

# The Relationship between IPO Underpricing Phenomenon & the Underwriter's Reputation

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*The primary focus is on studying the under pricing phenomenon in Indian IPO markets. The paper examines the link between the reputation of underwriters to an IPO issue & the level of under pricing of that issue. The underwriters of high reputation have a pricing behavior which is distinct from underwriters in other markets. The investment banks are compared on the basis of the number of issues managed; deal value, syndicate size etc & the top banks were found to under price less as compared to their lower ranked counterparts. The post listing returns are directly related to the number of times the IPO issue is oversubscribed. The study is based on Indian IPO offerings.*

*Key words: IPO, Post Issue Promoter Holding(PIPH), Offer size, Syndicate size, Underpricing, Underwriters, List price, Issue price, Lead managers, Price band, Age of firm, Investment Bank Prestige, Oversubscription.*

JEL classification: N25, G24, C30

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## Introduction

Investment banks, post the Wall Street mayhem of 2007 face a big question mark on their credibility. In this scenario, how can the investor gauge the reliability of any new IPO coming out in the market? The economic world order is shifting east with China & India being the fastest growing economies currently. With the devaluation of Yuan & the expected Housing bubble that is being stoked in China, the whole world has started seeing India in a new light. This paper is aimed at explaining & evaluating in detail, the way in which the Indian Investment banks handle the various IPOs coming out in the market. This paper can serve as a pointer for the various investment banks across the reeling economies in the world, in understanding the Indian IPO market from the viewpoint of functioning as syndicates in the future. This model can be applied to investment banks across the globe in order to judge them based on various credible factors.

Worldwide, underpricing is one of the most observed anomalies in the new issue market. In nearly every country, IPO issues experience some sort of underpricing. This paper stretches across the realm of IPO's & Investment banks & tries to explore the relationship between the underpricing of an issue & the syndicate size, offer size, age of issuing firm & post-issue promoter holding. Issue price reflects more rationality in valuation when IPO's are managed by high ranked banks. The findings of this study can be used by companies on deciding the investment banks.

Past research by Beatty & Ritter (1986) projects that underpricing is less for IPOs managed by high ranking investment banks. The findings of the study document that underpricing is rampant in Indian IPO market in order to gain a good response from the market. Banks have been classified in separate groups & the collective sum of prestige points of all syndicate members show that the top two investment banks overshadow the involvement of other banks in the syndicate. The findings of this study are consistent with that documented by Loughran & Ritter (2004) that small firms underprice

more. It also documents the relationship between the issuing firm & Investment banks w.r.t post issue promoter holding (PIPH), age of firm & offer size.

The academic community is continuously exploring various facets of the pricing mechanism to find suitable explanations for the underpricing. Rock's(1986) winner curse model, information revelation theory by Benveniste & Spindt (1989), price stabilisation theory by Rudd (1993) and the ownership model by Brennan & Franks (1995) have tried to give reasons for the underpricing phenomenon. Rock (1986) developed the 'winners curse' model based on the information asymmetry between informed and uninformed investors. To entice uninformed investors, companies underprice new issues so that after market price exceeds the offer price.

Multiple Regression Method has been used to find out the effect of Offer Size (OS), age of firm (Ag), Post Issue Promoter holding (PIPH), Issue Price (IP) & syndicate size (SS) on the prestige of the investment bank. The findings suggest that the underwriters of high reputation have a pricing behavior which is distinct from underwriters in other markets.

In this paper the main emphasis is on the study of underwriter's prestige & its impact on IPO underpricing & whether syndicate size & structure influence underwriter prestige or not. This study explores cross sectional comparability of underwriter prestige with other specific attributes like offer size, Post Issue Promoter Holding (PIPH) and the age of the firm.

The remainder of the paper is organized as follows: the second section focuses on past studies on investment bank prestige and IPO underpricing including issue specific variables having a bearing on investment bank prestige. The third section provides a background on the Indian investment banking industry. Data Source, data definition, sample selection procedure and analytical methodology are discussed in the fourth section. We document the empirical results and then

analyse & interpret them in the following sections wrapping up with the conclusion.

### **Literature Review**

In this paper we have tried to establish the relationship between the reputation of an underwriter or an Investment bank & the IPO underpricing that is prevalent in many economies across the globe including India. In India, the fixed price mechanism was used to price IPOs till 1999. During this period IPOs were underpriced substantially.

