

Pricing Determinants of selected Bookbuilt IPOs issued in India

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Abstract: This study attempts to decode the puzzle surrounding the pricing of equity IPOs issued through bookbuilding pricing method in India in the period from 2000 to 2014. Using a sample of 100 bookbuilt IPO issues in the study period the study reveals the significant value drivers for IPO price by applying multivariate regression analysis to a select set of explanatory variables for IPO value. The study results establish post issue promoter and promoter groups retained ownership levels, Net worth per equity share, industry composite price to earnings ratio, earnings per share and rate of subscription of IPOs by institutional investors as significant pricing determinants of sample bookbuilt IPOs.

Keywords: Pricing determinants, bookbuilding mechanism, IPOs.

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I. Introduction

An Initial Public Offer (IPO) is a process in which a company goes public by offering its equity shares or convertible securities to the public in the primary market. At a certain point in the development of a firm, it decides to raise the funds through an IPO and shifts the ownership from closely held private firm to widely held public firm.

IPOs in India are governed by the SEBI (Security Exchange Board of India) and the company which issues the IPO needs the permission from SEBI for doing so. Under the control of SEBI, issuers can freely price their offerings subject to obligation for the firms to make a sufficient disclosure in the offer documents.

Book Building pricing method was introduced the Indian capital markets in year 1995. Book building method of issuing an IPO is essentially a mechanism which helps in the discovery of both price and demand for a firm's equity. A price band is specified by the issuer firm and bids are accumulated from prospective investors at various prices that lie in the pre-specified price range in the period for which the issue is open. The demand generated in the bidding period decides the final offer price for the IPO issue. Cassia (2004)^[1] examined that the IPO's floated through fixed price mechanism were highly underpriced than those issued with the book building mechanism.

The major challenge being confronted by the IPO firms during their process of going public is the criteria to price their offers. In view of the introduction of Book Building mechanism which provides an opportunity for the issuers to gauge the price and demand for their firm shares during the period when the IPO offer is open, it becomes imperative to analyze the pricing determinants of IPOs issued through bookbuilding mechanism for both the prospective issuers as well as investors.

II. Review Of Literature

Leyland and Pyle (1977)^[2] develop a model of capital structure and financial equilibrium in which firms look for funding for projects whose true quality is only known to the respective entrepreneurs. The model finds that the shares retained by the pre-issue promoter/s serve as key signal for estimating the firm value.

Ritter (1984)^[3] contributes to the literature by supporting the earlier finding that the percentage of retained ownership by the original issuers has a significant and positive relation with the IPO offer price.

Beatty and Ritter (1986)^[4] find support for the post issue promoter retention as a signaling of greater firm quality and therefore a key factor for estimating IPO price.

Allen and Faulhaber (1989)^[5] evidence presence of hot issue markets for IPOs and indicate period and industry specific underpricing and rationing. The study also asserts that the firms knows its prospects more than the potential stakeholders.

Grinblatt and Hwang (1989)^[6] find that the retained ownership by the pre IPO shareholders and the offer price are major signals of intrinsic value of the firm to the prospective investors in the IPO.

Krinsky and Rotenberg (1989)^[7] examined relationships between the market value of equity share offerings with prospective signaling procedures such as the proprietorship holding by the entrepreneur, the quality of the underwriter chosen, issue profits deployed in exploration and development activities, sales revenue and profits from the previous year, total value of assets preceding to the initial offerings. The study found a significant relationship of all the signals with the value of IPO except the historical revenue, profit margins and the ownership retention.

Klein (1996)^[8] investigates the value relevance of signaling and financial information for a sample of 193 non-internet IPOs for the period 1980-1991. She finds that insiders retention and underwriters prestige have positive impact on both offer price and list price.

Barker (1999)^[9], Bradshaw (2002)^[10], observed that the P/E standard was used extensively for evaluating an IPO. On examination of 103 specialist information (in USA), Bradshaw found that the experts made use of P/E method and found it to be an important value driver for equity valuation.

