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Initial Public Offering (IPO) Underpricing: A Study of Selected companies in Indian Equity Market

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Abstract - Initial Public Offering (IPO) underpricing is a well documented phenomenon in the extant literatures. As the Ritter suggest that the need for a substantial discount in the form of underpricing. Study identifies various factors which contribute towards the underpricing of IPO. In the study with a sample size of 71 firm's linear regression is drawn and the variables affecting the underpricing of IPO's are identified in Indian context. Recent earnings per share (EPS) and primary shares are significant at 5% level of significance, showing that EPS of the firm before the issue affects the offer price of IPO and also primary shares which is offered in IPO process also affects the underpricing, and it is represented in table1.1. The first day returns for all 71 firms is plotted against the number of firms and result says that the IPO is relatively underpriced where firms after the point zero giving higher positive returns compared to the returns in the negative region.

Keywords: Underpricing, Intrinsic Value, Asymmetric Information, Diversification, Capital Market, Underwriter.

I. INTRODUCTION

Initial Public Offering is nothing but for the first time a stock is publicly traded in a stock exchange. For various reasons companies go for public, but for more frequently in an effort in order to raise the capital for various purposes of business. Companies go for public in order to fund for research and development, or it can also be one of the reason to pay off the debt etc. Usually underwriters will price the IPO, the price set by the underwriter may or may not be the value at which when the stock may begins to trade. If a private organisation is successful, owners want to take the company for public by issuing the stock to the investors. Often this is encouraged by the venture capitalists, who desire to realize the cash return (return on investment) on their risky venture. In other situations, the founders' of the company want to establish a value or liquidity, for the company's stock. So whatever might be the reason, ultimately a decision is reached by the organisation to become a public company and list their company to stock exchange for the first time in the history of the company. As there are advantages for being a public company, we can also observe the disadvantages too. The issuing company must conform to the SEC requirements for having to employ certain accounting conventions, having a board of directors, disclosing sensitive information, and incurring the issuance costs as a public company which is not incurred by a company which is private one. Securities market is regulated by **Securities and Exchange Commission** (SEC).The SEC rule 415, which is also known as shelf registration, allows an organisation in order to register IPO issue and then sell the issue stage by stage over a period of time rather than selling at all once.

So from the above paragraph it is clear that going public issue means selling some of the company's stock to the investors and then allowing the stock to trade in security market, which ultimately facilitates the diversification of stockholder, increases liquidity of the firm's stock, and also makes it easier for the company to raise the capital required for the organisation, a value is established for the firm, and makes it easier for a firm to sell its securities. For a well-organised functioning of financial markets, a number of financial institutions are required and investment banking firm is one of such institutions, which functions as a middleman in the distribution of securities to the investors. The main purpose of investment banks is to buy the securities from the issuing organisation and then reselling them for the required investors. Investment Banker receives the spread or difference for the service provided between the value they pay for the security from the organisation and the value at which the securities are resold to the general public. Many firms make only occasional trips for the capital market as they are not specialised in issuing the securities for the general public. As the investment bankers have the contacts, the expertise, and the sales organization which is required to do highly competent job of marketing the securities to investors or general public. In addition to the sale of new issue, SEC also regulates the sale of securities in the secondary markets. It also regulates the activities of the National Association of Security Dealers, investment bankers and brokers, the over-the-counter market, of security exchanges, and investment companies.

In India the issue procedure of IPO is guided by Securities and Exchange Board of India (SEBI) and the provisions of the Companies Act, 1956. Public issue includes an initial public offer or future public offer. When an unlisted issuer offers specified securities to the public for subscription, it is called an initial public offer (IPO), where as an offer by already listed issuer to the public for subscription is called a further public offer (FPO). A public issue may be made on book building process or through a fixed price basis. In a fixed price offer, the issuer, in consultation with the merchant bankers, fixes the issue price and then invites public for subscription for a specified number of shares. The number of shares which is applied for is less than the issue size, the unsubscribed portion devolves upon the underwriters and they will be obliged to buy the remaining shares. On the other hand if the issue is oversubscribed, the allotment is made on a proportionate basis. Most of the issues in India in the recent past have used the book building method. It is a method of price discovery where the issuer fixes a price band or a base price and invites the investors to bid. The investors are required to bid stating the number of shares they wish to buy and also the price they are willing to pay. The bid price of course has to be higher than the base price or within the price or within the price band fixed by the company as the case may be.

