European Journal of Business and Management
ISSN 2222-1905 (Paper) ISSN 2222-2839 (Online)
Vol.7, No.19, 2015

Social comparison behavior of firms and Underpricing of IPOs in India

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Abstract
This paper is an empirical research of social comparison behavior in Indian IPO market. To our knowledge this is the first study which is testing behavioral theory on Indian IPOs. As numerous evidences suggest the theories of behavioral finance are more efficient in explaining the stock market behavior than the traditional finance theories based on rational decision making. In the presence of international evidence of social comparison behavior in IPO market, we also assume this behavior in the Indian IPO market. The social comparison behavior found to be present in Indian IPO market and explains a fraction of underpricing. The objective of this paper is to find out whether there is a social or peer comparison among IPO issuing firms in India. For this purpose P/E and P/B ratios are used to statistically test whether an IPO firm in India follows earlier IPO firms P/E and P/B ratios while deciding its own price band and issue price.
Keywords: Behavioral Finance, Social Comparison, IPO Underpricing

Introduction

There are different methods of IPO pricing namely: Fixed price method, Book Building method, and Auction method. These methods differ on account of freedom given to the market to decide the price at which IPO is to be sold. In the fixed price method the issuer only decides the price of the issue without any involvement of the market or investors. In the book building method price is partially decided by the issuer and partially decided by the investors. While in the auction method the price is fully determined by the market. Therefore, theoretically the difference between market price and the price determined by the issuer is maximum in fixed price method and it is least in auction method. If the price determined by the issuer is less than the price determined by the investors then it is called underpricing. High Underpricing of IPOs is unhealthy for all involved in it: The IPO issuing firm, the capital market and the economy. The company loses the amount of funds which could have been raised if it was not underpriced. Thus high underpricing is a high indirect cost of raising the fund. Also, high underpricing leads oversubscription and thereby high refunding cost for the issuing firm. Underpricing creates arbitrage activities in the capital market. For an economy it reduces the resource mobilisation because those companies who do not want or cannot afford leaving money on the table would not raise funds by initial public offerings. Thus underpricing becomes a problem for an economy, investors , and the business organizations.

Now what happens if an IPO is overpriced? If issue is overpriced then investors will not buy the shares because market value of the issue is less than what they pay for buying it from the issuer. Therefore to avoid initial losses investors will not subscribe to the issue and company will not be able to sell the issue. In India minimum ninety percent subscription of the offer is mandatory for getting listed on the stock exchange. In case of less than ninety percent subscription firms shall take the offering back. Thus overpricing will make loss to the investors who have bought the overpriced shares and the company gets listed. On the other hand if the issuing firm is unable to get minimum subscription then it will not get listed on the stock exchange, it will face a huge cost of calling back the issue , will not get listed , and cannot raise the funds. Thus underpricing as well as overpricing of IPO both are harmful.

The underpricing and overpricing are the results of the difference between the price set by the investors and price set by the issuer. Therefore question arises: Why companies do not opt for auction method only? Sherman (2005) carried out a thorough analysis on trends of IPO pricing method across countries. The author reported that during 1980s, book building was being used by North America only, but by the end of 1990s it was a dominant method in Europe, Asia and Latin America. Fixed price method is being abandoned worldwide and it is being used only in smaller countries where retail investors are dominant. Auctions are used only where book building method has some regulatory restriction. The author, in contradiction to the popular belief found that auctions always do not lead to lower expected underpricing and that the issuers prefer book building regardless of the change in underpricing levels. The auction method is advantageous if the investors are scattered and well informed about the issuing firm and industry. Auctions are not preferred where investors have to put efforts to learn about a new issue. The author mentions that the issuer incurs the cost of information acquisition from the investors in case of both auction method as well as book building method. But both the methods are

different in the sense that in book building issuer has greater control over information expenditures than in auction. Also auction has high probability of under subscription and thereby lower expected proceeds. Book building allows the underwriter to coordinate the informed and uninformed investors and, thereby ensuring enough investors to participate in the offering. In Indian capital market this advantage has different implications as the subscription information is available on real time basis. Thus uninformed investors can follow informed investors' subscription pattern. The author reported one more advantage of discretionary power of the issuing firm in share allocation which is not available in Indian regulatory framework of book building in India.

