"Exploring the relationship between Price band and Oversubscription with level of Underpricing: A study of selected IPO"

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Abstract: An unlisted company can be listed on a stock exchange by making its securities available to the public through an initial public offering (IPO). The primary objective of the research is to evaluate the performance of initial public offerings (IPOs) in the Indian market by examining independent factors such as price range, oversubscription, promoter ownership, issue size, time to listing, rating, and the company's age at the time of IPO. Their search indicates that the multiple R^2 is more than 90%. The census approach is applied in this investigation. The 260 IPOs with listing gains had excellent performance during the listing days. The initial public offering (IPO) could be an excellent means for an average person to get started in investing.

Introduction: -

An "offering" or "flotation" is the process of presenting a company's stock for the first time on a public stock exchange. This procedure involves a corporation issuing its initial batch of shares to the general public. These are typically issued by newer, smaller businesses looking for funding to grow, but big privately held businesses hoping to go public can also do so.

Initial Public Offerings (IPOs) are when a business offers its shares to the general public for purchase as soon as it is incorporated. All sizes of businesses utilize it to raise money to become publicly traded firms, expand their current businesses, or meet their original funding requirements. Investment banking firms help businesses that intend to go

public by acting as both an underwriter and a consultant, helping the company determine what a fair and reasonable price to set for its shares.

It comes to funding sources, the corporation uses public offerings the most (bonds, debentures etc.). Through an initial public offering (IPO), a company can raise money that benefits all parties involved, not just itself. The safest way for any firm to raise money is through an initial public offering (IPO). It's one approach to increasing ownership. The money generated via initial public offerings (IPOs) serves as the company's capital and is often non-refundable.

An initial public offering (IPO) typically involves three parties: the issuing firm, vendors (such as investment bankers), and investors. Raising money is the company's primary goal when it issues an IPO. However, in a similar vein, the corporation must foster an environment that offers both long-term returns to shareholders and quick rewards to investors by facilitating a rise in the share price on the listing. The vendor acts as a liaison between the business and potential investors. In an IPO, the vendors' main goal is to receive commissions right once. But, they also want to establish a market for themselves by guaranteeing that all shares are sold and to be regarded as a successful middleman. Since they are the ones making the investments and taking on the actual risk, investors are the ones who are most impacted. To lower risk, they will constantly be intrigued by portfolios. Investors always want to see an increase in the value of their shares and will look for measures to increase the return on their investment, such as dividends, bonus shares, share price growth, etc.

STATEMENT OF THE PROBLEM

According to multiple earlier research, there are undervalued initial public offerings (IPOs) on the stock exchange. In order to shed more light on the potential source of the noted underpricing, the researcher want to go deeper. How much can be seen in terms of differences in independent variables across the chosen initial public offerings? Does underpricing have a relationship with independent variables? The researcher plans to conduct " Exploring the relationship between Price band and Oversubscription with level of Underpricing: A study of selected IPO"

OBJECTIVE OF THE STUDY

1. To examine the initial public offerings (IPOs) throughout the chosen time frame in light of independent factors such as price range, oversubscription, promoter ownership, issue size, time to listing shares, rating, and the company's age at IPO.

HYPOTHESES

1. There is a significant relationship between the Price band and the degree of underpricing.

2. There is a significant connection between oversubscription and the level of underpricing.

SIGNIFICANCE OF THE STUDY

Investors can utilize the report to help them make decisions about investing in initial public offerings. The current study will be helpful to academics teaching IPO performance as well as financial market experts looking for an overview of the initial public offerings (IPOs) of various companies. For those who are new to the primary market,

the study is helpful. Students taking business and finance courses might benefit from the study by examining various aspects of initial public offerings (IPOs) and their outcomes.

RESEARCH METHODOLOGY: -

METHODS OF DATA COLLECTION: -

a) Secondary Data: -

Secondary data served as the study's foundation. During the research phase, the researcher obtained secondary data from annual reports of companies that went public through initial public offerings (IPOs). Additionally, NSE data has been gathered to provide additional share price information. The data was also gathered by the researcher from publications such as books, journals, newspapers, research papers, and articles.

b) Selected Companies: -

Year	Companies (i.e., IPOs)
2016-17	055
2017-18	127
2018-19	080
Total	**262**

(Source: Compiled by Researcher)

Methods of Data Analysis:

The data has been processed and analysed by using different techniques and various statistical tools such as Correlation and Multiple linear regression to achieve the objectives of the present research. The appropriate test for the hypothesis has been followed such as the t-test.