II. REVIEW OF LITERATURE

Patricia J. Hughes and Anjan V. Thakor(1992) have examined the litigation risk role of in the pricing of IPO. The underwriter's pricing decision trades off the future expected litigation costs against the current revenue, both of which are rising with the price of IPO. In the rational expectations on the investors and the given constraint of time consistency the argument of standard litigation risk does not lead eventually to the equilibrium under pricing. Study has developed a model which provides enough circumstances in which there is equilibrium underpricing. Study has examined about floating the IPO on its own versus the choice of employing an underwriter and also the different testable implications of the model have also been developed.

Roni Michaely and Wayne H. Shaw (1994) have analyzed the empirical implications of various models of IPO under pricing. Study is consistent with the winner's curse hypothesis and also shows that the IPO's are not underpriced in the markets where investors know earlier itself that they do not have to compete with the investors who are informed. Study also shows that IPO's which is underwritten by the reputable investment banks experience considerably less under pricing and will also perform considerably better in the long run. But the study could not find any support for the signalling models empirically which tries to explain why do the firms under price the IPO's. The study also finds that

- Firms which under price more, returns to the reissue market not so often, and also for smaller amounts, than companies which under price less and
- Firms for which under pricing is less, quite obviously experience higher dividends and also higher earnings, which is very much contrary to the models' predictions.

Raghuram Rajan and Henri Servaes (1997) have analyzed the IPO's which were completed during the years 1975 to 1987 in order to make an observation that how they related to the well documented various IPO anomalies. The results of the study show that higher under pricing leads to the increased following of the analyst. When the earnings potential as well as the long term growth prospects of the recent IPO's is considered, analysts are quite overoptimistic about it. And also the study could see that more firms complete IPO's. When the analysts are optimistic particularly about the growth prospects of the new IPO. IPO's will have better stock performance in the long run when analysts assign for the lower growth potential rather than higher growth potential. Study suggests that the anomalies can be partly driven by the analysts over optimism.

Catherine Schrand and Robert E. Verrecchia (2002) examines that the underpricing of IPO's is a main cost of raising the equity capital which the theories have shown, that emerges from the unfavourable selection of issue date of IPO. In order to ameliorate the adverse selection, disclosure can be used as a tool. Study examines that the higher disclosure frequency before the period of IPO is connected with the lesser underpricing. The negative relation in the study is important only for informative disclosures and not for those disclosures such as public relations announcements. And negative relation is important after controlling for the factors which affects the ex-ante ambiguity about the offering and also for the substitute mechanisms that firms can use in order to signal the firms quality. Study observes that the results were quite opposite for the internet firms. Internet firms demonstrated a major positive association between the frequency of disclosure and underpricing, which is consistent with the claims that underpricing is used by the internet firms to make the attention of the investors.

David C. Mauer and Lemma W. Senbet (1992) have provided a theoretical and empirical investigation of the role of the secondary market in the pricing of IPO's. According to the argument of the study the incomplete spanning of the primary issues in the secondary market as well as the limited investor access play an important role in the pricing of IPO's. In the study by utilizing a segmented market approach wherein IPO offering values are determined in the primary market, and the aftermarket

bid prices are determined in the centrally accessed secondary market. Study obtains a price differential in the primary as well as secondary markets which is consistent with the received notion of IPO under pricing. Study provides the results on empirical tests of a large sample of IPO's which is consistent with the predictions of the theoretical analysis.

Thomas J. Chemmanur (1993) have examined a information theoretical model of IPO pricing in which insiders sell stock in both the IPO as well as the secondary market, and have the private information about their companies prospects, and quite obviously the outsiders may engage in costly information production about the company. The High value firms, knowing they are going to pool with low value firms, encourage outsiders to engage in information production by under pricing, which compensates outsiders for the cost of producing information. The information about the firm is reflected in the secondary market price of the equity, which is giving a higher expected stock price for high value firms.

Daniel Asquith, Jonathan D. Jones and Robert Kieschnick (1998) have made an observation considering a data set of 560 firm-commitments IPO's of equity for the duration of 1982-1983. Study finds that the cross-sectional allocation of first day returns is modelled better as a combination of two distributions. With the parameter estimate of one distribution being the price stabilization and the other distribution with IPO underpricing. Study shows the confirmation that early IPO returns from a combination of distribution which persists for at least four weeks. So the implication of the results for the study of IPO return is illustrated to investigate the influence by the measure the price uncertainty of ex-ante on IPO pricing.