Thus it can be concluded that IPO is a major source of financing a business. The pricing is an important issue of an IPO. There are mainly three methods of pricing an IPO but book building is the most accepted method among them. In the present study we examine the pricing of IPOs in Indian capital market for the book built equity IPOs listed between January 2004 and February 2013.

Underpricing of IPOs is an international phenomenon. The underpricing has been reported across 49 countries during different time periods. The U.S. has been the largest IPO market in terms of volume and China has had the most extreme underpricing. The equally weighted average first day return in U.S. during 1960-2010 is 18 per cent, where as it is 137.4 per cent in China during 1990-2010 and 92.7 per cent in India during 1990-2007. In India the problem of underpricing is less severe than it is in China but more than the U.S. and many other developed and developing countries. The documented data shows that among 49 countries only three countries (Saudi Arabia, Jordan, and China) have had underpricing more than India. The degree of underpricing varies and has a wide range across the countries and time as average underpricing was 264% in Saudi Arabia during 2003-2010 while it was 4.2% in Russia during 1999-2006 (Loughran, Ritter, Rydqvist 1994, updated version: 2011). The extreme underpricing of Chinese IPOs can be explained through institutional constraints (Ritter,2011). Jain (2013) presents the evidences of IPO underpricing in India.

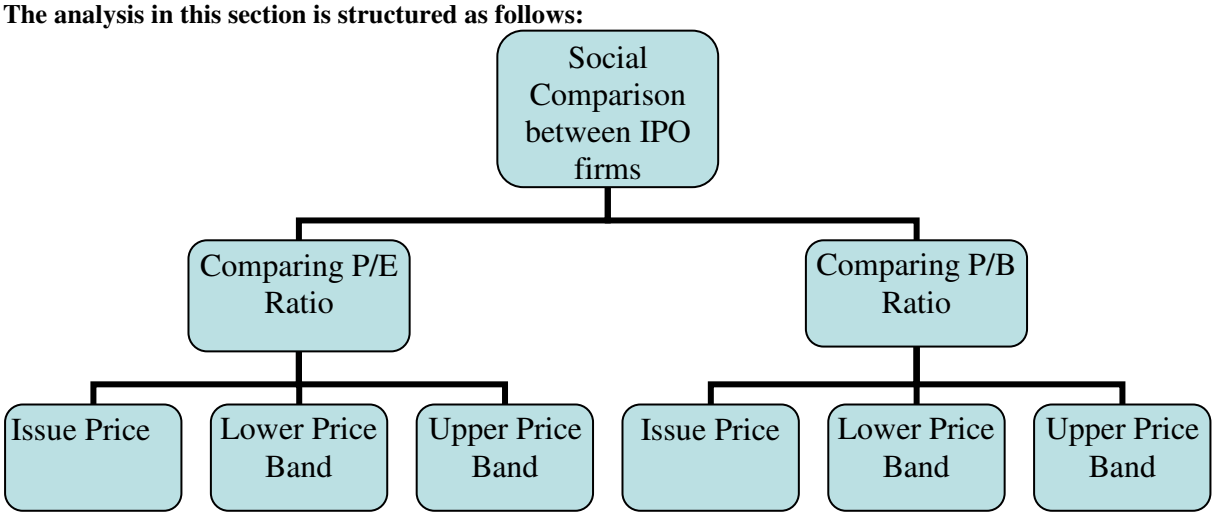
Social Comparison among IPO firms

Social comparison theory was developed by Festinger (1954). It explains process of individual decision making with the help of social comparison a concept of social psychology. The theory states that a person's behavior is determined by his opinions and abilities. One evaluates his opinions and abilities by comparing them with the objective base. For example one's jumping ability can be evaluated by putting him to jump across a particular brook. , However, when an objective base is not available then one evaluates his own abilities and opinions by comparison with abilities and opinions of others. For example one's intelligence can be better measured when it is compared with others performance. The theory also states that "the tendency to compare oneself with some other specific person decreases as the difference between his opinion or ability and one's own increases. (Festinger 1954, p.120). The social comparison theory has been applied in IPO market. To our knowledge Chang (2011) is the first study to apply this theory in IPO pricing. However, it had been applied in secondary stock market where investors compare their experiences with others' while making investment decisions. Chang (2011) studied a sample of 1558 IPOs listed on Taiwan Stock Exchange and found that when issuing firms determine the offer price they compare it with other firms that went public earlier in the same industry. Similarly, investors make investment decision for an IPO by referring first day abnormal returns of other companies in the same industry that went public earlier. The author concludes that the social comparison theory is more viable for explaining IPO underpricing compare to information asymmetry theory.

