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DOES OWNERSHIP STRUCTURE AFFECTING IPO UNDERPRICING: A CASE OF INDIAN STOCK MARKET?

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ABSTRACT

INTRODUCTION: *The initial public offering (IPO) is an important life cycle of a firm and has significant effects on the firm's ownership structure. Ownership structure plays a dominant role in shareholding pattern in initial public offerings.*

PURPOSE OF THE STUDY: *This paper investigates the association between ownership structure and level of underpricing at Indian stock market. We make use of a large sample of 319 firms for listed on Bombay stock exchange during 2000-2011. It is argued that higher underpricing induces investor's participation. Shareholding patterns divided into four categories i.e. Indian promoters, foreign promoters, Institutional non promoters and non institutional non promoters.*

RESEARCH METHODOLOGY: *Using a sample of Indian IPOs of 319, we provide evidence of statistically significant relationship between ownership structures i.e. Indian promoters, foreign promoters, institutional non promoters and non institutional non promoters and level of underpricing.*

FINDINGS: *Overall, our analysis suggests that only Indian promoter's and non institutional non-promoters has significant affected the level of underpricing. There is negative relationship between Indian promoters holding and level of underpricing. There is positive relationship between non institutional non-promoters and level of underpricing. There is no significant relationship between foreign promoter and institutional non promoters holding and level of underpricing.*

KEYWORDS: *Bombay stock exchange, IPO underpricing, Indian primary market, Ownership structure, Share holding pattern.*

INTRODUCTION

1.0. IPO UNDERPRICING¹

Underpricing of IPOs has been considered as a prevalent phenomenon across the world. When companies go public, the equity they sell in as initial public offering tends to be underpriced, resulting in a substantial price jump on the first day trading. Underpricing is generating additional value in the stock when it first becomes traded. This leads to significant gains for investors who have been allocated shares at offer price. However, underpricing an IPO results in “money left on the table”- lost capital that could have been raised for the company had the stock been offered at a higher price.

1.1.REGULATORY REFORMS IN THE INDIAN IPOS MARKET

1.1.1 PRICING MECHANISMS

There are two frequently used techniques to issue shares in an initial public offering; book building and fixed price option. In India and most other countries, the book building technique is the most frequently used method to price shares.

1.1.1.1. BOOK-BUILDING

Book Building charges a Price at which securities will be offered/ allotted is not known in advance to the investor. Only an indicative price range is known. Book building usually leads to more aggressive pricing than traditional fixed price method. Under book building, since all applicants above the cut off points are allotted shares, ideally, there should not be any pressure of unsatisfied demand in the market, leading to a lesser possibility of market prices rising above the issue price after listing. Thus, IPOs based on book building method may give fair pricing.

1.1.1.2. FIXED PRICE OPTION

Price at which the securities are offered allotted is known in advance to the investor. Demand for the securities offered is known only after the closure of the issue. While Payment if made at the time of subscription wherein refund is given after allocation.

1.1.1.3. ALLOTMENT OF SHARES

In cases of book-built issues, the basis of allotment is finalized by lead managers or investment bankers within two weeks from the date of closure. In a situation where a company is divesting

¹ Underpricing has been considered as a prevalent phenomenon. According to SEBI reports approx \$ 37b amount has been left on table by companies since 2000-2011. Companies can raised more amount to decide true value of their initial offer.

more than twenty five per cent under a proportionate allotment system, three classes of investors can bid for the shares. At least 50 per cent shares are reserved for Qualified Institutional buyers (QIBs). These include mutual funds and foreign institutional investors. The bidding limit for retail category was raised to Rs 2 lakh (in the Securities and Exchange Board of India's latest order). At least 35 per cent is reserved for this category. The balance bids are offered to HNIs (High Net-worth Individuals) or non-institutional investors (NIIs) and corporate. At least 15 per cent is reserved for this category. If the promoters are diluting less than 25 per cent stake in an IPO, QIBs get 60 per cent reservation, retail 30 percent and NIIs 10 per cent.