Kim and Ritter (1999)^[11] assert the importance of market Price-earnings multiples in the valuation of firms. Their study documents that the average P/E of the peer group industry of the IPO firm has a significant and positive relation with the IPO price.

Bhagat and Ranjan (2004)^[12] investigate the contribution of financial variables, insider retention, investment banker prestige and growth prospects of the IPO firm in determining IPO value during boom and crash periods. The study reports the relatively more weight age is assigned to Income during periods of boom as compared to crash periods for IPO valuation.

Jaitely & Sharma (2004)^[13] evaluate the importance of book value and market value estimates in determining the issue prices in India as well as the prices on the first day of trading specifically in the period following deregulation of the market for new issues. The results indicate that issue price is more determined by book value factors and the listed price is more determined by market value factors.

Aggarwal *et al* (2009)^[14] observed that mostly IPOs with positive earnings are considered for evaluation and analysis which leads to limited findings. They reveal that IPOs with large negative earnings have been showing higher correlation with higher valuations in the study period in the selected industry category.

Chemmanur and Krishnan (2012)^[15] examine the effect of underwriter quality and reputation on the valuation of IPOs and reveal that IPOs associated with more reputed underwriters have higher valuations relative to those which are associated with less reputed underwriters.

Sahoo and Rajib (2013)^[16] investigate the impact of price-earnings ratio in determining the IPO price. They select the P/E ratio on different parameters viz. industry, revenue characteristics, book value, and return on net worth with a view to assess separately the influence of differently selected P/E ratios on IPO price. Their study reports that solely industry based P/E ratio turns out to be a poor estimator of IPO price.

Pu and Wang (2015)^[17] examine a sample of IPOs issued at the Shanghai Securities Exchange from 2003 to 2007 to study the valuation impact after introduction of the bookbuilding pricing method in China. The study finds that the valuation of bookbuilt IPOs is significantly lower than the fixed price IPOs resulting in greater underpricing phenomena in the former.

Geranio *et al* (2017)^[18] investigate the influence of relationships amongst lead managers, venture capitalists and institutional investors on the pricing of IPO issues. The study finds strong and positive impact of these relationships on the offer price by improving the information production process. Also the study documents the impact of these affiliations on underpricing owing to the conflicts of interest present between them.

III. Objective Of The Study

To evaluate the relation of selected variables in the valuation of Issue price of bookbuilt IPOs issued in India.

IV. Research Methodology

4.1 Period of the study

The period of this study is fifteen years which spans from 2000 to 2014.

4.2 Population of the study and sample size

The population of the study comprises of all the 400 bookbuilt IPOs issued in India in the study period and listed at BSE/NSE. From the population of 400 bookbuilt IPOs, a sample of 100 IPOs was selected for the study on the basis of issue size (first top 100 IPO issues in terms of issue value). In the process of selection of the sample, the IPOs pertaining to firms from banking and financial services sector were excluded.

4.3 Data Sources: The study required secondary data of the IPOs issued and listed at BSE/NSE in the study period. The data pertaining to the IPO issues was obtained from Capitaline database (<http://capitaline.com>). The data was cross checked with the RHP/ Final prospectus available at www.sebi.gov.in and also with www.chittorgarh.com

4.4 Variables used in the study:

Dependent variable

Issue Price (IP)

The study uses both Issue price (IP) as the dependent variable. Earlier work by Bartov et al (2002)^[19] and Sahoo (2012)^[20] also support the issue price as a suitable candidate for constructing valuation models for IPOs.

Independent variables

a) Ownership Retention (OR)

OR is the post issue shares held and retained by the promoters and promoter groups calculated as a percentage of total outstanding shares post issue. Earlier studies by Ritter (1984), Allen and Faulhaber (1989), Grinblatt and Cotter et al (2005)^[21] document the significant relation of the OR with IPO value.

b) Age (Age)

Age is a good proxy for the maturity characteristic of the company. The study measures Age as the number of years the IPO/FPO firm has been incorporated till the IPO date and rounded off to nearest whole number. Ritter (1991)^[22] finds the unidirectional movement of Age and IPO value.

c) Earnings per share (EPS)