Our studies confirm the findings of Loughran and Ritter (2004) who found that investment banks have begun to underprice IPOs strategically in an effort to enrich themselves or their investment clients. Top banks have lowered their criteria for selecting IPO's to underwrite resulting in a higher average risk profile of their IPO's.

The effect of the abolition of the Controller Of Capital Issues (CCI) in 1992 and the opening up of new sectors to private investment as part of the liberalisation programme has been taken into account & it has led to significant growth in the IPO market.

Logue (1973) documented significant differences in the mean initial rate of return between the issues supported by prestigious & non-prestigious banks. Logue examined 250 IPOs in the period 1965-69 & he used investment bank as a dummy variable along with 10 other independent variables in the multiple regression models and his findings parallel our conclusion that I-Bank prestige was significant in defining underpricing. He explained that the association with prestigious underwriters sends signals to the market about the magnitude of risk in the issue. Neuberger & Hammond (1974) studied a sample of 816 IPO's during the period of 1965-69 and they documented a significant difference in the magnitude of underpricing across different categories of Investment banks. This finding was a logical extension of McDonald and Fisher (1972) who concluded that the first week initial return differs statistically across investment banks.

More precisely they documented that underprice was more pronounced for less prestigious, substandard underwriters.

The Beatty & Ritter (1986), studies are also consistent with Logue's signalling hypothesis. Black & Stanley (1980) used a prestige test similar to Logue's and concluded that high profile investment banks are able to narrow down the spread between issue price & initial list price. Neuberger & La Chapelle (1983) posit a strong correlation between I-Bank prestige & underpricing. Their findings support the hypothesis that there is a significant difference in new issue underprice among the three underwriter groups examined.

Johnson & Miller (1998) argue that the lower underpricing is the result of a clientele effect in which the lower risk issues are associated with the most prestigious issuers. They tested the clientele effect model on the basis of three hypothesis: (i) Underprice should be less for prestigious issues. (ii) Prestigious investment banks tend to be part of own risk IPOs than non-prestigious ones, (iii) Investment bank prestige should not explain risk adjusted underprice. They observe that the theory is consistent with the fundamental investment principle of risk return trade off, but when the risk factor is taken into consideration then the association disappears.

Bae & Levy (1994) go one step further & say that prestigious investment banks undertake issues with low underwriting fees per share, provided the issues are associated with low risk & larger offer size. They document that even the non prestigious banks don't assume the risk of an unsuccessful issue. They would rather transfer the risk to the issuer by underpricing the new issue substantially more than prestigious banks would.

Loughran & Ritter (2004) find investment banks have begun to underprice IPOs strategically in an effort to enrich themselves or their investment clients. Top banks have lowered their criteria for selecting IPOs to underwrite resulting in a higher average risk for the IPOs.

The data for this study was collected from Prime Database annual reports from 2001-2005 and the capital market database Capitalline.com.

Data was also collected from the National Stock Exchange (NSE, Mumbai) and SEBI websites (sebi.gov.in) and was cross referenced with the CMIE Prowess database.

### **Why IPO Underpricing**

An initial public offering (IPO) issue process requires the active involvement of three key players: the issuing firm, a single investment bank or group of investment banks (for underwriting & marketing the IPO), and the investors (institutional & non-institutional) intending to buy shares. The issuing firm wants to obtain the maximum price per share (issue price) while the investors want to buy the shares at a minimum price. Investment banks acting as intermediaries help in matching the opposite expectation of both the parties. Investment banks also perform various other functions like certifying the economic rationale of the issue to regulatory bodies like the Securities & Exchange Board of India (SEBI), deciding the issue price, allocating shares to investors and other issue specific responsibilities.

As intermediaries between the issuing firms and the investors, investment banks need to act in balance, so that the objectives of both parties are fulfilled in making the IPO a success. Hence the right selection of investment banks is a challenge for the company. Past research is unanimous that underpricing is led for IPOs managed by high ranking investment banks. In other words, issue price reflects the fundamentals of the company in a more rational manner if a prestigious investment bank is associated with the IPO issue.

Underpricing is the difference between the price at which the firm's stock was initially offered and the stock's closing price on the first day of trading.