1.1.1.4. OWNERSHIP STRUCTURE IN INDIA

Indian shareholding pattern has divided into four categories i.e. Indian promoters, foreign promoters, Institutional non promoters and non institutional non promoters. In the ownership structure will change and the shares sold in the IPO are designated as primary shares, which are new shares, and secondary shares, which are shares that were previously owned by existing shareholders, usually founder s and managers of the firm. The size of the new issue relative to the existing shares and their distribution will change the ownership structure. What is the effect of ownership structure on the level s of initial return?

Several papers discussed the vital role played by underpricing in achieving the desired ownership structure. Among these papers (LaPorta, 1999), point out that for emerging market countries, ownership structure plays a very important role in corporate finance. (Kim, 2004), study the relations hip between managerial ownership and firm performance using Thai IPO firms. (Yong, 2001), suggested that ownership has a positive relationships between managerial ownership and the change in performance. (Stoughton, 1998), suggest that IPO companies use underpricing to create a more practical ownership structure. Thus how underpricing affects ownership structure is a question and we, provide direct evidence in this present study. However, underpricing may affect liquidity directly without the link of a broad ownership structure. It can be said that underpricing attracts investor attention and creates a broad base of possible traders. We are tries to find the answers of these all questions. (Suzuki, 2008).

Using a sample of 319 IPOs listed on Bombay stock exchange from 2000-2011, we find the following main results: Only Indian promoters holding is significant related with level of underpricing. There is no significant relationship between foreign promoters and non promoter's holdings and level of underpricing at BSE.

The rest of the paper is organized as follows: section 2 discusses the related literature and section 3 describes about Methodology. Section 4 describes sample data, Section 5 represents the empirical analysis and section 6 elaborates discussion, conclusions are offered in section 7.

2.0 LITERATURE REVIEW

Financial theories suggest that underpricing can be used to affect Ownership structure. (Booth, 1996), examines that small investors are preferred and underpricing is used to help achieve a dispersed ownership. (Reese, 1998), showed that there is a significant positive relationship between under-pricing and post-listing trading volume for up to three years after listing. He suggested the level of investor interest in each IPO, which is represented by the extent of

financial media coverage, to be a possible explanation for this relationship. He also states that this relationship is formed through the mediation of ownership structure formed after the allocation process. (Goergen, 2007).

(Pham, 2008), find that underpricing is positively related to the breadth of shareholding base and negatively related to block holder ownership in Australia. He is also suggesting that the main motivation of achieving a broad initial ownership through underpricing is to increase secondary market liquidity. Results suggest that in the U.S. market underpricing seems to improve liquidity through another dimension on ownership structure: the number of non-block institutional shareholders.

(Booth, 1996), seems that underpricing is used to help increase the number of non-block institutional shareholders, which improves the secondary market liquidity. He also found that block holder ownership is negatively correlated with trading volume and positively correlated with bid-ask spreads. This result indicates that ownership concentration has a negative effect on after market liquidity. Given the three dimensions of ownership dispersion discussed in the previous section, this implies that liquidity is positively associated with the number of shareholders and the number of non-block institutional shareholders, but negatively correlated with block holder ownership.

(Reese, 1998), also showed that there is a significant positive relationship between underpricing and post-listing trading turnover for up to three years after listing.

(Rock, 1986), showed that those investors who are more informed (than the firm as well as other investors) about high underpricing offers crowd out uninformed investors. On the other hand these more informed investors withdraw in issues which are over priced leaving the uninformed investors with the winner's curse problem. Thus the uninformed investors would not participate in over priced issues. Hence in order to attract such investors, the firm must under price its IPO. Winner's curse argument implies that the purpose of underpricing is to attract uninformed investors, who otherwise would have withdrawn from the IPO market due to their informational disadvantage.

(Kini, 1995), examine the relation between bid-ask spread and ownership structure variables. They document a positive, but generally insignificant relation between spread and block holdings. He also finds a negative relation between institutional ownership and spreads.