The study estimates EPS as weighted average value of earnings per share for the three financial years preceding the date of IPO issue. The weights assigned to the EPS of the 3 years are as under:

IPO year-1 = 3; IPO year -2 = 2; IPO year -3 = 1

Krinsky and Rotenberg (1989) and Bartov et al (2002) have found significant relation of EPS with IPO value.

d) Industry composite price to earnings ratio (INDPE)

The INDPE ratio is a reasonable measure of valuation of an industry in which the firm lies. It describes the state of a particular segment of industry. The study therefore considers it as an important value relevant variable for valuing a firm at the time of a public equity issue. Kim and Ritter (1999) and Cotter et al (2005) report significant relation of the average price/earnings ratio of peer industry in pricing of IPO equity. INDPE in the study is calculated as a proportion of aggregate market capitalization of all companies in an industry to the sum of net profits of all the companies in that industry (after adjusting for preference dividend and dividend tax). The INDPE is obtained from capitaline database and matched with the prospectus filed with registrar of companies. In case of companies where the INDPE is not available it has been substituted by average of industry high and low P/E ratio.

e) Net worth per equity share (NWPES)

The net worth is the net total assets available to the shareholders and is a useful surrogate for the replacement cost of a company's assets. The study measures net worth per equity share as the net worth divided by the post issue outstanding shares as reported in prospectus of the company. Ghicas et al (2000)^[23] and Davis & Gordon (2005)^[24] find a positive relation of book value with IPO value.

f) Sales revenue (Sales)

Sales revenues of an entity describe the status of cash flows and therefore financial health of an enterprise and its sustainability. Krinsky and Rotenberg (1989), Bartov et al (2002) and Aggarwal et al (2009) have all reported Sales as an influential variable for determining IPO value. The study therefore has taken the sales revenue of the immediate previous financial year from IPO date as an explanatory variable.

g) Debt / Equity ratio (D/E)

D/E ratio indicates the financial strength of a firm. Commonly higher leverage is perceived as a signal of risk. However quality companies utilize higher debt to increase earnings and subsequently firm value. Ritter (1984) and Loughran & Ritter (1995)^[25] document lower IPO value with higher levels of D/E. The arguments make D/E equity a good variable for estimating IPO value.

h) IPO frequency (IPOFREQ)

Lesser adverse selection costs are faced by investors for equity issues that come during periods of higher IPOFREQ as reported by Allen and Faulhaber (1989) and Grinblatt & Hwang (1989) thereby suggesting that such issues are valued with an upward bias. Aggarwal et al (2009) argues that during hot markets, when there is higher IPOFREQ, the expected premium of the investors for risk is lowered resulting into higher IPO valuation. The study in an attempt to examine value relevance of IPOFREQ includes the same in the study amongst independent variables.

IPOFREQ in the study is calculated as number of public equity issues in the quarter just before the IPO issue date as suggested by Sahoo (2012)

i) Institutional subscription level (ISUBLEVEL) and Retail subscription level (RSUBLEVEL)

Demand generated by the investors is a critical premise for the IPO issues and analysts often count on level of subscription to arrive at the IPO value. Rock (1986)^[26] and Cheng et al (2005)^[27] find a significant relation between aftermarket performance of IPO and the subscription levels.

The study recognizing the crucial role includes rate of subscription as an independent variable. However in order to examine the extent of role of two differing subscription levels namely that of institutional investors and retails investors, the study splits the overall subscription levels into two components. ISUBLEVEL AND RSUBLEVEL are two different independent variables considered in the study to estimate IPO value. The data for the same are obtained from capitaline database.

4.5 Tools used for analysis:

A) Statistical tools: The statistical used in the study include Mean, median standard deviation, skewness, Kurtosis, correlation and multivariate regression analysis.