Worldwide underpricing is one of the most observed anomalies in the new issue market. In nearly every country, IPO issues experience some sort of underpricing. The model by Loughran & Ritter has given the reasons to this:

- Companies deliberately underprice IPO issues so that in future they can raise capital at better terms.
- It helps in achieving a dispersed share ownership structure so as to provide for a liquid secondary market.
- The abolition of the Controller of Capital Issues (CCI) led to opening of new sectors to private investment as part of the liberalisation programme leading to significant growth in IPO market & with it accompanied underpricing.

### **Past Studies On Ipo Underpricing**

The relationship between investment bank prestige and IPO underpricing came into focus in the early part of the 1970. The IPO's backed by prestigious underwriters reflect more rationality in valuation by leaving less on the table than their counterparts. High ranking and reputed investment banks generally endorse quality issues, with strong fundamentals and a promising business story.

Kumar & Pandey (2003) studied 1243 IPOs in the Indian market during 1993-95. Ghosh (2004) studied the boom & slump phases of the Indian IPO market during 1994-2004. Black & Stanley (1980) used a test similar to Logue (1973) to conclude that high profile investment banks are able to narrow down the spread between the issue price & the initial list. Johnson & Miller (1998) posit a strong correlation between investment bank prestige & underpricing after classifying the investment banks into three different categories based on the proxy for the prestige assessment. Johnson & Miller (1998) argue that the lower underprice is the result of a clientele effect in which lower risk issues are associated with the most prestigious banks. Tinic (1988)

finds that risk is not an important issue in explaining IPO underprice once the underwriter's prestige is taken into consideration. Bowers & Miller (1990) found that when either the bidder or the target firm employs a prestigious tier one investment bank, the total wealth gained from the transaction is greater than when neither party takes the help of a prestigious bank.

Slovin et al (1990) posit that investment banks are used as external monitoring agencies and have a significant impact on the investor's perception about new issues.

Davis & Kirulak (2005) studied the Japanese IPO market and found that when there is a high demand there is a positive and significant relationship between underwriter reputation and the level of underpricing. Corwin & Schultz (2005) found that a large syndicate particularly more co-managers leads to an increased analysts coverage resulting in less underpricing and more accurate offer prices. Barzel et al (2006) found that syndicates are an institutional arrangement designed to avoid wealth transfer from the issuing company to the investors.

In contrast to other studies, Loughran and Ritter found that investment banks have begun to underprice IPOs strategically in an effort to enrich themselves or their investment clients. Top banks have lowered their criteria for selecting IPO's to underwrite resulting in a higher average risk profile of their IPO's.

### **Variables In Ipo Underpricing**

Investment banks consider the firm as well as issue specific signalling variables such as age of the firm going to public, offer size, post issue promoter holdings, syndicate size and issue price. They also consider the reputation of the IPO firm's management before deciding whether they would like to be associated with the issue or not.

**Age of the firm:** (Ag)-defined in terms of years, is one of the most popular proxies on company characteristics. High rank investment banks generally choose companies with a longer operational history. Age of the IPO firm signals the level of maturity of the company. In this study, age has been measured by the difference between the date of incorporation and the date at which the company goes public.

**Post issue promoter holding: (PIPH)** Quality companies use ownership concentration as a signal to potential investors about the quality of the firm. PIPH is defined as the percentage of shares being owned and retained by the promoter in the post issue scenario. It is an important signalling variable indicating the prospects of the company to the investors.

**Offer size (OS):** as a signalling variable has been explored by many studies which found that underpricing is more severe in the case of smaller issue sizes. Offer size is the amount of capital the company wants to raise through the IPO. The offer size conveys the magnitude of the capital expenditure involved in the planned business.

**Syndicate size (SS):** is defined in terms of the number of investment banks in the syndicate. It is an institutional arrangement designed to avoid wealth transfer from the issuing company to the investors.

