistent with the Rock's hypotheses as we found a positive relation between subscription and underpricing. It is consistent with the findings of Agarwal, Liu and Rhee (2008).

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Lastly, year wise analysis of underpricing phenomenon in IPOs was also conducted. It was found that the average underpricing during this period was 9.44 per cent while the maximum underpricing was around 139.40% of Astron Paper and Board Mill Limited and minimum was around - 97.15% of VKS Projects Limited. The average issue size was around 1055.06 crores while the maximum issue size was 11372 crores of General Insurance Corporation of India and minimum was 6.44 crores of K P Energy Limited. The average issue price was around 388 Rupees while the maximum issue price was 1766 Rupees of Dixon Technologies (India) Ltd and minimum was 30 Rupees of Manomay Tex India Limited. The average subscription during this period was 28.77 times, while the maximum subscription was around 243.29 times of Astron Paper and Board Mill Limited, minimum was 0.76 times of Ortel Communications Limited. The average listing delay during this period was 11.46 days,

while the maximum listing delay was around 20 days, minimum was 7 days. Overall, a pattern suggesting a surge in IPOs has evolved.

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