Relationship of IPO Issue Price and Listing Day Returns with IPO Pricing Parameters

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ABSTRACT

Initial Public Offer (IPO) is one of the means for companies to raise capital in the primary market. A company issues new securities for subscription by the public, in an IPO. An IPO helps a retail investor to acquire shares in an attractive company and broaden his investment portfolio. Hence it is necessary that the pricing of IPOs truly reflect the intrinsic value of the issuing company.

The IPO's listed from 2003 to 2013 in Bombay Stock Exchange (BSE) was the sampling frame for the study. 75.24 % of the sampling frame (313 IPOs) was used for the analysis of research objectives. The share prices of Companies were taken from BSE Website (www.bseindia.com). The details of the Issuing Companies were obtained from SEBI Website (www.sebi.gov.in). Further details were collected from Prime Database and CMIE Prowess. The pricing parameters were selected as per SEBI guidelines. The under-pricing of IPOs is studied using Market Adjusted Abnormal Return (MAAR). A Causal Research design is used in the study. Regression analysis was used to study the impact of selected variables on Issue price and MAAR.

Approximately 58% of the IPOs in the study period were underpriced. For the sample IPOs, P/E Ratio, IPE, RoNW and NAV are significant predictors of Issue price. For overpriced IPOs, Beta estimates indicated that P/E Ratio, RoNW and NAV are significant predictors of Issue price. For under-priced IPOs, Beta estimates indicated that IPE, RoNW and NAV are significant predictors of Issue price. The pricing parameters were not found to be the significant predictors for MAAR.

The results obtained from the study provide important information to investors intending to invest in IPO's for a short term.

Keywords: IPO Investment, pricing parameters, Offer price, Listing price, MAAR.

INTRODUCTION:

Initial Public Offer (IPO) is one of the means for companies to raise capital in the primary market. A company issues new securities for subscription by the public, in an IPO. The IPO Company gets cash proceeds from the sale, which is used to fund operations or expand its business. These shares can be traded in the secondary market, after an IPO.

Aggarwal (2000) documented that the Indian IPO market has been growing at a big pace since the last few years and has been dominated by retail investors. An IPO helps a retail investor to acquire shares in an attractive company and broaden his investment portfolio. In the Retail Individual Investor (RII) category, investors can apply for shares up to Rs. Two lakhs in an IPO. In Book Build IPO's, the RII's have an allocation of 35% of shares of the total issue size.

Current IPO Scenario in India:

In India, the volume of IPOs and returns from IPOs were not satisfactory to the investors. As in Table 1, the

number of IPO issues has drastically reduced after 1996. This can be attributed to the dot com bubble, the later IPO scams, the volatility in the stock market and specifically the returns and risk from IPO's. The IPO proceeds were higher after 2003 (Graph 1). But there were higher proceeds from fewer issues. Compared to earlier years many companies came out with small IPO issues as well.

As per the Prime database, the year 2017 saw a record capital raising of Rs. 1.6 lakh crore from IPOs. This is 3.6 times the capital raised in 2016. In the Financial year 2018, 190 IPOs got listed, of which almost 13 IPO's issue size was more than Rs. 1000 crore. The total IPO size of the year is Rs.74000 crore. Among the top performing IPOs, Apex Frozen IPO recorded the highest percentage change of 226.01% in 2018. Among the worst performing IPOs, Apollo Micro System IPO recorded the lowest percentage change of -46.49 % in 2018. Therefore IPOs are volatile investments.

According to Prime Database, the average retail participation in IPOs was highest in 2007, with 18.42 times. Further this reduced to approximately 1.82 times in 2015. Though IPOs have been a good avenue for companies to raise capital in India, it is studied that the retail subscriptions to IPOs has been poor and a drastic reduction in IPO retail subscription is seen in recent years.

SEBI has brought in many policy developments to increase retail participation in IPOs, which was necessary to increase economic growth of the country. The Indian IPO market has witnessed many structural changes in the last few years, which improved its transparency and efficiency. Because of the public participation in IPOs, SEBI oversees that companies issuing IPOs act in a fair manner, to their shareholders. These companies have to comply with the listing agreement which stipulate continuing disclosures in specified formats and frequency.

The reform by Securities Exchange Board of India (SEBI) over years has not changed the IPO investment scenario in India and Indian IPOs are still not the preferred investment options. With regulatory changes and Technology up gradation made by SEBI, now intermediary risk in terms of scams, allocation of shares and refund of unallocated applications are reduced. The book building method is now considered to be the best method for pricing and marketing IPOs (Ljungqvist et al 2003, Loughran & Ritter 2002). But still information risk in terms of price and return volatility exist in Book Building issues.