## Indian Investment Banking Industry- An Overview

**Table 1**  
**Top Ten Investment Banks in Terms of Number of Issues Managed.**

S. No	Investment Bank	2004-2005	2003-2004	2002-2003	2001-2002
1	DSP Merrill Lynch Ltd.	11	13	11	15
2	Enam Financial Consultants Pvt Ltd	14	14	9	12
3	Kotak Mahindra Capital Co Ltd	9	15	10	14
4	JM Morgan Stanley Retail Services	12	14	12	15
5	SBI Capital Markets Ltd.	7	10	8	15
6	Bajaj Capital	1	6	9	12
7	ICICI Securities & Finance Co.Ltd	12	9	4	2
8	RR Financial Consultants	5	6	8	7
9	KJMC Global (India) Ltd	5	8	8	3
10	Karvy Investor Services Ltd.	8	7	5	3

Source: Prime Database annual reports for the period 2001-02 to 2004-05.

**Table 2**  
**Growth of Investment Banks in India**

Year	2004-2005	2003-2004	2002-2003	2001-2002
No. Of investment banks	40	26	24	24
Amount raised (Crores)	25526	22145	5732	6423

Source: Primary Database annual reports for the period 2001-2005

**Table 3**  
**Top Ten Investment Banks in Terms of Deal Value In Rupees**  
**(Crore).**

S. No.	Investment Bank	2004-2005	2003-2004	2002-2003	2001-2002
1	DSP Merrill Lynch Ltd.	17012.1	18263.3	5575.8	6249
2	Enam Financial Consultant Pvt Ltd	18062.1	16723.0	5575.8	6339
3	Kotak Mahindra Capital Co Ltd	16576.9	18067.3	3378.2	5505
4	JM Morgan Stanley Retail Services	13437	5942.3	4980.8	4990
5	SBI Capital Markets Ltd.	14676.6	4879.7	1893.8	998.5
6	Bajaj Capital	4094.85	4323.54	4792.8	4990
7	ICICI Securities & Finance Co.Ltd	2903.3	5609.4	3123.4	5579
8	RR Financial Consultant	4094.8	4323.5	4692.8	3596
9	KJMC Global (India) Ltd	4094.8	4432	4692.8	972.9
10	Karvy Investor Services Ltd.	4165.8	4333.5	2350.4	972.9

Source: Prime Database annual reports for the period 2001-02 to 2004-05.

In practice, IPOs are normally managed by a syndicate or a group of investment banks. The syndicate members provide a host of services to the issue house which includes marketing and distribution, underwriting, analyst coverage and post issue market stabilisation activity. The key element of the syndicate is the book running lead manager.

Companies take great care in choosing investment banks. Investment banks are evaluated based on factors such as research capability, underwriting commitments, distribution capacity, sector expertise, track record and credentials, client relationship and after market commitments. It is common practice not only in India but also in the world market that large size issuers demand a large syndicate and the small issues bank upon a small syndicate size.

**Table 4**  
**Syndicate Structure of IPOs (Number of Issues)**

Syndicate Size	2004-2005	2003-2004	2002-2003	2001-2002
One	7	8	1	2
Two	13	8	1	1
Three	3	7	0	0
Four	2	1	1	3
Five	2	5	2	1
More than five	7	6	9	12
Total	34	35	14	19

Source: Prime Database annual reports for the period 2001-2005

The above exhibit shows the number of participating banks in syndicates during 2001-2005. A majority of Indian IPOs was managed through a syndicate, rather than through a single investment bank. In the year 2004-05, out of 34 issues, a total of 27 issues (about 79.41%) were managed through syndicates.

### Data and Methodolgy of Study

The data for this study was collected from the Prime Database annual reports 2001-2005 and the capital market database Capitaline.com. Data was also collected from National Stock Exchange (NSE, Mumbai) and SEBI websites (sebi.gov.in) and was cross-referenced with the CMIE Prowess database.

### Measurement of Investment Banker Prestige

**Table 5**  
**Rank Value Points for Investment Banks in a syndicate**

<b>Prime Database Ratings (PDR)</b>	<b>Rank Value Points assigned (RVP)</b>
1	10
2	9
3	8
4	7
5	6
6	5
7	4
8	3
9	2
10	1
11-15	.5
16-20	.25
>20	.125

In this paper we have followed the system laid out by Carter & Manaster for ranking investment banks which follows a 10 point scale, starting from 0 to non-prestigious investment banks and 9 to most prestigious banks. It rates Investment banks on the basis of their position & appearance in the tombstone advertisement of IPO's

Quantifying investment bank prestige (IBP) is one of the most important aspects of this study. In this paper, the prestige of investment banks was quantified in three steps: First, the ratings of investment banks were collected. The ratings collected were based on the annual market share of respective investment banks. This approach is superior as it doesn't assume the reputation of an investment bank to be constant over time. Additionally the market share provides a cardinal value of reputation than ordinal value.