B) Financial tools:

For valuation of IPOs the below stated econometric model is used in the study:

$$\log(IP) = \alpha + \beta_1\log(OR) + \beta_2\log(Age) + \beta_3\log(EPS) + \beta_4\log(IND_PE) + \beta_5\log(NWPES) + \beta_6\log(Sales) + \beta_7\log(D/E) + \beta_8\log(IPOFREQ) + \beta_9\log(ISUBLEVEL) + \beta_{10}\log(RSUBLEVEL) + \epsilon_i$$

V. Analysis And Discussion

5.1 Descriptive Statistics of variables in the study

Table 1 below is prepared to report the descriptive statistics of the dependent and independent variables used in the study and to evaluate the symmetrical/asymmetrical nature of the selected variables.

The IP of the bookbuilt IPOs sample is found to have a mean value of 206.96 and a median value of 156. The skewness and kurtosis value obtained for IP are 1.89 and 4.60 respectively. The results indicate relatively symmetric distribution of IP. This supports the selection of IP as dependent variable in the study and is consistent with Beatty et al (2000) and Bartov et al (2002).

LP is found to have a mean value of 242.18 and a median value 181.45. The skewness and kurtosis values obtained for LP are 1.57 and 2.90 respectively. The results suggest LP having relatively symmetric distribution. This supports the selection of LP as a dependent variable and is consistent with Beatty et al (2000), Bartov et al (2002).

OR in the book built IPOs sample displays mean value of 60.32 percent. It is found to have maximum and minimum values of 89.93 and 11.15 percent respectively. The large scale variation in OR values for sample IPOs indicates asymmetry in its distribution.

Mean Age of book built IPOs is witnessed as 15.76 years. The maximum and minimum values for the age are found to be 92 and 1 year respectively. It also shows positive value of skewness (3.10) and kurtosis (13.71) suggesting asymmetry in its distribution.

Particulars	Mean	Median	Std. Dev.	Max. Value	Min. Value	Skewness	Kurtosis
IP	206.96	156.00	179.61	1050.00	20.00	1.89	4.60
OR	60.32	60.10	14.69	89.93	11.15	-.32	.47
Age	15.76	12.00	12.65	92.00	1.00	3.10	13.71
NWPES	36.09	21.21	49.38	390.39	.01	4.44	26.82
INDPE	24.11	21.57	14.42	97.39	5.20	2.47	9.09
EPS	12.18	8.49	15.95	108.26	.29	3.84	18.34
D/E	5.88	2.36	19.81	198.00	.00	9.15	88.91
Sales	621.54	143.55	2030.69	18851.90	.16	7.63	65.70
IPOFREQ	14.10	13.00	8.40	41.00	1.00	.63	.29
ISUBLEVEL	15.52	4.42	25.48	143.61	.01	2.54	7.36
RSUBLEVEL	9.81	3.80	17.71	115.1	.003	3.82	16.95

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NWPES has a mean value of 36.09 and a median value of 21.21. It exhibits a wide range (max. value = 390.39, min. value = 0.01). It further exhibits high positive skewness and kurtosis values (4.44 & 26.82 respectively) indicating lack in symmetrical distribution for this variable.

The INDPE ratio is found to have mean value of 24.11 and a median value of 21.57 with a standard deviation of 14.42. It exhibits a maximum value of 97.30 and a minimum value of 5.20 with positive skewness and kurtosis values (2.47 & 9.09 respectively) indicating an asymmetric distribution.

EPS also exhibits wide range (max. value = 108.26, min. value = 0.29) accompanied with higher values for skewness and kurtosis (3.84 & 18.34) indicating asymmetry in its distribution.

A mean value of 5.88 and a median value of 2.36 are found for D/E ratio in the study. It further witnesses relatively higher standard deviation value (19.81) accompanied with high values for skewness and kurtosis (9.15 and 88.91 respectively) suggesting an asymmetric distribution.

Sales revenue in the sample IPOs is found to have high values for skewness and kurtosis (7.63 & 65.70 respectively) thereby suggesting an asymmetric distribution.

IPOFREQ is found to have almost overlapping of mean and median values (14 & 13 respectively) in the sample of bookbuilt IPOs accompanied with a standard deviation of 8.30 suggesting a symmetric distribution in the sample IPOs.

The mean and median values for ISUBLEVEL are revealed as 15.52 and 4.42 respectively with a standard deviation of 25.48. The variable exhibits a high range (max. value = 143.61, min. value = 0.01) thereby indicating a lack of symmetry in its distribution in the sample IPOs.