(Suzuki, 2008) Empirically examine the relationship between the level of underwriter spread and ownership structure by using data from Japanese IPO firms that are issued during the years 1997-2002. He uses regression analysis to determine the effect of the ownership structure (board, bank, affiliated venture capital firms) on underwriter spread and on the post-issue operating performance of IPO firms. He finds several results that are in contrast with previous studies. The ownership by board members is positively associated with the level of gross spread but is not associated with post-issue operating performance. The presence of a commercial bank in the ownership structure of IPO firms decreases the gross spread and increases the post-issue operating performance of IPO firms. Issuers pay a lower underwriting fee as the ownership share of the lead underwriter-affiliated VC increases, unlike that of other VCs.

3.0 OBJECTIVES

- 1) To measure the IPOs return on first trading day that is priced through book building and that is priced through fixed price option at Bombay stock exchange.
- 2) To analyze the relationship between Indian promoter's and foreign promoter's and level of dependent variable i.e. underpricing.
- 3) To analyze the relationship between institutional non promoter's and non institutional non promoter's and level of dependent variable i.e. underpricing.

4.0 RESEARCH METHODOLOGY

The data is analyzed using multiple linear regressions. All the ownership structure variables are regressed against the underpricing to find out which variables are significant in determining the underpricing. Multiple linear regressions are done to see if there is a statistically significant difference in the level of underpricing between ownership structures.

HYPOTHESIS 1: There is no significant difference between Indian promoters and level of underpricing.

HYPOTHESIS 2: There is no significant difference between foreign promoters and level of underpricing.

HYPOTHESIS 3: There is no significant difference between institutional non promoters and level of underpricing.

HYPOTHESIS 4: There is no significant difference between non institutional non promoters and level of underpricing.

4.1. MEASURES OF UNDERPRICING

Consistent with previous studies level of underpricing are calculated using the following formula:

$$\text{Underpricing} = (P1-PO)/PO*100$$

Or

$$\text{Underpricing} = \ln (P1-PO)/PO*100$$

Where P1= First day closing price or i security at listing day

P0= Offer price of i security

4.2. MEASURES OF OWNERSHIP STRUCTURE

The ownership structure of a company consists of a distribution of the size of investor shareholdings. Using a single measure in the form of a proportion is to be sufficient to describe distributions with varying shapes. Numbers of shares are holding by promoters and non promoters. And total percentage of their shares holding in the ownership structure. After that we convert it into natural logarithm to make standardized value and to remove the hetroscadisticity.

4.2.0 THE MULTIPLE REGRESSIONS MODEL

The impact of the independent variables namely, Indian promoter's , foreign promoter's , institutional non promoters and non institutional non promoter's on the dependent variable underpricing is modeled through multiple regression as:

ESTIMATION EQUATION

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$$\text{LOGUNDER} = C(1) + C(2)*\text{LOGINDPROM} + C(3)*\text{LOGFORGNPROM} + C(4)*\text{LOGINSTNONPROM} + C(5)*\text{LOGNONINSTNONPROM} + e$$

5.0. DATA

The data for the study was obtained from the website of the Bombay stock Exchange (BSE) <http://www.bse-india.com/> under the heading of book building in IPOS. We also supplemented these data from CMIE & Capital line database. The period for which the data was taken for the study was Oct 2000 to 31st dec 2011.