In India Jain & Singh (2012) analyzed social comparison among IPO investors in India. They found different categories of investors follow each other while subscribing for an IPO. The present study aims to test the social comparison theory for the IPOs listed on National Stock Exchange of India. Sample Size is 200 Book Built IPOs in India during April 2004- February 2013

The objective of this section is to find out whether there is a social or peer comparison between IPO issuing firms in India. For this purpose P/E and P/B ratios are used to statistically test whether an IPO firm in India follows earlier IPO firms P/E and P/B ratios while deciding its own price band and issue price.

The analysis in this section is structured as follows:



Model 1 : Determinants of P/E Ratio of an IPO

The objective of this section is to find out whether IPO firms follows P/E ratios of previous three IPO firms that went public earlier.

1.1 Determinants of P/E Ratio with respect to Issue price

Hypothesis 1

H_{A1}: An IPO follows the earlier 3 IPOs' P/E ratio with respect to issue price.

Theoretical Linear Regression Equation – Model 1

$$P/E(IP)1 = \beta_0 + \beta_1 P/E(IP)2 + \beta_2 P/E(IP)3 + \beta_3 P/E(IP)4 + è$$

Where,

1. β_0 = Intercept or Constant
2. $\beta_1, \beta_2 \ldots\ldots\ldots \beta_3$ is the Slope (Beta coefficient) for respective independent variables
3. P/E(IP)1 = Price to Earnings ratio with respect to issue price of the company 1
4. P/E(IP)2 = Price to Earnings ratio with respect to issue price of the company 2 which went public just before company 1
5. P/E(IP)3 = Price to Earnings ratio with respect to issue price of the company 3 which went public just before company 2
6. P/E(IP)4 = Price to Earnings ratio with respect to issue price of the company 4 which went public just before company 3
7. è = Error term

Explanation-Model 1

The multiple regression model no. 14 takes P/E(IP)1 as dependent variable and 3 independent variables. The purpose of this model is to find out whether the company one follows earlier 3 companies' P/E ratio with respect to issue price while deciding its own P/E ratio.

Empirical Linear Regression Equation - Model 1

$$PE(IP)1 = 18.4 - 0.148\ PE(IP)2 - 0.0730\ P/E(IP)3 - 0.808\ PE(IP)4 + è$$

Table 1: Regression Results-Model 1

Predictor	Coef	P	VIF
Constant	18.421	0.000	
P/E(IP)2**	-0.148	0.002	1.015
P/E(IP)3**	-0.073	0.057	1.024
P/E(IP)4**	-0.0807	0.019	1.031

- ***Significant at 1% level**
- ****Significant at 5% level**

R-Sq = 22.4% R-Sq(adj) = 19.0%

Interpretation: In the above table as per the t statistics 3 variables P/E(IP)2, P/E(IP)3,and P/E(IP)4 are the significant independent variables. Thus we reject the null hypothesis and conclude that the latest IPO firm follows previous 3 IPO firms' P/E ratios.

ANOVA test shows that overall model is statistically significant with an F-ratio of 6.45 and a significance level 0.001.

Conclusion – Model 1

Based on the empirical results of model 1 we reject the null hypothesis and accept the research hypothesis. We conclude that the an IPO firm follows previous 3 IPO firms' PE ratio with respect to issue price while deciding it own P/E ratio IPO in Indian capital market.

1.2 Model 2 : Determinants of P/E Ratio with respect to Lower price band

Hypothesis 2

H_{A2}: An IPO firm follows the earlier 3 IPOs' P/E ratio with respect to lower price band

Theoretical Linear Regression Equation – Model2

$$P/E(LB)1 = \beta_0 + \beta_1 P/E(LB)2 + \beta_2 P/E(LB)3 + \beta_3 P/E(LB)4 + è$$

Where,

1. β_0 = Intercept or Constant
2. $\beta_1, \beta_2 \ldots\ldots\ldots \beta_3$ is the Slope (Beta coefficient) for respective independent variables
3. P/E(LB)1 = Price to Earnings ratio with respect to lower price band of the company 1
4. P/E(LB)2 = Price to Earnings ratio with respect to lower price band of the company 2 which went public just before company 1
5. P/E(LB)3 = Price to Earnings ratio with respect to lower price band of the company 3 which went public just before company 2
6. P/E(LB)4 = Price to Earnings ratio with respect to lower price band of the company 4 which went public just before company 3
7. è = Error term

Explanation-Model 2

The multiple regression model no. 15 takes P/E(LB)1 as dependent variable and 3 independent variables. The purpose of this model is to find out whether an IPO firm follows earlier 3 companies' P/E ratio with respect to lower price band while deciding its lower price band.