RSUBLEVEL is found to have a mean value of 9.81 accompanied with a standard deviation of 17.71. It has a wide variation (max. value = 115.1 & min. value = .003) indicating absence of symmetry in its distribution.

The overall results of the descriptive statistics of the study variables indicates towards the need for normalization of data and therefore the study uses log value transformations of all the variables in the econometric model.

5.2 Analysis of correlations amongst the variables

The bivariate correlation matrix of the variables in the study can be helpful in providing strong indications of relationships that exist in between them. Table 2 hereunder provides an analysis of the correlations between dependent and independent variables in the sample of book built IPOs in the study.

OR is found to have significant positive correlation with both IP ($r = 0.180$, $p < 0.10$) in the sample which is consistent with Leland and Pyle (1977) and, Ritter (1984) suggesting higher ownership retention in the post IPO period is related with higher IPO value.

Age and Issue Price are found to have insignificant positive correlation in the sample IPOs ($r = .060$, $p > 0.05$). The age of the firm is a proxy for risk. The results though insignificant are consistent in direction with Ritter (1991).

The sample illustrates a positive correlation of NWPES with IP ($r = .442$, $p < 0.05$). Sahoo & Rajib (2012)^[28] witness a positive correlation between Book value per equity share and the Issue Price. Therefore the results are consistent with the existing literature.

The sample documents significant positive correlation of IP with INDPE ($r = .266$, $p < 0.05$). Industry composite P/E ratio suggests the state of that industry and is a measure of future growth potential of the company. Results are consistent with Kim and Ritter (1999) and Cotter et al (2005).

Commensurate with the existing literature, Krinsky and Rotenberg (1989), Bartov et al (2002) and Aggarwal et al (2009), the profitability measure EPS shows positive Correlation with IP ($r = .611$, $p < 0.05$).

D/E ratio of the sample firms is found to have insignificant negative correlation with IP ($r = -.028$, $p > 0.05$). Though insignificant the direction of correlation is commensurate with Ritter (1984).

Sales revenues document a significant positive correlation with IP ($r = .363$, $p < 0.05$) in the sample. Sales are a good surrogate for the cash flows occurring to a firm. The positive correlation coefficient therefore is in the normally expected direction.

IPOFREQ is found to have positive insignificant correlation coefficient with IP ($r = .027$, $p > 0.05$). The direction of relation is commensurate with Grinblatt and Hwang (1989) and Agarwal et al (2009) though it is insignificant statistically.

ISUBLEVEL reveals significant positive correlation with IP ($r = .370$, $p < 0.05$) whereas RSUBLEVEL reveals an insignificant negative correlation with IP ($r = -0.25$; $p > 0.05$). Subscription levels are a critical aspect for the success of an IPO. Cheng et al (2005) and Ljungqvist et al (2006)^[29] find a significant relation of IPO value with the subscription levels.

Table 2: Bivariate Correlation Matrix

	IP	OR	Age	NWPES	INDPE	EPS	D/E	Sales	IPOFRE Q	ISUBLE VEL	RSUBL EVEL
IP	1.00										
OR	.180*** (.069)	1.00									
Age	.060 (.549)	-.025 (.803)	1.00								
NWPES	.442* (.000)	.053 (.593)	.103 (.301)	1.00							
INDPE	.266* (.007)	.369* (.000)	.083 (.403)	.105 (.292)	1.00						
EPS	.611* (.000)	.010 (.919)	.005 (.963)	.535* (.000)	-.003 (.972)	1.00					
D/E	-.028 (.779)	.011 (.912)	.130 (.186)	.109 (.271)	.074 (.460)	-.105 (.289)	1.00				
Sales	.363* (.000)	.179** * (.070)	.245** (.013)	.464* (.000)	.130 (.191)	.301* (.002)	.095 (.339)	1.00			
IPOFRE Q	.027 (.786)	-.024 (.812)	.041 (.679)	-.194** (.050)	-.020 (.845)	.025 (.801)	.085 (.393)	-.257* (.009)	1.00		
ISUBLE VEL	.370* (.000)	.122 (.347)	.101 (.565)	.243** (.038)	.228* * (.045)	.342* (.000)	-.100 (.817)	.220** (.017)	.110 (.922)	1.00	
RSUBL EVEL	-.025 (.293)	.087 (.422)	.132 (.541)	.222** (.024)	.203* * (.032)	.289* (.000)	.113 (.306)	.274* (.009)	.046 (.109)	.512 (.381)	1.00