In second step, rank value points to each investment bank from the ratings given Prime Database were assigned. Rank value points correspond to the Prime Database rating but in reverse order. For example, a bank with Prime Database rating of 1 got a rank value point of 10 while a rating of 2 got a rank value point of 9. the rank value point declines with the increased ratings of the bank. As there were more than 10 investment banks, a bank with a rating value range of 11-15 was given a rank value point of 0.5. Similarly rating from 16-20 was given rank value point of .25 and ratings with >20 were given rank value of 0.125. Exhibit 5 lists the Prime Database ratings & the corresponding rank value points.

Finally the prestige value of a syndicate associated with an IPO was calculated by totalling rank value points of each investment bank belonging to the syndicate. For example a syndicate with three members with database rating of 1,3 & 7 was assigned a cumulative rank value point of 22 (=10+8+4). Similarly a syndicate with four members with Prime Database rating of 8,15,18 & 27 was assigned a cumulative rank of 3.875( = 3+ 0.5 + 0.25+ 0.125)

On the basis of the cumulative rank value points, the syndicates were classified into three different categories i.e. Tier 1: Super group, Tier 2: Major group, Tier 3: Least group. Syndicates with total rank value points higher than 15 were categorised as Super group while between 6.5 and 15 as Major group, as will be covered later in Exhibit 8.

### **Calculation of Initial Return (Underprice) of the IPO**

Magnitude of Underprice (UP) refers to initial return and is calculated as difference between list price (LP) (closing price on the maiden trading day), and the issue price (IP). List price (LP) is the listing day close price of the stock. Issue price is the final offer price at which the shares were sold to institutional investors.

The following method has been used to calculate the magnitude of underprice:

$$UP = (LP - IP) / IP * 100$$

The above formula conforms to Miller & Reilly (1987) calculating initial return. Initial return computed above is unadjusted market rate of return. Market adjusted return using Sensex was also computed. The difference between the market adjusted and the unadjusted return was found to be 1.23% which was statistically insignificant. Insignificant difference between the unadjusted initial return & the market adjusted return conforms to the findings of Beatty & Ritter (10<sup>th</sup> on the reference list). They had concluded that there is no significant deviation between the unadjusted initial return and the market adjusted return if cross section data used. Since this study is also based on cross section of returns (IPOs dispersed across industries issued during the period of 2001-2005), the unadjusted initial return doesn't deviate significantly from the market adjusted return.

## Sample Selection Procedure

**Table 6**  
**Sample Selection Criteria for IPO issues**

Universe of total number of Public Issues offered	102
Total number of IPO offered during the period	54
Excluded number of IPO missing offer price	04
Remaining	50
Excluded number of IPOs missing age proof	03
Remaining	47
Excluded number of IPO missing list price	04
Remaining total number of IPO eligible for study	43
Percentage of eligible companies in the sample of study	79.62

**Table 7**  
**Descriptive Statistics of the Selected Sample**

Variables	Mean	Median	Min	Max	Standard Deviation
OS (Crs)	482.18	132.81	7.5	5428	1117.62
Ag(Years)	22.73	16.0	2.0	57.0	18.94
PIPH (%)	59.67	57.7	29.94	89.5	14.80
SS (No)	2.84	2.00	1	6	1.43
IBPP	13.57	13.50	0.13	42	10.71
UP(%)	46.63	25.53	-50.5	367	78.65

Definition of variables: OS-offer size; Ag-age of firm; PIPH-post issue promoter holdings; SS-syndicate size; IBPP- Investment bank prestige points; UP-underprice.

The sample used in this study (Table 6) comprises 43 initial public offerings out of 102 public issues (for both equity & debt) during the period 2001-2005. Only IPOs for equity shares have been considered. As this study focuses on the initial public offerings of the unlisted companies only, follow on public offerings (FPOs) as well as debt issues have been excluded. 54 companies qualified, using the above criteria, and 11 companies were excluded from the sample because of non-availability of data. Exhibit 7 reports the sample mean, median, minimum, maximum and standard deviation for the whole sample of 43 IPOs. The standard deviation for the underprice of the entire sample was 78.65, reflecting a high degree of variation in initial day return for Indian IPOs.