IPOs were only perceived to be short run return alternatives by retail investors. The low Post listing Long run performance of IPOs was the major reason for low retail participation in them. There is a huge opportunity waiting to be tapped In Indian Market, but IPO challenges will make it difficult for both, the Regulator as well as the Market players to enhance retail participation.

Concerns of Retail Investor's in IPOs:

From 2011, SEBI has been addressing concerns related to IPO irregularities, concentrating on the aspects of disclosures in the offer document, due diligence by Merchant bankers, mismutualisation of issue proceeds and the secondary market trading after listing of the shares. But the risk on investments in IPOs still diverge investors from participation in an IPO. The IPOs are still not attractive to Indian Retail Investors.

With these concerns existing, a detailed study on IPOs in India would help coin strategies to attract retail investors to IPOs. Investors want healthy IPOs. IPOs are good avenues for short term gains. But strong financials and better business models are essential to keep retail investors attracted to IPOs. They also look for right pricing to make short term and long term profits from an IPO. IPOs are globally accepted as short term profit makers. Underpriced IPOs give short run returns to investors.

If the offer price is lesser than the first-day closing price, the IPO is underpriced and thereby money is left on the table for new investors (Ritter, 1991). It is also called as the initial return of the IPO. There is documented evidence that under-pricing of IPO's raises investors' attention and thereby triggers investment in secondary markets (Peter, 2007).

RATIONALE FOR THE STUDY:

Literature has well documented the extent of underpricing across countries on the first day of IPO listing itself. With open market policies, changing market dynamics and liberalised outlook, new issues were thought to be fairly priced. But research work based on the first decade of liberalisation showed results to the contrary. With second generation reforms initiated in the early part of 2000 decade and Indian securities market turning out to be further developed, more efficient and well regulated, and it is expected that such severe under-pricing of the last decade may not be a rampant phenomenon now. Keeping this into consideration an empirical study was conducted, to gauge the extent of underpricing of issues on listing day and its relationship with pricing parameters. With more companies, getting ready to go public, there is an urgency to boost retail investor confidence, to remain invested in the Capital Market for a long term, through IPOs.

SIGNIFICANCE OF THE STUDY:

IPOs are a good investment for Indian retail investors, and are also an important source for raising fund in the Indian primary market. Hence it is necessary that the pricing of IPOs truly reflect the intrinsic value of the issuing company. This will develop a degree of confidence among the potential investors and issuers and enable them to make informed investment decisions vis-à-vis offerings in the Indian IPO market. Sound market fundamentals and a sound capital market would make India a good destination for IPO investment. Hence from the policy perspective, this paper develops an empirical model for explaining the relationship between pricing parameters and IPO offer price and listing day returns in India. The study is relevant to academicians, investors, capital market intermediaries and policy makers to make relevant policy decisions.

REVIEW OF LITERATURE:

In general, Initial Public Offers in India and most of the other countries are underpriced (Ibbotson, 1975; Ritter, 1984; Kuklinski, 2003; Purnanandam and Swaminathan, 2004). It has been studied that the Book building method is better than fixed price, but IPO issues still continue to be significantly underpriced (ibid).

IPOs are highly underpriced and investors are able to get high rate of return in comparison with market index on the listing day (Ibbotson, 1975; Ritter, 1984; Kuklinski, 2003; Purnanandam and Swaminathan, 2004, Kim, Krinsky and Lee, 1994; Sullivan and Unite, 1999; Omran, 2005; Vong, 2006; Reber and Fong, 2006; and Khurshed, Pande and Singh, 2008).

Michael Firth et al (2008) examined a sample of Chinese IPOs from 1992 to 2002. They studied that price-earnings multiples of IPO firms had significant influence on price formation in the emerging market. Yan Xiong et al. (2008) found a significant relationship between the level of initial abnormal returns and the level of pre-IPO earnings management. Arwah (2003) found a negative relationship between listing returns and the issue price. Hanley (1993) and Cornelli and Goldreich (2001), showed that the private information got during the registration period is not completely incorporated into the offer price. Lowry and Schwert (2002) also studied that more positive information available during the registration period will lead to higher initial returns and higher subsequent IPO activity. The success of IPOs depends not only on the quality of the issuing firm, but also on the state of the economy.

RESEARCH GAPS:

There is immense literature on IPO under-pricing. But the research on the initial (listing) returns of IPOs issued in the Indian market, relative to the issue characteristics of firms is a relatively unexplored area in India. IPO investment decision involves consideration of many factors like issue specific and market data. The predictive relationship between the IPO firm characteristics at the time of issue and initial returns can be used to make an efficient investment decision in IPOs. This will possibly enhance IPO subscription in India.