Empirical Linear Regression Equation - Model 2

$$PE(LB)1 = 17.1 - 0.0932\, PE(LB)2 - 0.119\, PE(LB)3 - 0.101\, PE(LB)4 + è$$

Table 2: Regression Results-Model 2

Predictor	Coef	P	VIF
Constant	17.12	0.00	
P/E(LB)2**	-0.09	0.05	1.01
P/E(LB)3**	-0.12	0.02	1.02
P/E(LB)4**	-0.10	0.02	1.01

- ***Significant at 1% level**
- ****Significant at 5% level**

R-Sq = 16.9% R-Sq(adj) = 13.1%

Interpretation: In the above table as per the t statistics 3 variables P/E(LB)2, P/E(LB)3,and P/E(LB)4 are the significant independent variables. Thus we reject the null hypothesis and conclude that the an IPO firm follows previous 3 IPO firms' P/E ratios with respect to lower price band while deciding its lower price band.

ANOVA test shows that overall model is statistically significant with an F-ratio of 4.41 and a significance level 0.007.

Conclusion – Model 2

Based on the empirical results of model 2 we reject the null hypothesis and accept the research hypothesis. We conclude that the an IPO firm follows previous 3 IPO firms' PE ratio with respect to lower price band while deciding it lower price band of IPO in Indian capital market.

1.3 Model 3 : Determinants of P/E Ratio with respect to Upper Price Band

Hypothesis 3

H_{A3}: An IPO firm follows the earlier 3 IPOs' P/E ratio with respect to upper price band

Theoretical Linear Regression Equation – Model 3

$$P/E(UB)1 = \beta_0 + \beta_1 P/E(UB)2 + \beta_2 P/E(UB)3 + \beta_3 P/E(UB)4 + è$$

Where,

1. β_0 = Intercept or Constant
2. $\beta_1, \beta_2 \ldots\ldots\ldots \beta_3$ is the Slope (Beta coefficient) for respective independent variables

3. P/E(UB)1 = Price to Earnings ratio with respect to upper price band of the company 1
4. P/E(UB)2 = Price to Earnings ratio with respect to upper price band of the company 2 which went public just before company 1
5. P/E(UB)3 = Price to Earnings ratio with respect to upper price band of the company 3 which went public just before company 2
6. P/E(UB)4 = Price to Earnings ratio with respect to upper price band of the company 4 which went public just before company 3
7. è = Error term

Explanation-Model 3

The multiple regression model no. 3 takes P/E(UB)1 as dependent variable and 3 independent variables. The purpose of this model is to find out whether an IPO firm follows earlier 3 companies' P/E ratio with respect to upper price band while deciding its upper price band.

Empirical Linear Regression Equation - Model 3

$$PE(UB)1 = 19.3 - 0.123\ PE(UB)2 - 0.0843\ PE(UB)3 - 0.0774\ PE(UB)4 + è$$

Table 3: Regression Results-Model 3

Predictor	Coef	P	VIF
Constant	19.28	0.00	
P/E(UB)2**	-0.12	0.02	1.02
P/E(UB)3	-0.08	0.07	1.01
P/E(UB)4	-0.08	0.14	1.03

- ***Significant at 1% level**
- ****Significant at 5% level**

R-Sq = 12.8% R-Sq(adj) = 9.0%

Interpretation: In the above table 3 as per the t statistics 1 variable P/E(UB)2, is the significant independent variable. Thus we reject the null hypothesis and conclude that the an IPO firm follows previous IPO firms' P/E ratios with respect to upper price band while deciding its upper price band.

ANOVA test shows that overall model is statistically significant with an F-ratio of 3.34 and a significance level 0.024.

