



Short Run Performance of Initial Public Offerings of Companies Listed at NSE

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Abstract:

The study focuses on analysing the investor experience of investing in the IPOs in the short run. It further studies the influence of offer size, offer price, premium on issue, listing price and the age of the company on the short run performance of IPO. The average Market Adjusted Abnormal Return (MAAR) for all the companies together was found to be 28%. The offer size, premium on issue and the age of the company had no influence on the short run returns reflected by Market Adjusted Abnormal Returns (MAAR). The listing price had a positive influence on MAAR that means a higher listing price led to an increase in the abnormal returns in the short run. The offer price had a negative influence on MAAR, which implies that a higher offer price led to a decrease in the abnormal returns in the short run.

Keywords: Listing price, MAAR (Market Adjusted Abnormal Returns), Offer price, Short run performance, Under pricing

1. Introduction

When an unlisted company makes either a fresh issue of securities or offers its existing securities for sale or both for the first time to the public, it is called an IPO (Initial Public Offering). This paves way for listing and trading of the issuer's securities in the Stock Exchanges.

Prior to reforms initiated in early nineties, all public issues in India were required to obtain approval from the office of Controller of Capital Issues (CCI) for raising capital. With the abolition of the office of CCI in 1992, Securities and Exchange Board of India (SEBI) was formed and the issuers were free to price their issues in consultation with the lead managers giving justifications for the proposed premium and disclosing the relevant information. This mechanism for pricing the IPOs was called the fixed price method where the price of the offer was decided by the issuer along with the lead manager well in advance. The forces of globalization and technological advancements accompanied by the reforms aiming at liberalization and deregulation in the Indian securities market led to expansion and growth of Indian capital markets. Equity market reforms involved developing institutions that expanded both the scope and the reach of the market participants. In its strive to continuously improve the Indian Securities market, NSE offered infrastructure for conducting online Initial Public Offerings (IPOs) through book-building mechanism. Though the guidelines for book-building were issued in the year 1995, they were implemented in the year 1999 only. NSEs' online IPO system was launched with the book-built issue of Hughes Software Systems Ltd. in September 1999 and the issue was oversubscribed nearly twenty six times. This shows investors keen interests in investing in an IPO.

2. Literature Review

Performance of IPOs in the short-run has evolved as an area of interest among capital markets research. "The Initial Return performance of U.K. Property Company IPOs" by Winston Sahi and Stephen L. Lee (1995) presented empirical evidence for a sample of 48 UK property company initial public offerings over the period 1986 to 1995 and concluded that the property companies showed positive average first day returns (7.8%) and the average first day return by property trading companies was significantly higher than that for property investment companies. John W. Cooney, Ajai Singh and others (2001) studied a sample of U.S. IPOs drawn from 1981-1998 and found a

negative relation between IPO initial returns and underwriter reputation in the 1980s and a positive relation in the 1990s. However, a more detailed analysis revealed that the inverse relationship between underwriter's prestige and initial returns continues but only for offerings priced between the filing range where filing range refers to the price between the high and the low estimated offering price filed with the IPO's preliminary prospectus.

Chitru S. Fernando and others (1999) in their study, "Offer price, target ownership structure and IPO performance", based on US firms, found that higher priced IPOs, marketed by more reputed underwriters and attracting a larger institutional investment were relatively more underpriced and the long-run performance increased with offer price.

Another study by Francesca Cornelli and David Goldreich (2003) found that the information in bids which included a limit price, especially those of large and frequent bidders, affected the issue price. Oversubscription and demand elasticity were positively correlated with first-day after market returns and demand elasticity was negatively correlated with after market volatility. Their results supported the view that bookbuilding is designed to extract information from investors. 'An Empirical Examination of Intended and Unintended IPO Underpricing in Singapore and Malaysia' by Md Hamid Uddin (2008) is a comparative study on Singapore and Malaysia and stated that the delay in IPO listing after setting the offer price resulted in unintended underpricing. Hence, the listing time lag is an important factor to explain IPO initial returns.

3. Objectives of Study

The main objectives of the study are as follows:

1. To study short run performance of the Indian IPOs
2. To study the influence of Offer size, Offer Price, Listing Price, Premium and Age on the short run performance of the IPOs.

4. Hypotheses

1) **H₀**: There is no influence of Offer size, Offer Price, Listing Price, Premium and Age on the short run performance of the IPOs.

H₁: There is influence of Offer size, Offer Price, Listing Price, Premium and Age on the short run performance of the IPOs.

The dependent variable for this hypothesis is MAAR (Market Adjusted Abnormal Returns) and the independent variables are offer size, offer price, listing price, premium on issue and age of the company.