Saurabh Ghosh (2005) has identified the various factors explaining the under pricing of IPO's in an emerging economy like, India, using a sample of 1,842 companies which have listed in the Bombay stock exchange(BSE) during the periods 1993 to 2001. Study has found that the uncertainty played a role in perverse under pricing in the primary market of India. The issues which went with the bulk issue size and those that went for seasoned offering had lesser under pricing. Contrary to the evidence which is obtained internationally, under pricing was less during the high volume period means the hot period compared to the slump period means cold period in the Indian IPO market. The new issues belonging to the business group was underpriced more compared to their stand-alone counterparts during the hot period. And the small issues belonging to the private stand alone firms had less under pricing during the hot period and they did not come to the market subsequently to raise the capital. Large issues belonging to business groups under priced more and hence subsequently raised funds required from the market. Results obtained from the study support the predictions of signalling theory for the IPO's which is listed in the Indian stock markets over the last decade.

III. OBJECTIVES OF THE STUDY

- To empirically study the IPO underpricing in Indian equity market
- To analyze the impact of underpricing on investors and the capital market
- To identify various factors responsible for underpricing

IV. UNDER PRICING OF IPO

It can be defined as the pricing of an IPO below its market value. Usually underpricing is mentioned as the offer price is lesser than the price of the IPO's first trade, and then the stock is considered to be underpriced. Usually IPO's are temporarily underpriced because the laws of demand and supply will ultimately drive it towards its intrinsic value. Often IPOs are underpriced because of concerns relating to liquidity and uncertainty about the level of stock at which it will trade. The less predictable and less liquid the shares are, it has to be more underpriced in order to compensate for the investors for undertaking the risk. As the issuer of IPO tends to know more information about the value of the shares than the investor, a firm must under price its equity stock in order to encourage the participation of investors in the process of issue.

Most of the IPO's are through an underwriter. As the company having no preceding public market, hence benchmark of the stock price does not exist. Hence, there is more uncertainty than when a public firm sells additional stock. Empirical studies propose that on average IPO's are sold at a significant discount (over 15 percent) from the prices which prevails in the aftermarket. An asymmetry of information may be between the investment banker and the company and also among investors who are informed at varying degree. If the public issue is too much underpriced, the investment banker will lose future possible issues; and if it is too little, then the potential investors. As **Ritter argues,** another reason for the discount is that there are both uninformed and informed investors in an IPO. So the informed investors will invest only in those offerings for which the share price rises subsequently. But yet still some IPOs are unsuccessful and hence the investor loses money. If the "average" investor who is uninformed is to be drawn into the market, the average return to them must be obviously positive. It not that informed investors invest only in the good quality deals and investors who are uninformed must pick all the bad quality deals. (**A winner's curse: even thought they win the bid, they are cursed with the outcome.**) In order to attract uninformed investors into the IPO market, **Ritter suggests** the need for a considerable discount. For the organisation, the suggestion is that the initial public stock offering will need to be considerably underpriced from

what is believed to be its true value. This is the price admission to the public market. If the effect of reputation prevails, then investment banker should be motivated in order to seek a under pricing which is fair. Due to asymmetric information, a significant under pricing will be probably necessary. Succeeding public offering will not need to be underpriced as much, as a price of benchmark will exist and also there will be lesser uncertainty. If any under pricing occurs with seasoned equity offers, then it is not nearly as great as with an IPO.

V. THE COSTS OF GOING PUBLIC IS PRESENTED BELOW

A firm's management and investors must weigh the benefits of going public against several costs which are involved in the process of going public, includes the following:

Underpricing: IPO's appears to be substantially underpriced from numerous extant empirical evidences.

Issuance Costs: A typical spread for an underwriter for the IPO issue is 7% of the offering proceeds. And the other cost which includes is time of management's in preparing for the public offering.

Loss of Control: The new equity holders may push the organisation to change its financing, investment, or the dividend policies, and also they may attempt to replace the company's management team, including the original entrepreneurs.

Agency Costs of Managerial Discretion: It happens by separating the ownership and control which finally leads to such costs, though they can be mitigated with incentive contracting and monitoring.

Information Asymmetry: Because of the requirements of disclosure for an IPO, it may also compromise the strategic position of the firm's in the industry.

Performance Pressures: After the issue of IPO, pressure for performance is faced by the management team from the investors, the financial press, bond rating agencies, and also the equity research analysts.