Conclusion – Model 3

Based on the empirical results of model 3 we reject the null hypothesis and accept the research hypothesis. We conclude that the an IPO firm follows previous IPO firms' PE ratio with respect to upper price band while deciding its upper price band of IPO in Indian capital market

2. Determinants of P/B Ratio

2.1 Model 4 : Determinants of P/B with respect to Issue Price

Hypothesis 4

H_{A4}: An IPO firm follows the earlier IPOs' P/B ratio with respect to issue price

Theoretical Linear Regression Equation – Model 4

$$P/B(IP)1 = \beta_0 + \beta_1 P/B(IP)2 + \beta_2 P/B(IP)3 + \beta_3 P/B(IP)4 + è$$

Where,

1. β_0 = Intercept or Constant
2. $\beta_1, \beta_2 \ldots\ldots\ldots \beta_3$ is the Slope (Beta coefficient) for respective independent variables
3. P/B(IP)1 = Price to Book value ratio with respect to issue price of the company 1
4. P/B(IP)2 = Price to Book value ratio with respect to issue price of the company 2 which went public just before company 1
5. P/B(IP)3 = Price to Book value ratio with respect to issue price of the company 3 which went public just before company 2
6. P/E(IP)4 = Price to Book value ratio with respect to issue price of the company 4 which went public just before company 3
7. è = Error term

Explanation-Model 4

The multiple regression model no. 4 takes P/B(IP)1 as dependent variable and 3 independent variables. The purpose of this model is to find out whether an IPO firm follows earlier 3 companies' P/B ratio with respect to issue price while deciding its issue price.

Empirical Linear Regression Equation - Model 4

$$PB(IP)1 = 23.6 - 0.0926\ PB(IP)2 + 0.0423\ PB(IP) + 0.0645\ PB(IP)4 + è$$

Table 4: Regression Results-Model 17

Predictor	Coef	P	VIF
Constant	23.56	0.00	
P/B(IP)2**	-0.10	0.04	1.02
P/B(IP)3	0.04	0.36	1.04
P/B(IP)4	0.06	0.17	1.04

- ***Significant at 1% level**
- ****Significant at 5% level**

R-Sq = 8.9% R-Sq(adj) = 5.4%

Interpretation: In the above table as per the t statistics one variable P/B(IP)2 is the significant independent variables. Thus we reject the null hypothesis and conclude that an IPO firm follows previous IPO firms' P/B ratios with respect to issue price while deciding its issue price.

ANOVA test shows that overall model is statistically significant with an F-ratio of 2.57 and a significance level 0.06 (significant at 10% level).

Conclusion – Model 4

Based on the empirical results of model 4 we reject the null hypothesis and accept the research hypothesis. We conclude that the an IPO firm follows previous IPO firms' PB ratio with respect to issue price while deciding its issue price of IPO in Indian capital market.

2.2 Model 5 : Determinants of P/B Ratio with respect to Lower Price Band

Hypothesis 5

H_{A5}: An IPO firm follows the earlier 3 IPOs' P/B ratio with respect to lower price band

Theoretical Linear Regression Equation – Model 5

$$P/B(LB)1 = \beta_0 + \beta_1 P/B(LB)2 + \beta_2 P/B(LB)3 + \beta_3 P/B(LB)4 + è$$

Where,

1. β_0 = Intercept or Constant
2. $\beta_1, \beta_2 \ldots\ldots\ldots \beta_3$ is the Slope (Beta coefficient) for respective independent variables
3. P/B(LB)1 = Price to Book value ratio with respect to lower price band of the company 1
4. P/B(LB)2 = Price to Book value ratio with respect to lower price band of the company 2 which went public just before company 1
5. P/B(LB)3 = Price to Book value ratio with respect to lower price band of the company 3 which went public just before company 2
6. P/B(LB)4 = Price to Book value ratio with respect to lower price band of the company 4 which went public just before company 3
7. è = Error term

Explanation-Model 5

The multiple regression model no. 18 takes P/B(LB)1 as dependent variable and 3 independent variables. The purpose of this model is to find out whether an IPO firm follows earlier 3 companies' P/B ratio with respect to lower price band while deciding its lower price band.