We find that underprice persists in the Indian IPO market during the period 2001-05. The mean percentage of undervaluation of 46.63% implies that the issue leaves too much on the table in order to attract more subscription for the issue. The median undervaluation is 25.53%, standard deviation is 78.65% implying high degree of variations in initial return for the sample, which can be shown in the spread between maximum value & minimum value.

### **Empirical Methodology**

The relationship between investment banks prestige points (IBPP) and underprices has been modeled in the Ordinary Least Squares (OLS) framework. Underprice has been used as the predicted variable (dependent variable) and IBPP as the predictor (independent variable).

Hence the test Hypothesis is

**Hypothesis I :**

H0: No linear relationship exists between underprice and investment bank prestige.

H1: There exists a linear relationship between underprice and investment bank prestige.

The regression model is as follows:

$$UP_i = \alpha + \beta(IBPP)_i + \epsilon$$

UP<sub>i</sub>: underprice value for security, IBP: investment banker prestige value points for the security,  $\epsilon$  the standard error term,  $\alpha$ : the intercept and  $\beta$ : regression coefficient.

The degree of underprice varying across different tiers of investment banks (Super group, Major group, Least group) has been explored.

**Test for Investment bank prestige as endogenous construct:**

To identify various proxies influencing prestige of an investment bank, multiple regression was undertaken. Bhagat and Ranjan (2004) test the usefulness of prestige as dependent variable along with insider retention while modelling for offer value using three stage least squares (3SLS) procedure. The dependent variables for the three equations are Investment bank prestige, offer value & insider retention. In accounting for endogeneity of insider retention & investment bank prestige, the findings don't change regarding the predictive power of income, sales, book equity & growth opportunities in valuing IPO's. In this study, to identify the degree of contribution of each issue specific signalling variable i.e. offer size, age of the firm, post issue promoter holding, issue price and syndicate size in predicting the magnitude of the prestige(dependent variable) for the investment bank, the following model was used.

$$(IBPP)_i = \alpha_0 + \beta_1(OS)_i + \beta_2(Ag)_i + \beta_3(PIPH)_i + \beta_4(IP)_i + \beta_5(SS)_i + \epsilon_i$$

Where  $\alpha_0$ : intercept  $\beta_1$ : degree of regression coefficient between  $(IBPP)_i$  and  $(OS)_i$ ,  $\beta_2$ : degree of regression coefficient between  $(IBPP)_i$  and  $(Ag)_i$ ,  $\beta_3$ : degree of regression coefficient between  $(IBPP)_i$  and  $(PIPH)_i$ ,  $\beta_4$ : degree of regression coefficient between  $(IBPP)_i$  and  $(IP)_i$ ,  $\beta_5$ : degree of regression coefficient between  $(IBPP)_i$  and  $(SS)_i$  while  $\epsilon_i$  is error term.

The data for each variable is tested for meeting the required assumptions of simple linear regression model i.e. linearity, constant variance (homoscedasticity) and normality. All these tests were using SPSS 13.0 version. Empirical methodology applied the F-test for 95% level of confidence for the above mentioned hypotheses.

### Empirical Results

Investment Bank prestige and Underprice: We find that the initial return is inversely related with underwriter prestige. As the rank value points of investment banks go up the initial return declines. In other words, high prestige value leads to lower deviation from the fair value, resulting in marginalised risk of under valuation.

The OLS model in Eq. (1) results in:

$$UP = 71.78 - 1.49 * (IBP)$$

Model summary:

$R=0.245$ ,  $R^2 = 0.60$ , F value = 2.61 and significant at 0.01 level.

The significant negative regression coefficient signals inverse linear relationship between UP and IBP. High ranking investment banks are associated with IPOs exhibiting less underpricing.

**Table 8**  
**Investment Bank Prestige Group and IPO Underprice**

Prestige Group	Prestige Definition	Prestige Points	Underprice Percentage	Number of IPOs
Tier 1	Super group	>15	35.28	18
Tier 2	Major group	6.5-15	54.25	14
Tier 3	Least group	<6.5	62.58	11

Exhibit 8 indicates that the underprice percentage varies from 35.28 to 65.26 for the three groups. Our finding is consistent with the findings of Nueberger and Hammond, Logue, Black & Stanley & Neuberger & La Chappelle.