SCOPE OF THE STUDY: -

Area of study:

The area of study is confined to selected companies listed to NSE during the financial years 2016-2019

Analytical scope:

The study analysed the effects of selected parameters on the IPO performance of selected companies listed to NSE during the study period.

Periodical scope

The study has covered one year which is the financial year 2016-2019.

Topical scope

The present study focused on "**Exploring the relationship between Price band and Oversubscription with level of Underpricing: A study of selected IPO".** It analyses the post-listing behavior of securities listed to NSE

concerning independent variables like price band, oversubscription, promoter holding, issue size, time for listing shares, rating and the company's age at the time of IPO.

LIMITATIONS OF THE STUDY: -

The NSE-listed firms have been included in the analysis. The share price behaviour of these companies has been thoroughly examined. As a result, additional features of the non-financial criteria of the organisation have not been taken into account. The study period is limited to a maximum of three years. IPOs that were released within these three years have been examined. Even though there were 262 initial public offerings (IPOs) over these three years, the pertinent information for two of the firms was unavailable, therefore 260 companies in total were taken into consideration for this study. Sakar Healthcare Ltd. and CKP Leisure Ltd. are these two businesses.

Regression Analysis

The results of the statistical analysis of the empirical data used in this study to investigate the several facets of IPO underpricing in the Indian capital market are provided in this section of the chapter. The data set examined in this study consists of 262 companies who conducted initial public offerings and issued their shares on the NSE between April 2016 and March 2019.

The study focused on the post listing behaviour of securities issued through IPO will be analyzed with reference to the factors (Independent) such as price band, over Subscription, Promoters Holding, Issue Size, Time for listing shares, Rating, Age of the firms and (Dependent) issue price recorded at first month, six month and twelve month then monthly fluctuation in the price of those securities till one year of listing.

The data have been taken in respect of opening price and analyzed with various parameters. Multiple Linear Regression Model (MLRM) has been used.

P (M_1)

In Table 4.1 (b), we report the overall result of our MLRM. From below Table 1.1 (a), it is clear that, the value of R^2 is 93.59%, which indicates that the model fits better to the data. In Table 1.1 (b), we report the corresponding ANOVA results. We observe that, the value of significance of F is 2.2×10^{-146} and is less than $\alpha = 0.05$ (Level of significance) and hence we reject the null hypothesis at 5% LOS and we conclude that factors are significantly affecting the P (M_1) (1st end month) share price of the companies after their IPOs are traded in the market.

Table 1.1 (a)
Regression Statistics (1st End Month)

Multiple R	0.96742
R Square	0.935902
Adjusted R Square	0.934121
Standard Error	83.95252
Observations	260

Table 1.1 (b)
ANOVA (1st End Month)

	df	SS	MS	F	Significance F
Regression	7	25932872	3704696	525.636	2.2E-146
Residual	252	1776102	7048.026		
Total	259	27708974			

Table 1.1 (c)
Regression Analysis (1st End Month)

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-32.9734	65.63471	-0.50238	0.615841	-162.236	96.28905	-162.236	96.28905
X1	1.106225	0.022186	49.86195	1.5E-132	1.062532	1.149918	1.062532	1.149918
X2	0.901805	0.128747	7.004502	2.25E-11	0.648249	1.155362	0.648249	1.155362
X3	-0.18046	0.351559	-0.51331	0.608185	-0.87283	0.51191	-0.87283	0.51191
X4	-0.01253	0.004181	-2.99706	0.002998	-0.02076	-0.0043	-0.02076	-0.0043
X5	1.86505	1.770414	1.053454	0.293142	-1.62164	5.351742	-1.62164	5.351742
X6	8.961514	12.71534	0.70478	0.481598	-16.0804	34.00339	-16.0804	34.00339
X7	-0.53994	0.340425	-1.58609	0.113973	-1.21038	0.130496	-1.21038	0.130496

From above table 1.1 (c), it is clear that Price Band (X1), Over subscription (X2) and Issue Size (X4) are significant as their corresponding p-values are less than 5% LOS and we conclude that these factors effect on the P (M$_1$) (1st end month) price of the stock.