STATEMENT OF THE PROBLEM:

The average retail investor subscription rate in IPO's is declining as compared to earlier years. IPO is a good avenue for short run returns for an investor. But most IPO's under perform in the long run. Investors look for IPO's which could give both short and long term returns. This is a rare phenomenon globally as well as in India. It is necessary to identify factors affecting pricing and performance of IPOs in India and make it transparent to investors. Regulator is also working on Disclosure requirements of Companies going public. The Low average IPO subscription in India by retail investors has led to the following research questions. What percentage of Indian IPOs is underpriced? What are the issue characteristics of IPOs which are underpriced in India? Do issue characteristics reflect listing returns of IPOs?

RESEARCH OBJECTIVES:

The research was conducted with the following objectives:
1. To calculate the Market Adjusted Abnormal Return (MAAR) on the listing day for select IPO's in India.
2. To find the relationship between select pricing parameters and IPO Issue Price.
3. To find the relationship between select pricing parameters and MAAR of IPOs.
4. To understand the issue characteristics of under-priced IPO's in India.

RESEARCH METHODOLOGY:

The IPO's listed from 2003 to 2013 in Bombay Stock Exchange (BSE) was the sampling frame for the study. The IPOs with missing information were excluded from the sample. 75.24 % of the sampling frame (313 IPOs) was used for the analysis of research objectives. The classification of IPO's used in www.capitalline.com is used for the analysis. Accordingly the IPO's were classified into four sectors. Manufacturing, Financial Services and Packaging, Media, IT and Telecommunication, and Others.

The share prices of Companies were taken from BSE Website (www.bseindia.com). The details of the Issuing Companies were obtained from SEBI Website (www.sebi.gov.in). Further details were collected from Prime Database and CMIE Prowess.

The pricing parameters were selected as per SEBI guidelines. The under-pricing of IPOs is studied using the measure, Market Adjusted Abnormal Return (MAAR). A Causal Research design is used in the study. Regression analysis was used to study the impact of selected variables on Issue price and MAAR.

Independent and Dependent Variables:
The independent and the dependent variables selected for the research are listed below.

Dependent variables selected for the study

Initial day return (MAAR)	Initial day return calculated as Market adjusted abnormal return.
Issue Price or Offer price	The price at which a new security will be distributed to the public prior to the new issue trading on the secondary market.

Source: Compiled from Literature

The pricing parameters, NAV, RNOW, IPE, P/E and EPS at issue time were studied to analyse their impact on Issue price and MAAR.

Determinants of Issue Price of IPOs

NAV	NAV per equity share (Rs.) is used for the study. This is shareholders' equity less miscellaneous expenses as divided by weighted average number of equity shares.
RoNW	(Wt. Avg) Return on Net worth
IPE	(Wt. Avg) Industry PE ratio
P/E	Price Earnings Ratio is a market prospect ratio that calculates the market value of a stock relative to its earnings by comparing the market price per share by the earnings per share.
EPS	Earnings per share are the portion of a company's profit allocated to each outstanding share of common stock. Earnings per share serve as an indicator of a company's profitability. (Wt. Avg) EPS is used.

Source: Compiled from IPO prospectus, explained as basis for Issue price

TOOLS OF ANALYSIS:

Market-adjusted abnormal returns (MAAR) for all IPOs are calculated to study the extent of under-pricing. MAAR for the listing day is the difference of initial return calculated for the security (i) on day one, to the benchmark return on that day. MAAR measures the short term gain from IPOs. Miller and Reilly (1987) calculated MAAR using the formula as given in Eq. (1). The MAAR for the IPO stock (i) on day 1 is calculated using Eq. (1)

$$MAAR_{I1} = \left[\frac{(1+R_{i1})}{(1+R_{m1})} - 1 \right] \times 100 - - - - - - - - - - - - - (1)$$

Where, $MAAR_{i1}$ is the market-adjusted abnormal rate of return for the stock i on day 1, R_{i1} is the percentage change in list price vis-à-vis offer price. R_{m1} is the percentage change in closing market index value on the listing day to market index on the date of closure of issue. The initial return of each IPO has been calculated by using Eq. (1). The sensex closing value has been used to calculate the market index return.