IPOS ON BOMBAY STOCK EXCHANGE FROM 2000-2011

Year	Total	Bse issue	BB	FPO	BB-Under	BB-Over	Fpo-Under	Fpo-over
2000	118	67	11	56	6	5	30	26
2001	16	10	2	8	0	2	2	6
2002	5	5	1	4	0	1	4	0
2003	14	11	4	7	3	1	5	2
2004	28	25	17	8	9	8	6	2
2005	70	67	48	19	26	21	14	5
2006	90	89	68	21	36	32	14	7
2007	106	105	91	14	58	32	7	7
2008	38	38	33	5	16	17	2	3
2009	21	21	21	0	14	7	0	0
2010	73	73	71	2	47	24	2	0
2011	40	39	38	1	19	19	0	1
Total	619	550	405	145	234	169	86	59

TABLE NO 1: IPOs AT BOMBAY STOCK EXCHANGE FROM 2000-2011
DETAILS OF IPO UNDERPRICING AT BOMBAY STOCK EXCHANGE SINCE 2000

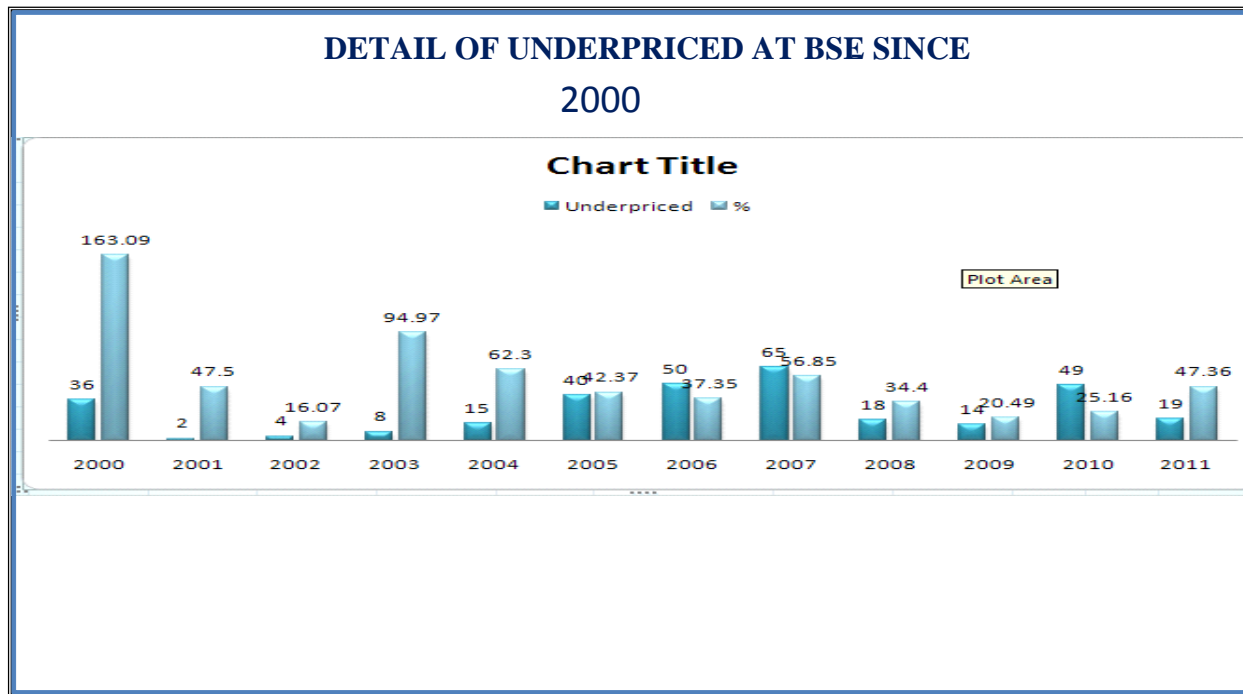


FIG NO 1, DETAIL OF UNDERPRICING AT BSE

5.1. DESCRIPTIVE RESULTS

DESCRIPTIVE ANALYSIS OF UNDERPRICING AND OWNERSHIP STRUCTURE

	LOGUNDER	LOGFORGP	LOGNONINSTNONP	LOGINSTNONP	LOGINDP
Mean	3.150939	0.267599	1.101281	2.431109	3.839327
Median	3.278859	0.012875	0.021477	3.039950	4.192922
Maximum	6.394761	4.537327	4.602667	4.605170	4.605170
Minimum	-0.336472	0.000000	-4.828314	-8.111728	-8.111728
Std. Dev.	1.338283	0.941874	1.448377	1.873435	1.355877
Skewness	0.326859	3.405807	0.203038	-2.101641	-4.844189
Kurtosis	2.900491	13.12489	2.979129	9.296819	34.77644
Jarque-Bera	5.811765	1979.282	2.197560	761.8452	14668.77