5.3 Analysis of multivariate regression results of the selected variables with Issue price

The OLS regression model of independent variables (OR, Age, EPS, INDPE, NWPES, Sales, D/E, IPOFRE, ISUBLEVEL and RSUBLEVEL) with IP of book built IPOs reveals an adjusted R-square value of 0.642 (Table 3). This implies that the independent variables in the model are able to explain 64.2% variations in the IP of book built IPOs. The model exhibits reasonably good explanatory power to estimate IP.

The positive and significant relation of independent variables OR, EPS, INDPE, NWPES, Sales and ISUBLEVEL with IP in the regression model is in the normally expected direction contributing to the past studies by Allen and Faulhaber (1989), Krinsky and Rotenberg (1989), Klein (1996)^[30], Stoughton and Zechner (1998)^[31], Kim and Ritter (1999), Ghicas et al (2000), Cotter et al (2005) and Aggarwal et al (2009).

OR shows significant positive relation with IP (Standardized regression coefficient $\beta = .160$, $t = 2.238$, $p < 0.05$). Higher OR indicates pre-issue owners' conviction of their firm quality, Beatty and Ritter (1986) and therefore pre-issue owners' decision to remain invested in the firm. In other words the pre-issue owners have knowledge of the firm's positive future prospects which they exhibit through higher shareholding post IPO issue. The bankers to the issue recognize this quality signal and incorporate in terms of setting higher IP. The results are also consistent with Leyland and Pyle (1977) and Ritter (1984). It can be therefore inferred from the study that book built IPO issues which exhibit higher post issue ownership retention by pre issue owners tend to have higher IP.

NWPES exhibits a positive and significant relation with IP (standardized regression coefficient $\beta = 0.218$, $t = 2.367$, $p < 0.05$). Prior empirical studies by Ghicas et al (2000), Bartov et al (2002) and Cotter et al (2005) have found significant positive relationship between the net total assets available to the shareholders and the value of the IPO. The study results are therefore consistent with the existing literature. Net worth per equity share offers a fundamental justification of the IPO price and is therefore a value relevant variable as revealed in the study.

A positive and significant relation is revealed between INDPE and IP (standardized $\beta = .327$, $t = 2.786$, $p < 0.05$). In the existing studies of Cotter et al (2005), Kim and Ritter (1999) have reported positive significant relation of peer group price/earnings ratio with the pricing of the IPO. The study results are consistent with the existing literature.

EPS exhibits strong positive significant relation with IP (standardized regression coefficient $\beta = 0.450$, $t = 3.852$, $p < 0.05$) consistent with Ghicas et al (2000). In fact the study reveals that in case of bookbuilt IPOs, EPS emerges to be the most superior variable for estimation of IP. It can be inferred that firms which have shown higher earnings per share in the recent past are able to generate higher IPO value for their issues. This

seems logical as well as EPS is perceived to be a parameter for the performance efficiency measure of a firm. Any increase in performance efficiency suggests more future value for the firm.

ISUBLEVEL exhibits a standardized regression coefficient of 0.189 which is positively significant (at 0.01 level) . This is an interesting finding in the study as the existing literature is confined to reporting of overall subscription levels being significantly related to IPO value, Rock (1986) and Cheng et al (2005). However in the study the two subcomponents of the subscription levels namely institutional subscription levels and retail subscription levels when

regressed separately with IP give us new revelations that it is the ISUBLEVEL which is having significant value relevance for IPO valuation. Retail subscription level RSUBLEVEL on the other hand becomes insignificant in the pooled data thereby indicating that institutional investors who are better informed are instrumental in providing value relevant information to the issuers leading to higher IP by the issuers. A lower ISUBLEVEL would mean a low value assigned to the issue by Institutional investors and therefore lower IP. The lower value of correlation coefficient (.51) observed between ISUBLEVEL and RSUBLEVEL if viewed in the light of their respective regression coefficients also reveals existence of adverse selection bias for retail investors.