Basis for Issue Price of IPOs as per SEBI guidelines:

1. The basis for issue price/floor price/price band shall be disclosed and justified by the issuer in consultation with the lead merchant banker on the basis of the following information, which is to be disclosed:
a. Earnings per Share and Diluted Earnings per Share, pre-issue, for the last three years (as adjusted for changes in capital).
b. Price Earnings Ratio pre-issue.
c. Average Return on Net Worth in the last three years.
d. Minimum Return on Increased Net Worth required to maintain pre-issue EPS.
e. Net Asset Value per share based on last balance sheet.
f. Net Asset Value per share after issue and comparison thereof with the issue price.
g. All the accounting ratios of issuer Company, as discussed above, would be compared with the industry average and with the accounting ratios of the peer group.
h. The fact of dilution of financial ratios consequent upon issue of bonus shares, if any, and justification of the issue price after taking into account the diluted ratios with reference to expanded capital.
i. In case of a book built issue, the following statement shall be disclosed in the red herring prospectus: "The issue price has been determined by the issuer in consultation with the book runner(s), on the basis of assessment of market demand for the offered securities by way of book-building."
j. The face value of equity shares (including the statement that the issue price/floor price/ price band, is "X" times of the face value).
k. The accounting ratios disclosed in the offer document in support of basis of the issue price shall be calculated after giving effect to the consequent increase in capital on account of compulsory conversions outstanding, as well as on the assumption that the options outstanding, if any, to subscribe for additional capital will be exercised.
1. The issuer shall not proceed with the issue unless the accounting ratios, mentioned above, justify the issue price. In case the option of differential pricing has been availed, justification for the price difference shall be given in the offer document.

Multivariate regression (OLS) is used to test the influence of the selected variables on the short run performance measured by MAAR. OLS regression has been used by some of the recent studies like Jaskiewicz et al (2005) and Agrawal D. (2003) for explaining the IPO underperformance.

Multivariate regression was carried out to find the impact of selected variable on Issue price and MAAR. The study thus examines if the firm characteristics known at the time of IPO are good predictors for subsequent share price performance.

RESEARCH HYPOTHESES:

The following hypotheses were framed for the study.

Hypothesis-1:
H0: Selected Pricing parameters do not have an impact on IPO Issue Price.
H1: Selected Pricing parameters have an impact on IPO Issue Price

Hypothesis-2:
H0: Selected Pricing parameters do not have an impact on MAAR.
H1: Selected Pricing parameters have an impact on MAAR

DESCRIPTIVE STATISTICS:

This section discusses the descriptive statistics of initial returns of IPO's under consideration. Initial returns of IPO (listing day returns) were calculated using MAAR. IPOs are categorized as under-priced and overpriced, based on MAAR. Overpriced IPOs have a negative MAAR and under-priced IPOs have a positive MAAR.

The table 2 depicts the year wise distribution of IPOs in the sample data. Manufacturing Industry and Others had the highest number of IPOs during the study period. It can be seen that the financial services and packaging industry had the lowest number of IPO issues. The highest number of IPOs was during the period 2007-08 and later the number of IPOs came down. This could be attributed to IPO scams and irregularities post 2007. After 2010, the IPO sector mobilized more resources. This could be due to regulatory support from SEBI and better investment climate.

The table 3 depicts the year wise distribution of overpriced and underpriced IPOs in the sample data. Approximately 58% of the IPOs in the study period were underpriced and left money on the table for the

investors. This trend is seen throughout the study period. In 2007-08, exceptionally, 69.5% of the IPOs were under-priced. Hence IPO's were used as an investment alternative for short term gain by retail investors. The IPO market has been leaving money on the table every year for IPO investors. They have been avenues for short term gain every successive year.

Table 4 depicts the Industry wise distribution of overpriced and underpriced IPOs in the sample data. From the data it can be found that 54.4 percent of the IPOs in Manufacturing Sector were under-priced. In Financial services and Packaging sector, 52.8 percent IPOs were under-priced. In Media, IT and Telecom, 71.1 percent IPOs were under-priced. And in the remaining sector 59.2 percent of IPOs were under-priced.

It could be inferred that companies with new business models, as in the Media, IT and Telecom industry, which had the highest percentage of under-pricing, adopted under-pricing as an investor attraction strategy.

The table 5 depicts the year wise average initial return of overpriced and underpriced IPOs. The mean return of Overpriced IPOs was -23.20 during the study period. The mean return of Under-priced IPOs was 41.35 during the study period. The year 03-04 has recorded the maximum initial return, followed by the year 08-09, in which an average initial return of 59.86 was given by the under-priced IPOs. The mean initial return of the IPOs during the study period was positive (14.34).

Thus under-pricing is found in the sample IPOs throughout the study period. In IPO market, all industries have been leaving money on the table every year for IPO investors. They have been avenues for short term gain for investors every successive year, irrespective of the changing regulations in the capital market segment.