**Findings for the proxies for Investment Bank Prestige:** Our finding suggests that investors are willing to pay more for the IPOs managed by prestigious investment banks. In other words, IPOs managed by prestigious underwriters exhibit less underpricing. The same logic is also applicable to the investment banks. High profile banks want to manage issues coming from fundamentally good companies, with commendable business stories and which command growth prospects.

Multiple regression method is undertaken to find out the effect of offer size (OS), age of the firm (Ag), post issue promoter holding (PIPH), issue price (IP) and syndicate size (SS) on the prestige of the investment bank. Exhibit 9 summarises the multiple regression model for investment bank prestige. The investment bank prestige (IBPP) is taken as predicting variable, while size of the syndicate (SS), age of the IPO firm (Ag), and post issue promoter holding are considered as independent variables. The variables offer size (OS), and issue price

(IP) proved insignificant and hence were excluded from the model. The empirical result as shown in Exhibit 9 reports that investment bank prestige is adequately influenced by the magnitude of the syndicate (SS), age of the issuing firm (Ag) and the post issue promoter holding (PIPH).

Collectively SS, AG and PIPH explain 82.7% of the variation in the prestige. Among all the three variables, the syndicate size defines a maximum of 78.6% followed by age or maturity of the firm and post issue promoter holding.

**Table 9**  
**Summary of the Model for Explaining Investment Bank Prestige**

Models with predictors constant	R	R-square	Adjusted R-square	Standard error of estimate
SS	0.887	0.786	0.781	5.0122
SS, Ag	0.898	0.807	0.797	4.8197
SS, Ag, PIPH	0.909	0.827	0.814	4.6192

The OLS model in Eq (2) results in:

$$(IBP)_i = -0.205 + 0.118 (Ag) + 0.115 (PIPH) + 6.320 (SS)$$

**Investment bank prestige and age of the IPO firm:** We find a direct positive relationship between age of the firm and investment bank prestige. Tier 1 or the super group of investment banks is associated with more mature firms. The IPOs from younger firms are managed by the least prestigious investment banks. Detailed distribution of the prestige group and maturity of the firms is given in

Exhibit 10. Column one highlights the classification of the investment banks. Mean age of the IPO firms is calculated as the simple arithmetic mean of the age of the firms being managed by that category.

In the super group category, the average age of companies is 27.11 years. Average age of the IPO firms for the Least group (Tier 3) stands at 12.10 years. Further, a large number of firms (44.18%) in the sample are managed by more prestigious investment banks. The reason can be attributed to the fact that a significant number of public sector firms with large offer size have floated IPOs during the period 2001-05.

**Table 10**  
**Investment Bank prestige Group and Mean age of the Firm**

Investment Bank Prestige Group	Prestige Definition	Prestige Points	Mean age of the firm	Number of Companies
Tier 1	Super group	>15	27.11	19
Tier 2	Major group	6.5-15	22.86	14
Tier 3	Least group	<6.5	12.10	10

**Investment bank prestige and syndicate size:** Exhibit 11 shows the statistical distribution between investment bank prestige and magnitude of the syndicate. Values for the mean syndicate size documented at column four are calculated as the average of investment banks participating in the syndicate. Column five shows the number of IPOs managed by specific groups of investment banks.

Reputed banks are found to be associated with large syndicate structure.

The result shows that the Super group underwriter (Tier 1) prefers to be associated with an average syndicate size of 4.05, while for the prestige group of Tier 2 and Tier 3 the size of the syndicate is 2.29 and 1.30 respectively. Positive regression coefficient of 6.320 further indicates positive relationship between syndicate size and investment bank prestige.

A plausible reason for this can be that large syndicates are capable of spreading the risk among the syndicate members. Low profile investment banks are unable to spread out the risk by expanding the syndicate size, which may be due to the following: (i) small issues cannot afford large syndicates, because every additional member in the syndicate adds costs to the company, (ii) low prestige effect- nobody likes to join hands with low profile banks.