Empirical Linear Regression Equation - Model 5

$$PB(LB)1 = 2.37 - 0.0315\ PB(LB)2 + 0.156\ PB(LB)3 - 0.0482\ PB(LB)4 + è$$

Table 5: Regression Results-Model 5

Predictor	Coef	P	VIF
Constant	2.37	0.00	
P/B(LB)2	-0.03	0.39	1.02
P/B(LB)3*	0.16	0.00	1.02
P/B(LB)4	-0.05	0.25	1.01

- ***Significant at 1% level**
- ****Significant at 5% level**

R-Sq = 27.2% R-Sq(adj) = 23.4%

Interpretation: In the above table as per the t statistics one variable P/B(LB)3, is the significant independent variables. Thus we reject the null hypothesis and conclude that the an IPO firm follows previous IPO firms' P/B

ratios with respect to lower price band while deciding its lower price band.
ANOVA test shows that overall model is statistically significant with an F-ratio of 7.10 and a significance level 0.000.

Conclusion – Model 5

Based on the empirical results of model 5 we reject the null hypothesis and accept the research hypothesis. We conclude that the an IPO firm follows previous IPO firms' PB ratio with respect to lower price band while deciding its lower price band of IPO in Indian capital market.

2.3 Model 6 : Determinants of P/B Ratio with respect to Upper Price Band

Hypothesis 6

H_{A6}: An IPO firm follows the earlier 3 IPOs' P/B ratio with respect to upper price band

Theoretical Linear Regression Equation – Model 6

$$P/B(UB)1 = \beta_0 + \beta_1 P/B(UB)2 + \beta_2 P/B(UB)3 + \beta_3 P/B(UB)4 + è$$

Where,

8. β_0 = Intercept or Constant
9. $\beta_1, \beta_2 \ldots\ldots\ldots \beta_3$ is the Slope (Beta coefficient) for respective independent variables
10. P/B(UB)1 = Price to Book value ratio with respect to upper price band of the company 1
11. P/B(UB)2 = Price to Book value ratio with respect to upper price band of the company 2 which went public just before company 1
12. P/B(UB)3 = Price to Book value ratio with respect to upper price band of the company 3 which went public just before company 2
13. P/E(UB)4 = Price to Book value ratio with respect to upper price band of the company 4 which went public just before company 3
14. è = Error term

Explanation-Model 6

The multiple regression model no. 6 takes P/B(UB)1 as dependent variable and 3 independent variables. The purpose of this model is to find out whether an IPO firm follows earlier 3 companies' P/B ratio with respect to upper price band while deciding its upper price band.

Empirical Linear Regression Equation - Model 6

$$PB(UB)1 = 2.89 - 0.0784\ PB(UB)2 + 0.141\ PB(UB)3 - 0.0716\ PB(UB)4 + è$$

Table 6: Regression Results-Model 6

Predictor	Coef	P	VIF
Constant	2.89	0.00	
P/B(UB)2*	-0.08	0.01	1.03
P/B(UB)3**	0.14	0.00	1.04
P/B(UB)4**	-0.07	0.05	1.01

- ***Significant at 1% level**
- ****Significant at 5% level**

S = 0.580924 R-Sq = 34.2% R-Sq(adj) = 31.2%

Interpretation: In the above table as per the t statistics 3 variables P/B(UB)2, P/B(UB)3 ,and P/B(UB)4 are the significant independent variables. Thus we reject the null hypothesis and conclude that the an IPO firm follows previous IPO firms' P/B ratios with respect to upper price band while deciding its upper price band.
ANOVA test shows that overall model is statistically significant with an F-ratio of 11.1 and a significance level 0.000.

Conclusion – Model 6

Based on the empirical results of model 6 we reject the null hypothesis and accept the research hypothesis. We conclude that the an IPO firm follows previous IPO firms' PB ratio with respect to upper price band while deciding its upper price band of IPO in Indian capital market.

Conclusion

The objective of this paper was to find out whether there is a social or peer comparison among IPO issuing firms in India. For this purpose P/E and P/B ratios are used to statistically test whether an IPO firm in India follows earlier IPO firms P/E and P/B ratios while deciding its own price band and issue price.

Model 1 - "Determinants of P/E Ratio with respect to Issue price"s objective was to find out whether an IPO follows earlier 3 IPO' P/E ratio with respect to issue price while deciding its own P/E ratio. It was found that all 3 earlier IPOs' P/E ratio with respect to issue price is significant determinant of P/E ratio of an IPO

issuing firm. The negative regression coefficients of these 3 variables indicate that a larger P/E ratio of earlier 3 IPOs reduces P/E ratio of a new IPO.