REGRESSION ANALYSIS:

The Issue Price of IPOs and the initial return of IPOs measured as MAAR are regressed with the selected variables to analyse their significance in explaining the Issue price and Underpricing in the Indian IPO market. The result of the OLS regression analysis are reported in this section. This helps in identifying the determinants of IPO Underpricing in India.

OLS Regression of Issue price with IPO pricing parameters
Hypothesis-1
H0: Selected Pricing parameters do not have an impact on IPO Issue Price.
H1: Selected Pricing parameters have an impact on IPO Issue Price
The Regression Model is
ISSUE PRICE = a_0 + b_1 (NAV) + b_2 (P/E) + b_3 (EPS) + b_4 (IPE) + b_5 (RoNW) --------------------- Equation I

The table 6 depicts the OLS Regression of Issue price with pricing parameters for sample IPOs**.** The value of R^2 is a measure of how much of the variability in the dependent variable is accounted for by the independent variables. Therefore the predictors accounts for 53.8 % of the variation in Issue price. The Analysis of Variance (ANOVA) tests whether the model is significantly better at predicting the dependent variable. If $p < 0.05$, F is significant. Here p is $0.000 < 0.5$, therefore the model is significantly better at predicting the dependent variable.

Beta estimates indicate the individual contribution of each independent variable to the model. If the t value associated with b value is significant ($p < 0.05$), then the independent variable is making significant contribution to the model. The smaller the value of sig. (and larger the value of t), the greater is the contribution of that independent variable. Therefore P/E Ratio, IPE, RoNW and NAV are significant predictors of Issue price. NAV is the biggest predictor, followed by RoNW, IPE and P/E Ratio. EPS is not a significant predictor of Issue Price.

The regression equation is
ISSUE PRICE = -70.116 + .593 (NAV) + .106 (P/E) + .053 (EPS) + .209 (IPE) + .275 (RoNW)

The table 7 depicts the OLS Regression of Issue price with pricing parameters for overpriced IPOs. The predictors accounts for 53.2 % of the variation in Issue price. Here p is $0.000 < 0.05$, therefore the model is significantly better at predicting the dependent variable. Beta estimates indicate that P/E Ratio, RoNW and NAV are significant predictors of Issue price. NAV is the biggest predictor, followed by RoNW and P/E Ratio. EPS and IPE are not significant predictors of Issue Price.

The regression equation is
ISSUE PRICE = -60.995 + .545 (NAV) + .314 (P/E) + .000 (EPS) + .116 (IPE) + .391 (RoNW)

The table 8 depicts the OLS Regression of Issue price with pricing parameters for underpriced IPOs. The predictors accounts for 59.7 % of the variation in Issue price. Here p is $0.000 < 0.05$, therefore the model is significantly better at predicting the dependent variable. Beta estimates indicate that IPE, RoNW and NAV are

significant predictors of Issue price. NAV is the biggest predictor, followed by RoNW and IPE Ratio. EPS and P/E ratio are not significant predictors of Issue Price.

The regression equation is

ISSUE PRICE = -92.132 + .653 (NAV) + .077 (P/E) + .044 (EPS) + .208 (IPE) + .246 (RoNW)

The pricing parameters were significant predictors of IPO Issue price.

OLS Regression of MAAR with IPO pricing parameters:
Hypothesis-2

H0: Selected Pricing parameters do not have an impact on MAAR.

H1: Selected Pricing parameters have an impact on MAAR

The Regression model is

MAAR = a_0 + b_1 (NAV) + b_2 (P/E) + b_3 (EPS) + b_4 (IPE) + b_5 (RoNW) ----------------------------- Equation II

The table 9 depicts the OLS Regression of MAAR with pricing parameters for sample IPOs. The predictors accounts for 4.6 % of the variation in Issue price. Here p is 0.069 > 0.05, therefore the model is not significant at predicting the dependent variable. Beta estimates indicate that only IPE is significant predictor of MAAR. EPS, P/E ratio, RoNW and NAV are not significant predictors of MAAR.

The regression equation is MAAR = -1.051 -.035 (NAV) -.027 (P/E) -.048 (EPS) + .190 (IPE) + .103 (RoNW)

The table 10 depicts the OLS Regression of MAAR with pricing parameters for overpriced IPOs. The predictors accounts for 11.8 % of the variation in Issue price. Here p is 0.065 > 0.05, therefore the model is not significant at predicting the dependent variable. Beta estimates indicate that only IPE is significant predictor of MAAR. EPS, P/E ratio, RoNW and NAV are not significant predictors of Issue Price.