Probability	0.054700	0.000000	0.333277	0.000000	0.000000
Sum	1005.150	85.36423	351.3085	775.5239	1224.745
Sum Sq. Dev.	569.5386	282.1064	667.0990	1116.103	584.6118
Observations	319	319	319	319	319

TABLE NO . 2 DESCRIPTIVE ANALYSIS OF UNDERPRICING AND OWNERSHIP STRUCTURE

Table no 2. Provide the descriptive statistics for the overall study sample. The average underpricing for the overall sample is 3.15 with standard deviation of 1.33. The level of underpricing widely varies in the range of -.33 to 6.39. Skewness & kurtosis is also in acceptance region with the value of .3268 to 2.90 respectively. The value of Jarque bera test is 5.811.

5.3. TEST FOR NORMALITY

TEST FOR NORMALITY

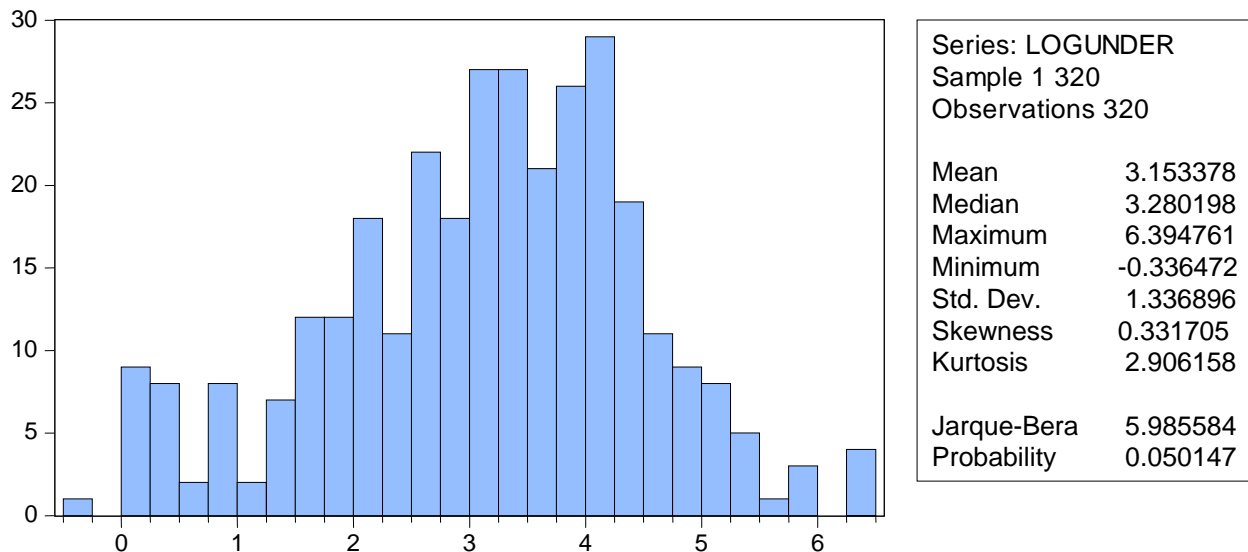


FIG NO 2: NORMALITY RESULTS BY JARQUE BERA TEST

5.4. CHECKING THE DATA FOR STATIONARITY OF THE TIME SERIES

LOGUNDER

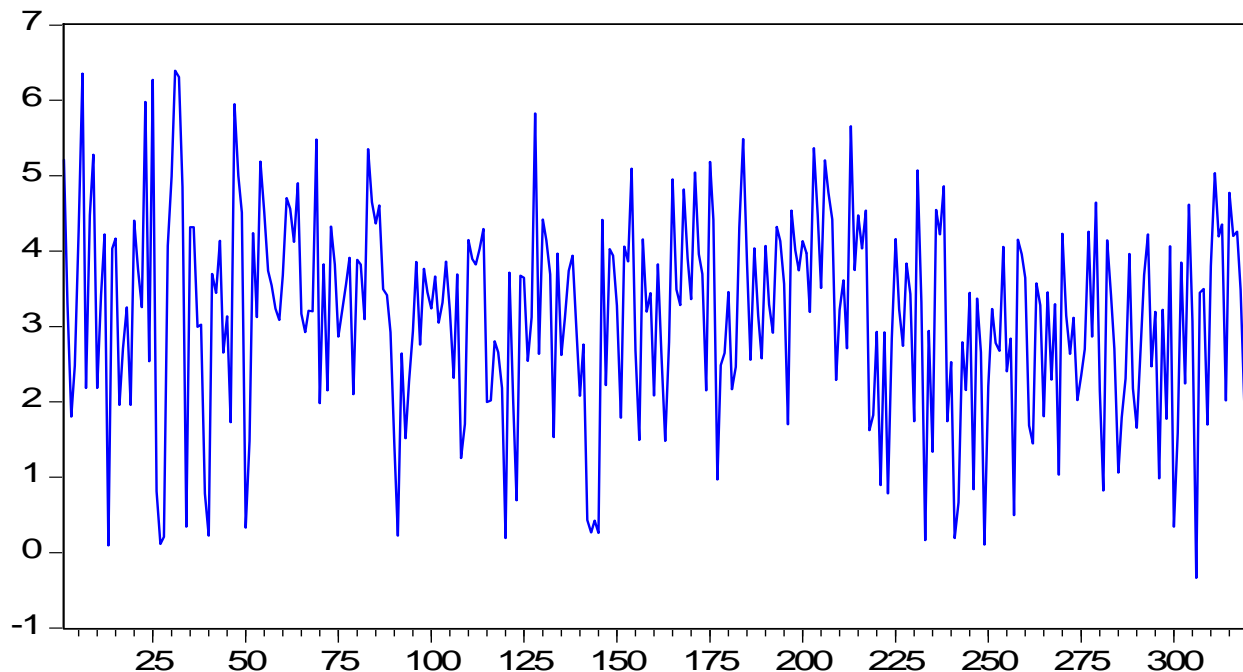


FIG 3: DEGREE OF UNDERPRICING – FIRMS TO THE EXTREME LEFT IN THE X AXIS WERE LISTED IN APRIL 2000 AND THOSE TO THE EXTREME RIGHT IN DEC-2011. . Y AXIS SHOWS THE DEGREE OF UNDERPRICING IN PERCENTAGE TERMS.

5.5. AUGMENTED DICKEY-FULLER TEST EQUATIONS