Age exhibits insignificant negative regression coefficient (Standardized $\beta = -.007$) with IP. The results are inconsistent with the existing study by Ritter (1991). Older firms have a longer history of operations and therefore can deliver greater information at the time of issue thereby reducing the information asymmetry. Matured firms can

Table 3: OLS Regression results for IP of Book Built IPOs

Independent Variables	Unstandardized Coefficients		Standardized Coefficients	t	Significance	Collinearity Statistics	
	B	Std. Error	β			Tolerance	VIF
(constant - α)	1.614	.938		.646	.723		
OR	.150	.234	.160	2.238	.043**	.816	1.226
Age	-.009	.098	-.007	-.092	.927	.902	1.108
NWPES	.074	.069	.218	2.367	.028**	.541	1.847
INDPE	.370	.133	.327	2.786	.006*	.836	1.196
EPS	.339	.088	.450	3.852	.000*	.405	2.469
D/E	-.007	.022	-.025	-.320	.749	.910	1.099
Sales	.072	.043	.109	1.685	.095	.671	1.491
IPOFREQ	.070	.079	.071	.886	.378	.856	1.168
ISUBLEVEL	.169	.095	.189	2.278	.034**	.893	1.114
RSUBLEVEL	.074	.052	.078	.910	.361	.783	1.201
Model Summary: R ² = 0.681 Adjusted R ² = 0.642 F-Statistic = 9.730							
*Significant at 0.01 level ; **Significant at 0.05 level ; *** Significant at 0.10 level							

as a result also demand higher prices for their issues owing to lesser aftermarket risk associated with them. However the result appears to be contrary indicating that lesser value is assigned to the matured companies in sample IPOs. D/E ratio confirming to existing literature Ritter (1984) is found to have negative regression coefficient value (-0.025) indicating D/E to be having an inverse relationship with IP though the study result is statistically insignificant. The study finds IPOFREQ as having positive relation with the IP with standardized regression coefficient value of 0.071 which is consistent with Allen and Faulhaber (1989). The relation is however revealed to be insignificant suggesting relatively lesser value relevance of overall market activity in terms of IPO launches in determining IP. This finding is interesting as it suggests deliberate downward bias in pricing the IPO is followed by issuers despite of the presence of an opportunity to price the issues higher. Sales show a positive insignificant relation with IP (standardized regression coefficient $\beta = 0.109$, $p > 0.05$). The relation is in the normally expected direction as sales are an excellent surrogate for cash flows of a firm, Krinsky and Rotenberg (1989) and Bartov et al (2002). However the study finds the relation to be insignificant implying that the investors attach lesser value relevance to the sales revenues.

RSUBLEVEL reveals positive but insignificant standardized regression coefficient ($\beta=.078$) with IP suggesting its relative lesser value relevance in pricing of IPOs. The book building mechanism has a fundamental advantage that it reveals the demand for the firm shares before the setting of issue price. This finding of insignificant standardized regression coefficient of RSUBLEVEL coupled with low correlation with ISUBLEVEL compels to infer that issuers of IPOs in case of book built issues assign more value relevance to institutional demand for shares which has important implications for the prospective issuers as well as investors.

The multiple regression analysis of independent predictor variables with dependent variable IP therefore reveals that EPS, INDPE, NWPES, ISUBLEVEL and OR show superior estimating power for predicting IP in same descending order.

VI. Findings And Conclusions

6.1 Findings

1. The econometric model used in the study for estimation of Issue price of bookbuilt IPOs exhibits reasonable good estimation power of 64.2 percent and the results are found to be statistically significant ($p < 0.05$). The explanatory variables in order of their decreasing strength in estimation of issue price can be enumerated as EPS, INDPE, NWPES, ISUBLEVEL and OR.