**Table 11**  
**Investment Bank Prestige Group and Syndicate Size**

Investment Bank prestige Group	Prestige Definition	Prestige points	Mean Syndicate size	Number of Companies
Tier 1	Super group	>15	4.05	18
Tier 2	Major group	6.5-15	2.29	14
Tier 3	Least group	<6.5	1.30	11

**Prestige group and post issue promoter Holdings:** We find a positive relationship between investment banker prestige and post issue promoter holding. A promoter's group having more stakes in the IPO prefers to select more prestigious investment banks to manage

the issue. Exhibit 12 highlights investment bank prestige group and the average post issue promoter's group holding. Post issue promoter's group holdings are reflected in column three, which is calculated as the difference between pre IPO holding and the magnitude of stakes being diluted through IPO by the promoter's group. Exhibit 13 documents an average post issue promoter's group holding of 62.58% for all the IPOs managed by the Super group of investment banks (Tier 1), while for Tier 2 and Tier 3 group, the average holding stands at 56.99% and 55.61% respectively.

**Table 12**  
**Investment Bank Prestige Group and Post issue Promoters Holding**

<b>Investment Bank prestige Group</b>	<b>Prestige Definition</b>	<b>Mean PIPH Percentages</b>	<b>Number of Companies</b>
Tier 1	Super group	62.58	19
Tier 2	Major group	56.99	14
Tier 3	Least group	55.61	10

### Interpretation of Findings

This study explores the relationship between underwriter's prestige and the underprice of new issues for the sample of 43 companies from 2001-02 to 2004-05. The study documents the following on the basis of the empirical findings:

Undervaluation persisted in the Indian IPO market in the period of 2001-02 to 2004-05. The average undervaluation of 46.63% implies that the issue leaves too much on the table in order to gain a good

response from the market. This can be seen in the light of the dotcom bubble burst that took place just preceding the period of study. This same methodology can be implemented on the present day data, and be used to find the reason for the sub-prime crisis & the subsequent recession that gripped the world in recent times.

Percentage underpricing also has an inverse relationship with the investment bank prestige or the whole syndicate prestige.

Super group manages issues with high offer size. Offer size exhibits positive correlation with investment bank prestige. The literature documents that size reflects risk content more explicitly. Ritter & Loughran have empirically documented that underpricing is more pronounced for small firms, than the bigger and more mature firms. The findings of this study are consistent with their models.

The empirical result documents the size of the syndicate as the leading factor in estimating the prestige value for the investment banks. Prestigious underwriters are managing issues in association with large members. With a large syndicate to support the IPO issue, investment bank as well as the issuer company is insuring the risk associated with the issue.

Age of issuing firm has a direct positive correlation with the underwriter's prestige. The findings of this study indicate that the higher the maturity of firm, the more likely it is to be managed by prestigious underwriters. Offer size has been bigger for aged firms. Further, aged firms have a long operational and financial history which supports high fund requirements.

Underwriter's prestige is positively correlated with the post issue promoter holding. Higher post issue promoter holding conveys the intrinsic worth of the firm more credibly to prospective investors thereby reducing the information asymmetry and underpricing.

## Conclusions

This report investigates the inverse or opposite relationship between underwriter's prestige & underprice. The study finds that Indian IPOs were significantly (46.3%) underpriced during the period 2001-02 to 2004-05. The magnitude of underpricing is less for issues managed by prestigious investment banks compared to less prestigious ones. In other words, issue price reflects more rationality in valuation when IPOs are managed by high rank underwriters compared to low ranked ones. This study also finds large syndicate size to be the most suitable proxy to prestige ranks of investment banks. Prestigious banks are managing IPOs with the help of a large number of syndicate members than their non prestigious counterparts. This report posits that prestigious investment banks tend to manage issues having a high magnitude of offer size. The age or the maturity of the firm has a positive correlation with the prestige of the investment bank. Prestigious investment banks are also managing issues with higher post issue promoter holding. The findings of this study can be used by companies in deciding on investment banks. Prospective investors can form a view about the listing day price by keeping in mind the type of investment banks associated with a specific issue. This kind of study has a global context, as many investors (mostly retail investors) subscribe to IPOs to gain profit on listing day and not to hold the security for long term profit. Investors can also take post issue promoter holding as the signalling variable to reach a conclusion about degree of underpricing i.e. listing day profit. This paper also tries to extend the academic pursuit in South-Asian IPO aspects, which is the fast emerging pace setter in this dynamic global environment.

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