Null Hypothesis: UNDER has a unit root Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=16)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-13.93049	0.0000
Test critical values:	1% level	-3.450812	
	5% level	-2.870444	
	10% level	-2.571584	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(UNDER)

Method: Least Squares

Sample (adjusted): 2 320

Included observations: 317 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
UNDER(-1)	-0.758491	0.054448	-13.93049	0.0000
C	38.15387	5.192835	7.347408	0.0000
R-squared	0.381211	Mean dependent var		-0.542303
Adjusted R-squared	0.379246	S.D. dependent var		99.14658
S.E. of regression	78.11554	Akaike info criterion		11.56054
Sum squared resid	1922142.	Schwarz criterion		11.58426
Log likelihood	-1830.346	Hannan-Quinn criter.		11.57002
F-statistic	194.0585	Durbin-Watson stat		1.855197
Prob(F-statistic)	0.000000			

TABLE NO 3: STATIONARITY RESULTS BY AUGMENTED DICKEY-FULLER TEST EQUATION

The computed ADF test-statistic (-13.93) is smaller than the critical values - "tau" (-2.5715, -2.870, -3.4508 at 10%, 5%, 1% significant level, respectively), therefore we can reject Ho. It means the underpricing I series doesn't has an unit root problem and the underpricing series is a stationary series at 1%, 10% and 5% significant level.