2. Post IPO issue, promoter and promoter group shareholding in the firm is found to be positively and significantly related to the IPO price. The results are consistent with Suchard & Singh (2007)^[32]. This entails that firms can signal positive quality by deciding to retain higher percentage of equity in the post issue period thereby enhancing the price/value of their public offer. It therefore can be suggested that perhaps the IPO firms may part with smaller stakes in an IPO offer and encash increased value for the firm in a subsequent follow on public offer.

3. Net worth represents the funds available to the shareholders of the firm. The study reveals a significant positive relation of the issue price with the net worth per equity share consistent with Aggarwal et al (2006)^[33] and Barniv & Myring (2006)^[34] thereby implying that the firm's capability to enhance growth of existing shareholders' funds is seen as a signal of its future growth potential as well and the prospective investors are willing to attach higher value to it. The past performance of the firm in terms of its effectiveness to increase shareholder funds value can be effectively used by the IPO issuing firm to issue its equity at a higher price and consequently reducing its cost of capital.

4. Industry composite price to earnings ratio is found to have significantly positive relation with the issue price of IPOs consistent with Barker (1999) and Bradshaw (2002). It therefore can be inferred that the industry status in which the IPO firm lies emerges to be a crucial value driver for pricing IPOs. In other words it can be reasonably stated that the firms which pertain to an industry sector exhibiting high growth potential may leverage the positive industry impact to enhance its IPO price.

5. Earnings per share is a surrogate for the performance efficiency and effectiveness of the firm subsequently leading to wealth creation. The study finds a significant positive association of issue price of an IPO with earnings per share measured on a weighted basis for the three years preceding the IPO issue. The results are consistent with Bartov et al (2002) and Aggarwal et al (2009). It can be therefore be inferred that IPO issuing firms need to focus on their earnings for enhancing the value of their equity. Alternatively it also implies that the firms having inferior EPS shall not be able to offer IPOs at a higher price in order to ensure the success of their IPO issue. A higher priced IPO issue for such firms may experience undersubscription and eventually fail in the primary market.

6. Subscription rate of institutional investors is found to have significant positive relation with IPO price. The results are consistent with Jain and Singh (2012)^[35]. This has significant implications for the prospective issuers and the investors alike. The higher demand interest shown by institutional investors can be used as an incentive by the issuers to price the IPO higher and vice versa. The prospective investors can look up for institutional subscription levels to identify the quality IPO issues as the institutional investors have better access to information as well as more expertise to identify quality IPO issues.

7. Interestingly Age reveals itself to be having insignificant negative relation with IPO price. The direction of the relation is a contrast to Ritter (1991). However its direction is consistent with Sahoo (2012). It therefore can be concluded that matured firms may not necessarily fetch higher price for their IPO issue as the relation of this variable with issue price turns out to be insignificant.

8. Leverage of the IPO firm in the pre IPO period exhibits insignificant negative relation with the issue price of the IPOs. The direction of the relation is in agreement with Loughran and Ritter (1995), however the relation is insignificant. The debt to equity ratio in the post IPO shall fall below the pre-IPO levels thereby lowering the leverage level of the firm. It therefore can be inferred that the issuers as well as banker/s to the issue perhaps assign greater value relevance to the post IPO issue leverage levels which explains the insignificant relation of pre-IPO D/E ration revealed with the issue price.

9. Sales have shown positive relation with the issue price which is in the normally expected direction Aggarwal et al (2009), however the relationship is insignificant suggesting that investors consider Sales as lesser value relevant and rather rely more on the earnings as it is the earnings which subsequently create wealth for the shareholders. This has important ramifications for the prospective IPO issuers suggesting greater focus and highlighting of the firm's earnings instead of its sales revenues for commanding a higher price for their IPO issue.

10. The hotness or coldness of the market measured in terms of frequency of IPOs coming to the market in the three months preceding the IPO issue exhibits an insignificant positive relation with the issue price. The direction of the results are consistent with Grinblatt and Hwang (1989), however they are insignificant which perhaps is owing to the efficacy of the data.

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