The regression equation is MAAR = -31.768 -.129 (NAV) + .115 (P/E) -.004 (EPS) +.269 (IPE) + .005 (RoNW)

The table 11 depicts the OLS Regression of MAAR with pricing parameters for underpriced IPOs. The predictors accounts for 2.1 % of the variation in Issue price. Here p is 0.739 > 0.05, therefore the model is not significant at predicting the dependent variable. Beta estimates indicate that none of the selected variables are significant predictors of MAAR.

The regression equation is MAAR = 40.647 -.074 (NAV) -.090 (P/E) -.053 (EPS) + .089 (IPE) + .017 (RoNW)

There are more of extraneous parameters which affect the MAAR of a stock. This is justifying the fact that Underpricing is an intentional decision of the company to gain retail investor attention.

FINDINGS AND DISCUSSION:

The mean age of the issuing companies was 16.12 years. The mean age of the issuing companies of overpriced IPOs was 14.87 years. The mean age of the issuing companies of underpriced IPOs was 16.98 years. Therefore the Mean age of companies issuing underpriced IPOs is more than the mean age of companies issuing overpriced IPOs. Manufacturing Industry and the Other Industry had the highest number of IPOs during the study period. The financial services and packaging industry had the lowest number of IPO issues. Approximately 58% of the IPOs in the study period were underpriced and left money on the table for the investors. Thus in IPO market, all industries, has been leaving money on the table every year for IPO investors, thus creating short term gain for the investor, every successive year.

The average MAAR during the study period is 26.61 percent. Leaving the year 2003-04, which recorded an abnormal return, the average MAAR is 14.24 percent. Therefore IPOs have given positive returns on an average on the listing day.

For the sample IPOs, P/E Ratio, IPE, RoNW and NAV are significant predictors of Issue price. NAV is the biggest predictor, followed by RoNW, IPE and P/E Ratio. EPS is not a significant predictor of Issue Price. For overpriced IPOs, Beta estimates indicated that P/E Ratio, RoNW and NAV are significant predictors of Issue price. NAV is the biggest predictor, followed by RNOW and P/E Ratio. EPS and IPE are not significant predictors of Issue Price. For under-priced IPOs, Beta estimates indicated that IPE, RoNW and NAV are significant predictors of Issue price. NAV is the biggest predictor, followed by RNOW and IPE Ratio. EPS and P/E ratio are not significant predictors of Issue Price.

The pricing parameters were not found to be the significant predictors for MAAR. For sample IPOs, Beta estimates indicated that only IPE is significant predictor of MAAR. For overpriced IPOs also, Beta estimates indicated that only IPE is significant predictor of MAAR. For underpriced IPOs, Beta estimates indicated that none of the selected variables are significant predictors of MAAR. There are more of extraneous parameters which affect the MAAR of a stock.

The pricing parameters covered in the present study namely IPE, NAV and RoNW were found to be significant

determinants of issue price for underpriced IPOs. IPE and RNOW are positively related to issue price. NAV is negatively related to issue price. The pricing parameter IPE was found to be a significant determinant of MAAR for underpriced IPOs. The Industry PE ratio is one of the most important indicators of the growth potential of an industry. IPE and MAAR are positively related. This could be because, the investors are not sure that a company with a new issue will be able to be in pace with the growth of the industry/sector expressed in terms of high PE ratio. Because of this uncertainty, the investors demand a higher degree of underpricing of IPOs. The pricing parameters covered in the present study namely P/E ratio and EPS are not found to be considered as variables which affects Issue price and MAAR in any of the International/Indian studies.

CONCLUSION:

The IPO pricing and performance is dependent on various factors. The study throws light on the necessity of IPO data transparency and help investors understand IPO pricing in the short run. The results obtained from the study provide important information to investors intending to invest in IPO's for a short term.

The investor should have a clear strategy in mind before investing in an IPO. One option is flipping strategy, basically a short term strategy, where the investor sells the shares on the listing day. The second option is to hold the IPO investment for a longer period. Having a clear IPO strategy often helps investor to focus objectively on the investments.