Model 2 - "Determinants of P/E Ratio with respect to Lower price band" s objective was to find out whether an IPO follows earlier 3 IPO' P/E ratio with respect to lower price band while deciding its own P/E ratio. It was found that all 3 earlier IPOs' P/E ratio with respect to lower price band is significant determinant of P/E ratio of an IPO issuing firm. The negative regression coefficients of these 3 variables indicate that a larger P/E ratio of earlier 3 IPOs reduces P/E ratio of a new IPO.

Model 3 - "Determinants of P/E Ratio with respect to Upper Price Band 's objective was to find out whether an IPO follows earlier 3 IPO' P/E ratio with respect to upper price band while deciding its own P/E ratio. It was found that P/E ratio with respect to upper price band of 1st firm is significant determinant of P/E ratio of an IPO issuing firm. The negative regression coefficient the variable indicates that a larger P/E ratio of 1st IPO reduces P/E ratio of a new IPO.

Model 4 - "Determinants of P/B with respect to Issue Price" s objective was to find out whether an IPO follows earlier 3 IPO' P/B(IP) while deciding its own P/B ratio. It was found that P/B(IP) of 2nd firm is significant determinant of P/B ratio of an IPO issuing firm. The negative regression coefficient the variable indicates that a larger P/B ratio of 2nd IPO reduces P/B ratio of a new IPO.

Model 5 – "Determinants of P/B Ratio with respect to Lower Price Band "s objective was to find out whether an IPO follows earlier 3 IPO' P/B(LB) while deciding its own P/B ratio. It was found that P/B(LB) of 3rd firm is significant determinant of P/B ratio of an IPO issuing firm. The positive regression coefficient the variable indicates that a larger P/B ratio of 3rd IPO increases P/B ratio of a new IPO.

Model 6 - "Determinants of P/B Ratio with respect to Upper Price Band" s objective was to find out whether an IPO follows earlier 3 IPO' P/B(UB) while deciding its own P/B ratio. It was found that P/B(UB) of all 3 firms is significant determinant of P/B ratio of an IPO issuing firm.

The present study found evidences in support of social comparison hypothesis. There is a social comparison among IPO investors as well as among the IPO firms. We found that different categories of investors QIBs, NIIs and RIs following each other while making IPO investment decisions. Similarly, the evidences was found that IPO firms follow previous IPO's P/E and P/B ratios while determining own price band and issue price. It was developed by Festinger (1954). It explains process of individual decision making with the help of social comparison a concept of social psychology. The theory states that a person's behavior is determined by his opinions and abilities. One evaluates his opinions and abilities by comparing them with the objective base. For example one's jumping ability can be evaluated by putting him to jump across a particular brook. , However, when an objective base is not available then one evaluates his own abilities and opinions by comparison with abilities and opinions of others. For example one's intelligence can be better measured when it is compared with others performance. The theory also states that "the tendency to compare oneself with some other specific person decreases as the difference between his opinion or ability and one's own increases. (Festinger 1954, p.120). The social comparison theory has been applied in IPO market. To our knowledge Chang (2011) is the first study to apply this theory in IPO pricing. However, it had been applied in secondary stock market where investors compare their experiences with others' while making investment decisions. Chang (2011) studied a sample of 1558 IPOs listed on Taiwan Stock Exchange and found that when issuing firms determine the offer price they compare it with other firms that went public earlier in the same industry. Similarly, investors make investment decision for an IPO by referring first day abnormal returns of other companies in the same industry that went public earlier. Thus, our study provides with the evidences of the social comparison theory in India.

The models of social comparison among IPO firms cannot be found anywhere in the previous studies in India. Chang (2011) did a similar study on Taiwan IPO. The author also found a significant relationship between new IPO's PE and P/B and earlier IPOs' P/E and P/B for 3 consecutive IPOs. The difference between Chang(2011)'s result and the present study is that in Taiwan P/E and P/B of previous IPOs is positively related with the P/E and P/B of new IPOs, whereas, in India they found to be negatively related in most of the models.

The Models of social comparison among firms can be used for predicting social comparison behavior of IPO firms. The investors can predict the impact of earlier IPOs on new issues.

As found in the present study that the IPO firms make a social comparison among themselves, while deciding their price band or offer price. The IPO issuing firms in India are using three previous IPOs price while making their own price decisions. It shows that the IPO prices are not being determined after a fundamental analysis or on the basis of their intrinsic value rather it is being determined with a social comparison which can be very harmful to the issuing firm as well as to the investors. Eventually, the company may lose its brand image in the market.

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