5.6. ESTIMATION THE MULTIPLE REGRESSION EQUATION

Dependent Variable: LOGUNDER

Method: Least Squares

Date: 03/24/12 Time: 17:38

Sample (adjusted): 1 319

Included observations: 319 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.497240	0.329225	10.62265	0.0000
LOGFORGP	-0.086495	0.093059	-0.929466	0.3534
LOGINSTNONP	-0.071740	0.053637	-1.337517	0.1820
LOGNONINTNONP	0.077483	0.041213	2.080070	*0.0610
LOGINDP	-0.112655	0.066630	-2.690746	*0.0919

R-squared	0.229572	Mean dependent var	3.150939
Adjusted R-squared	0.187210	S.D. dependent var	1.338283
S.E. of regression	1.326717	Akaike info criterion	3.418842
Sum squared resid	552.6961	Schwarz criterion	3.477858
Log likelihood	-540.3053	Hannan-Quinn criter.	3.442411
F-statistic	2.392153	Durbin-Watson stat	1.643509
Prob(F-statistic)	0.000667		

TABLE NO 4 : RESULTS FOR MULTIPLE REGRESSION AT 5% SIGNIFICANCE LEVEL Z=1.96

COEFFICIENTS

LOGUNDER = 3.497240 -0.086495* LOGFORGP -0.071740* LOGFORNONP+ 0.077483* LOGINDNONP -0.112655* LOGINDP

Based on the multiple linear regression result it was found that Indian promoter's and Non institutional non promoters has significant relationship with level of underpricing at the Bombay stock exchange. Foreign promoter's and institutional non promoters has no significant relationship with level of underpricing. There is a significant relationship between Indian promoter's and level of underpricing at 5% significance level ($z=-2.69$) as z table value is ($z=-1.96$). This indicates that Indian promoters have negative effect on level of underpricing. Therefore null hypothesis 1 is rejected. There is no significant difference between foreign promoters and level of underpricing at 5% significance level ($z= -0.929$). Therefore null hypothesis 2 is accepted. There is no significant difference between institutional non promoters and level of underpricing at 5% significance level ($z= -1.33$). Therefore null hypothesis 3 is accepted. There is a significant difference between non institutional non promoters and level of underpricing at 5% significance level ($z= 2.08$). This indicates that non institutional non promoters have positive effect on level of underpricing. Therefore null hypothesis 4 is rejected.

6.0 DISCUSSION

Our study also gives similar results regarding Promoters holding. Indian promoter's holdings are having negative relationship with level of underpricing. The results indicating the negative relationship of Indian promoters in the present study is in confirmation with results found by (Pham, 2008) in their study. A non institutional non promoter is having positive relationship with level of underpricing in the present study. It is also in confirmation with the results found by (Booth, 1996), Foreign promoters are having no significant relationship with level of underpricing in the present study. A finding of the present study is not agreement with findings by (Pham, 2008). Institutional non promoters has no significant relationship with level of underpricing in the present study. A finding of the present study is no agreement with findings by (Kini, 1995), (Suzuki, 2008) who finds a negative relation between institutional ownership and underpricing.

7.0 CONCLUSION

This paper examines the analysis of underpricing in the Indian stock market and determines the factors are significant in affecting the underpricing. Among the variables, Indian promoters & non institutional non promoters has a significant relationship with level of underpricing. There is negative effect of Indian promoters holding on level of underpricing. This indicates that more Indian promoter's holdings reduce the level of underpricing in Indian stock market. There is positive effect of non institutional non promoters on level of underpricing. This indicates that more non institutional holdings tend to more underpricing. Therefore there is no significant effect on foreign promoters and institutional non promoters holding on level of underpricing in Bombay stock exchange.

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