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Graph 1: IPO Proceeds in India during 1990 to 2016
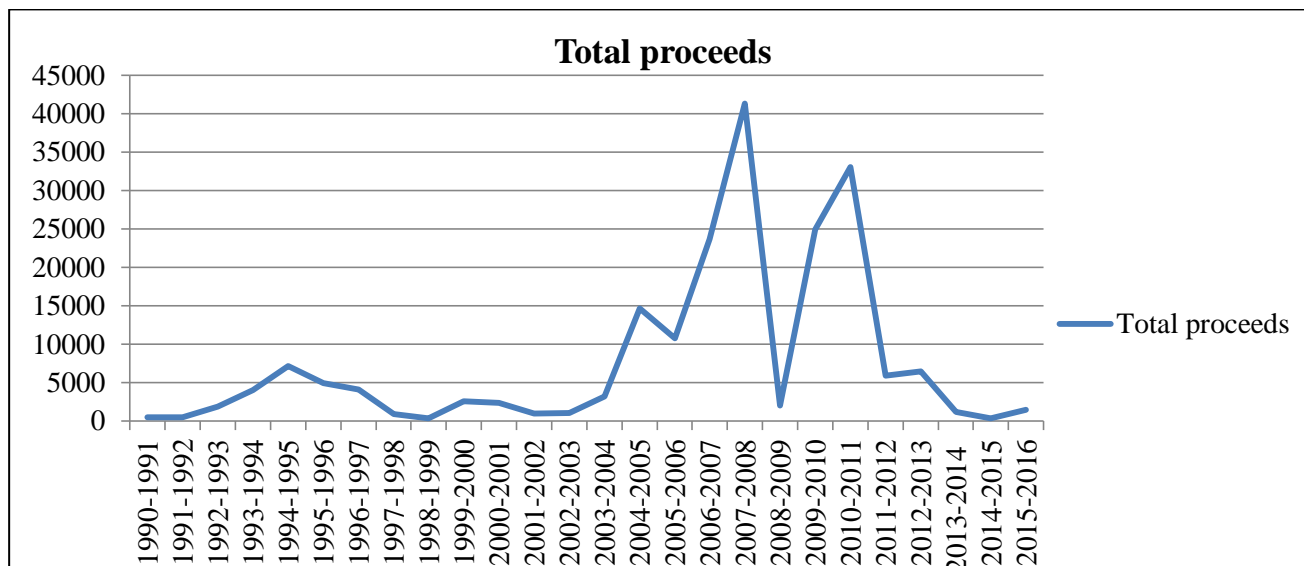
Total proceeds

Source: Table 1

Table 1: IPO Investments in India during 1990 – 2016

Year	No. of IPOs	Total proceeds (Rs.Crore)	Year	No. of IPOs	Total proceeds (Rs.Crore)
1990-1991	102	472.64	2003-2004	19	3191.1
1991-1992	149	526.21	2004-2005	23	14662.32
1992-1993	448	1877.96	2005-2006	76	10797.88
1993-1994	667	4022.91	2006-2007	76	23706.16
1994-1995	1217	7140.83	2007-2008	84	41323.45
1995-1996	1333	4952.25	2008-2009	21	2033.99
1996-1997	660	4082.24	2009-2010	39	24948.31
1997-1998	51	882.9	2010-2011	52	33097.77
1998-1999	18	379.3	2011-2012	34	5892.92
1999-2000	51	2587.16	2012-2013	33	6497.03
2000-2001	109	2374.87	2013-2014	38	1199.451
2001-2002	6	1012.55	2014-2015	46	330
2002-2003	6	1038.68	2015-2016	74	1480

Source: Prime Database

Table 2: Year wise frequency of IPO's in the sample

		Industry				Total
		Manufacturing	Financial Services & Packaging	Media, IT & Telecom	others	
Year	03-04	1	0	0	1	2
	04-05	3	1	2	6	12
	05-06	15	10	6	18	49
	06-07	18	6	8	20	52
	07-08	21	4	7	27	59
	08-09	1	0	3	10	14
	09-10	14	0	7	17	38
	10-11	25	5	0	17	47
	11-12	12	9	4	6	31
	12-13	4	1	1	3	9
Total		**114**	**36**	**38**	**125**	**313**

Source: Prime Database

Table 3: Year wise frequency of overpriced and under-priced IPO's

		Pricing		Total
		Overpriced	Underpriced	
Year	03-04	0	2 (100.00%)	2
	04-05	2	10 (83.33%)	12
	05-06	25	24 (48.97%)	49
	06-07	25	27 (51.92%)	52
	07-08	18	41 (69.49%)	59
	08-09	5	9 (64.28%)	14
	09-10	16	22 (57.89%)	38
	10-11	19	28 (59.57%)	47
	11-12	17	14 (45.16%)	31
	12-13	4	5 (55.55%)	9
Total		**131**	**182 (58.14%)**	**313**

Source: Prime Database

Table 4: Number of under-priced IPOs in each Industry

		Pricing		Total
		Overpriced	Underpriced	
Industry	Manufacturing	52	62 (54.4%)	114
	Financial Services & Packaging	17	19 (52.8%)	36
	Media, IT & Telecom	11	27 (71.1%)	38
	others	51	74 (59.2%)	125
Total		**131**	**182 (58.1%)**	**313**