P (M$_6$)

In Table 1.2 (b), we report the overall result of our MLRM. From below Table 1.2 (a), it is clear that, the value of R^2 is 81.45%, which indicates that the model fits better to the data. In Table 1.2 (b), we report the corresponding ANOVA results. We observe that, the value of significance of F is 2.14×10^{-88} and is less than $\alpha = 0.05$ (Level of significance) and hence we reject the null hypothesis at 5% LOS and we conclude that factors are significantly affecting the P (M$_6$) (6th end month) share price of the companies after their IPOs are traded in the market.

Table 1.2 (a)
Regression Statistics (6th Month)

Multiple R	0.902504
R Square	0.814514
Adjusted R Square	0.809362
Standard Error	168.4407
Observations	260

Table 1.2 (b)
ANOVA (6th Month)

	df	SS	MS	F	Significance F
Regression	7	31396534	4485219	158.0847	2.14E-88
Residual	252	7149810	28372.26		

			259	38546344				

| Total | | | 259 | 38546344 | | | | |

Table 1.2 (c)
Regression Analysis (6th Month)

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-83.5025	131.6882	-0.63409	0.526596	-342.852	175.8472	-342.852	175.8472
X1	1.215862	0.044513	27.31472	2.78E-77	1.128197	1.303527	1.128197	1.303527
X2	0.816582	0.258315	3.161193	0.001764	0.307852	1.325312	0.307852	1.325312
X3	-0.56403	0.705361	-0.79963	0.424677	-1.95318	0.825124	-1.95318	0.825124
X4	-0.01785	0.008388	-2.12818	0.034292	-0.03437	-0.00133	-0.03437	-0.00133
X5	2.905699	3.552123	0.818017	0.41412	-4.08993	9.90133	-4.08993	9.90133
X6	32.09119	25.51181	1.257895	0.209594	-18.1523	82.33472	-18.1523	82.33472
X7	-0.74867	0.683021	-1.09612	0.274075	-2.09383	0.596487	-2.09383	0.596487

From above table 1.2 (c), it is clear that Price Band (X1), Over subscription (X2) and Issue Size (X4) are significant as their corresponding p-values are less than 5% LOS and we conclude that these factors effect on the P (M_6) (6th end month) price of the stock. The equation of MLRM is given by

P (M_{12})

In Table 1.3 (b), we report the overall result of our MLRM. From below Table 1.3 (a), it is clear that, the value of R^2 is 61.22%, (which is slightly less than the others) which indicates that the model fits better to the data. In Table 1.3 (b), we report the corresponding ANOVA results. We observe that, the value of significance of F is 2.34×10^{-48} and is less than $\alpha = 0.05$ (Level of significance) and hence we reject the null hypothesis at 5% LOS and we conclude that factors are significantly affecting the P (M_{12}) 12th end month share price of the companies after their IPOs are traded in the market.

Table 1.3 (a)
Regression Statistics (12th Month)

Multiple R	0.782486
R Square	0.612285
Adjusted R Square	0.601515
Standard Error	229.6488
Observations	260

Table 1.3 (b)
ANOVA (12th Month)

	df	SS	MS	F	Significance F
Regression	7	20987913	2998273	56.85162	2.34E-48
Residual	252	13290119	52738.57		
Total	259	34278032			

Table 1.3 (c)
Regression Analysis (12th Month)

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-130.799	179.5412	-0.72852	0.466973	-484.391	222.7935	-484.391	222.7935
X1	0.978531	0.060688	16.12389	1.14E-40	0.859011	1.098052	0.859011	1.098052
X2	0.688674	0.352181	1.955453	0.051635	-0.00492	1.382267	-0.00492	1.382267
X3	-0.51535	0.961675	-0.53589	0.592509	-2.4093	1.378595	-2.4093	1.378595
X4	-0.01304	0.011436	-1.14024	0.255268	-0.03556	0.009482	-0.03556	0.009482
X5	2.814546	4.842897	0.58117	0.561645	-6.72316	12.35226	-6.72316	12.35226
X6	51.73979	34.78232	1.487532	0.138125	-16.7613	120.2409	-16.7613	120.2409
X7	-0.95157	0.931218	-1.02185	0.307831	-2.78553	0.882395	-2.78553	0.882395

From above table 1.3 (c), it is clear that Price Band (X1) are significant as their corresponding p-values are less than 5% LOS and we conclude that these factors effect on the P (M_{12}) 12th end month price of the stock.

Testing of Hypothesis

H_1 There is a significant relationship between Retail Subscription and the degree of underpricing.