Distractions: After the issue quite obviously management is frequently distracted by the time consuming investor relations tasks, such as the personal visits from or to major shareholders, And also the press releases.

VI. RESEARCH DESIGN

Data Collection: press releases

The present study is based on secondary data which is collected from published and unpublished sources. Further for the purpose of data collection Capital Line data base has been used. Further, websites are also depended upon for few secondary data.

Methodology:

The study is descriptive in nature. And the tools used for the analysis is Linear Regression method, which is represented in the table shown as below, considering the level of significance at 5%. The value of R^2 obtained is 8.14% with F value 0.0219 or 2.19%.

Sampling:

The number of companies which is considered for the study is taken for the duration of 2006 to 2015. Which is listed in NSE and BSE and some companies have listed both in NSE as well as BSE. And it is the Random Sampling method with convenient sampling.

VII. ANALYSIS AND INTERPRETATION: LINEAR REGRESSION

Number of observations = 71

R-squared = 0.0814 = 8.14%

Independent Variables	Co-efficient Value	t Value	P>t	Significance Level
Recent EPS	.0258921	3.94	**0.000**	**5%**
Offering Proceeds	-2.88e-09	-1.76	0.083	
Primary Shares	8.30e-07	2.18	**0.033**	**5%**
Listing in BSE	32.58761	0.91	0.369	
Acquisitions	-7.095799	-0.47	0.642	
Debt Retirement	9.671706	0.54	0.591	
Product Development	-16.93924	-1.20	0.235	
Working Capital	7.803182	0.55	0.585	
Public Issue Expenses	2.169413	0.16	0.876	

Table 1.1: Linear Regression for a sample size of 71 firms between the duration 2006 to 2015, listed in BSE and NSE and some both in BSE as well as NSE.

The estimated value of the **R^2 is 8.14%** which indicates that 8.14% is the variation in dependent variable which is Underpricing, is explained by the model or the explanatory (Independent) variables.

The estimated value of **Recent EPS** is 0.025,which is positive and is statistically significant at 5% level of significance, indicating that any changes in recent EPS has a greater influence on the dependent variable(Under pricing) . If the recent EPS is increased by 1 unit, then the dependent variable is decreased by 0.025.

The estimated value of **Primary Shares** 8.30e-07, which is statistically significant at 5% level of significance, representing that any changes in primary shares, has an influence on the dependent variable (Under pricing). If the primary shares value is increased by 1 unit, then the dependent variable is decreased by8.30e-07.

The dependent variable considered in the model is underpricing and the independent variables considered in the study are as shown below:

- Recent Earnings Per Share (EPS) before offering
- Offering proceeds
- Primary Shares
- Listing in BSE
- Proceeds used for acquisitions, debt retirement, product development, working capital and public issue expenses.

And the variables contributing towards the underpricing of IPO is **Recent EPS** of the firm and also the number of **primary shares issued** at 5% level of significance.

1.7.1 Distribution of First Day Returns:

Graph 1.1: Distribution of First Day Returns in terms of percentage for a sample size of 71 firms between the duration 2006 to 2015, listed in BSE and NSE and some both in BSE as well as NSE.

Interpretation:

- From the above graph it is shown clearly that the distribution of first day returns is plotted against the number of firms. We can observe that the highest return in the first day is given by the firms which are scattered after 0.
- By considering the number of firms taken into consideration we could find more number of positive first day returns than the negative returns. With this we can come to a conclusion that there is relatively underpricing.
- The table which is represented below shows clearly how the frequency is distributed with the class intervals.

bin	Frequency	Percentage	Cumulative percentage
-95	1	1.41	1.41
-70	13	18.31	19.72
-45	7	9.86	29.58
-20	8	11.27	40.85
5	18	25.35	25.35
30	15	21.13	46.48
55	4	5.63	52.11
80	3	4.23	56.34
105	1	1.41	57.75

VIII. CONCLUSION

As various extant literatures have shown that IPO's are underpriced, and the study conducted also confirms on the same that IPO's are underpriced even in Indian capital market. Where the sample size considered for the study includes 71 firms listed in BSE, NSE and both in BSE as well as NSE between the duration 2006 to 2015. By drawing the linear regression, the variables affecting underpricing of IPO's is identified which are the recent EPS as well as the primary shares offered to the general public. It makes clear that underpricing exists in the IPO market and as Ritter suggests that it is a sort of discount to the investors for the risk taking. As there is no much prior information's about the issuing company.

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