Source: Prime Database

Table 5: Average overpricing and under-pricing of IPOs year wise

	Average of MAAR (in %)		
Year	Overpriced IPOs	Under-priced IPOs	Grand Total
03-04	Not applicable	123.60	123.60
04-05	-80.80	67.20	42.53
05-06	-31.29	36.14	1.74
06-07	-21.52	48.83	15.01
07-08	-11.18	45.95	28.52
08-09	-22.78	59.86	30.35
09-10	-20.58	20.06	2.95
10-11	-16.22	25.69	8.75
11-12	-34.12	53.47	5.44
12-13	-6.15	17.88	7.20
Grand Total	**-23.20**	**41.35**	**14.34**

Source: Data Analysis

Table 6: OLS Regression of issue price with pricing parameters for sample IPOs

Model	Standardized Coefficients Beta	t	Sig.	R Square	Adjusted R Square	F	Sig.
(Constant)		-3.196	.002	.538			
EPS	.053	1.050	.295				
P/E RATIO	.106	2.188	.030		.528	50.132	.000[b]
IPE	.209	4.401	.000				
RoNW	.275	5.688	.000				
NAV	.593	12.143	.000				

(Test at 5% level of significance)
Source: Data Analysis

Table 7: OLS Regression of issue price with pricing parameters for overpriced IPOs

Model	Standardized Coefficients Beta	t	Sig.	R Square	Adjusted R Square	F	Sig.
(Constant)		-2.004	.048				
EPS	.000	.000	1.000	.532	.503	18.426	.000[b]
P/E RATIO	.314	3.848	.000				
IPE	.116	1.469	.146				
RoNW	.391	4.240	.000				
NAV	.545	6.990	.000				

a. Dependent Variable: Issue Price
b. Predictors: (Constant), NAV, IPE , RoNW, P/E RATIO, EPS
(Test at 5% level of significance)
Source: Data Analysis

Table 8: OLS Regression of issue price with pricing parameters for underpriced IPOs

Model	Standardized Coefficients Beta	t	Sig.	R Square	Adjusted R Square	F	Sig.
(Constant)		-3.054	.003	.597	.581	37.885	.000[b]
EPS	.044	.682	.497				
P/E RATIO	.077	1.308	.193				
IPE	.208	3.622	.000				
RoNW	.246	4.297	.000				
NAV	.653	10.262	.000				

a. Dependent Variable: Issue Price
b. Predictors: (Constant), NAV, IPE , RoNW, P/E RATIO, EPS
(Test at 5% level of significance)
Source: Data Analysis

Table 9: OLS Regression of MAAR with pricing parameters for sample IPOs

Model	Standardized Coefficients Beta	t	Sig.	R Square	Adjusted R Square	F	Sig.
(Constant)		-.131	.896	.046	.024	2.079	.069[b]
EPS	-.048	-.665	.507				
P/E RATIO	-.027	-.385	.701				
IPE	.190	2.774	.006				
RoNW	.103	1.483	.140				
NAV	-.035	-.496	.620				

a. Dependent Variable: MAAR
b. Predictors: (Constant), NAV, IPE , RoNW, P/E RATIO, EPS
(Test at 5% level of significance)
Source: Data Analysis

Table 10: OLS Regression of MAAR with pricing parameters for overpriced IPOs

Model	Standardized Coefficients Beta	t	Sig.	R Square	Adjusted R Square	F	Sig
(Constant)		-4.649	.000	.118	.064	2.178	.065[b]
EPS	-.004	-.035	.972				
P/E RATIO	.115	1.028	.307				
IPE	.269	2.476	0.015				
RoNW	.005	.040	.969				
NAV	-.129	-1.204	.232				

a. Dependent Variable: MAAR   **b. Predictors:** (Constant), NAV, IPE , RoNW , P/E RATIO, EPS
(Test at 5% level of significance)   **Source:** Data Analysis

Table 11: OLS Regression of MAAR with pricing parameters for under-priced IPOs

Model	Standardized Coefficients Beta	t	Sig.	R Square	Adjusted R Square	F	Sig
(Constant)		4.055	.000	.021	-.017	.548	.739[b]
EPS	-.053	-.523	.602				
P/E RATIO	-.090	-.981	.328				
IPE	.089	.997	.321				
RoNW	.017	.194	.847				
NAV	-.074	-.743	.459				

a. Dependent Variable: MAAR
b. Predictors: (Constant), NAV, IPE , RoNW, P/E RATIO, EPS
(Test at 5% level of significance)
Source: Data Analysis