H_0 There is no significant relationship between Retail Subscription and the degree of underpricing.

$$R = 0.5523$$

$$N = 260$$

$$t = 0.5523 * \sqrt{\frac{(260-2)}{1-(0.5523)^2}}$$

t = 0.5523 * 16.0645

t_cal = 10.641

t_tab value = 1.962

Here, t_cal value is greater than t_tab value So, there is significant relationship between Retail Subscription and the degree of underpricing. So, rejecting the null hypothesis.

H_1 There is a significant relationship between Book building and the degree of underpricing.

H_0 There is no significant relationship between Book building and the degree of underpricing.

$$R = 0.1040$$

$$N = 260$$

$$t = 0.1040 * \sqrt{\frac{(260-2)}{1-(0.1040)^2}}$$

$$t = 0.1040 * 16.0645$$

$$t\_cal = 1.679$$

$$t\_tab\ value = 1.962$$

Here, t_cal value is less than t_tab value So, there is no significant relationship between Book building and the degree of underpricing. So, accepting the null hypothesis.

Findings: -

1. Table 1.1 (a) shows that multiple R is 96.74%. It means P (M$_1$) price of a share after listing of an IPO has significant impact of the given factors.

    As per Table 1.1 (b) ANOVA shows the significant impact of P (M$_1$) price of security.

    From Table 1.1 (c) It is clear that price band, oversubscription and Issue size are significant factors which directly have impact on movement of share prices after listing of an IPO.

2. Table 1.2 (a) shows that multiple R is 90.25%. It means P (M$_6$) price of a share after listing of an IPO has significant impact of the given factors.

    As per Table 1.2 (b) ANOVA shows the significant impact of P (M$_6$) price of security.

    From Table 1,2 (c) It is clear that price band, oversubscription and Issue size are significant factors which directly have impact on movement of share prices after listing of an IPO.

3. Table 1.3 (a) shows that multiple R is 78.24% which is slightly less than the others. It means P (M$_{12}$) price of a share after listing of an IPO has significant impact of the given factors.

    As per Table 1.3 (b) ANOVA shows the significant impact of P (M$_{12}$) price of security.

    From Table 1.3 (c) It is clear that price band are significant factors which directly have impact on movement of share prices after listing of an IPO.

Suggestions: -

1. Making an investment, all investors are required to review the prospectus and financial data of the company. Otherwise, they run the risk of falling into difficulty if they pay attention to market whispers and ignore more important variables.

2. After the IPO is floated in the market, the Closing price of that share at the end of 1st month of the trading can be predicted with the help of following formula.

$$P(M1) = -32.9734 + 1.1062 * X1 + 0.9018 * X2 - 0.1804 * X3 - 0.0125 * X4 + 1.8650 * X5 + 8.9615 * X6 - 0.5399 * X7$$

    Investors can anticipate on the basis of the factors informed through prospectus of the company and decide whether to invest in the company's IPO or not.

3. After the IPO is floated in the market, the Closing price of that share at the end of 6th month of the trading can be predicted with the help of following formula.

$$P(M6) = -83.5025 + 1.2158 * X1 + 0.8165 * X2 - 0.5640 * X3 - 0.0178 * X4 + 2.9056 * X5 + 32.0919 * X6 - 0.7486 * X7$$

Investors can anticipate on the basis of the factors informed through prospectus of the company and decide whether to invest in the company's IPO or not.

4. After the IPO is floated in the market, the Closing price of that share at the end of 12th month of the trading can be predicted with the help of following formula.

$$P(M12) = -130.799 + 0.9785 * X1 + 0.6886 * X2 - 0.5153 * X3 - 0.0130 * X4 + 2.8145 * X5 + 51.7397 * X6 - 0.9515 * X7$$

Investors can anticipate on the basis of the factors informed through prospectus of the company and decide whether to invest in the company's IPO or not.

Conclusion: -

A significant amount of research interest has been generated in the field of performance evaluation due to the sheer number of initial public offerings (IPOs) and the amount of money raised through them in the Indian primary market. Additionally, evidence from literature has shown that IPO performance varies in the short run and is driven by a variety of company- and market-specific factors, and that IPOs are underpriced throughout India and that underpricing is caused by a variety of factors. The main goals of this study are to compare the performance of underpriced IPOs in the Indian primary market, analyse IPO activity and features, evaluate IPO short-term performance, and look into the impact of various factors on IPO performance. Additionally, the study aims to examine the extent and degree of IPO underpricing.

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