2) **H₀**: There is no influence of Offer size, Offer Price, Listing Price and Age on Premium in the short run.

H₁: There is an influence of Offer size, Offer Price, Listing Price and Age on Premium in the short run.

The dependent variable for this hypothesis is Premium on issue and the independent variables are offer size, offer price, listing price and age of the company.

5. Data Processing and Analysis Plan

To study the short run price performance of the sample companies Market Adjusted Abnormal Returns (MAAR) for each company has been calculated.

The total return for stock "i" at the end of first trading day is calculated as:

$$R_{i1} = (P_{i1}/P_{i0}) - 1 \text{ -----(1)}$$

where P_{i1} is the closing price of the stock “i” at the first trading day and P_{i0} is its offer price and R_{i1} is the total first-day return on the stock.

The return on the market index during the same period is calculated as:

$$R_{m1} = (P_{m1} / P_{m0}) - 1 \text{-----(2)}$$

where P_{m1} is the closing market index (S&P CNX NIFTY) value at the first trading day and P_{m0} is the closing market index value on the offering day and R_{m1} is the first trading day’s comparable market return.

Using these two returns, the Market Adjusted Abnormal Returns (MAAR) for each IPO on the day of listing is computed as:

$$MAAR_{i1} = 100 \times \{ [(1 + R_{i1}) / (1 + R_{m1})] - 1 \} \text{-----(3)}$$

6. Result and Findings

The average initial return for all the companies together was 28%. The number of companies with a negative MAAR was 72, which is 30.51% of the total number of companies studied and 164 companies out of 236 (69% of the total number of companies) showed positive returns in the short run. There were 15 companies that provided an initial return of more than 100% which accounts for 6.35% of the sample size. Standard Deviation was high at 45.99, which shows a high variability in the returns provided by the companies in the short run.

7. Regression Analysis

Hypothesis 1

H_0 : There is no influence of Offer size, Offer Price, Listing Price, Premium and Age on the short run performance of the IPOs.

H_1 : There is influence of Offer size, Offer Price, Listing Price, Premium and Age on the Short run performance of the IPOs.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.737 ^a	.543	.533	31.43134

a. Predictors: (Constant), Age, Premium, Offer Size, Listing Price, Offer Price

ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	270012.705	5	54002.541	54.662	.000 ^a
	Residual	227223.687	230	987.929		
	Total	497236.392	235			

a. Predictors: (Constant), Age, Premium, Offer Size, Listing Price, Offer Price

b. Dependent Variable: Market Adjusted Abnormal Returns

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	29.353	4.189		7.008	.000		
	Listing Price	.267	.016	1.680	16.523	.000	.192	5.201
	Offer Size	.001	.002	.016	.363	.717	.964	1.037
	Offer Price	-.356	.026	-1.506	-13.943	.000	.170	5.872

Premium	.017	.040	.023	.425	.671	.670	1.493
Age	-.007	.167	-.002	-.042	.966	.991	1.009

a. Dependent Variable: Market Adjusted Abnormal Returns

Collinearity Diagnostics^a

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions					
				(Constant)	Listing Price	Offer Size	Offer Price	Premium	Age
1	1	3.621	1.000	.01	.01	.01	.00	.02	.02
	2	1.068	1.841	.01	.01	.52	.00	.05	.04
	3	.686	2.298	.03	.00	.37	.00	.25	.18
	4	.407	2.982	.00	.05	.05	.02	.56	.24
	5	.173	4.571	.87	.06	.05	.01	.05	.52
	6	.045	8.998	.07	.88	.00	.96	.06	.01

a. Dependent Variable: Market Adjusted Abnormal Returns

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.736 ^a	.542	.538	31.25128

a. Predictors: (Constant), Offer Price, Listing Price

ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	269678.743	2	134839.371	138.064	.000 ^a
	Residual	227557.650	233	976.642		
	Total	497236.392	235			

a. Predictors: (Constant), Offer Price, Listing Price

b. Dependent Variable: Market Adjusted Abnormal Returns

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	29.479	3.068		9.607	.000		
	Listing Price	.266	.016	1.676	16.614	.000	.193	5.184
	Offer Price	-.353	.024	-1.493	-14.793	.000	.193	5.184

a. Dependent Variable: Market Adjusted Abnormal Returns

Collinearity Diagnostics^a

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	Listing Price	Offer Price
1	1	2.606	1.000	.05	.01	.01

	2	.346	2.744	.89	.06	.02
	3	.048	7.407	.06	.93	.96

a. Dependent Variable: Market Adjusted Abnormal Returns

8. Observations

- 1) The Adjusted Rsquare value is 53.8% which means that the present model is able to explain 53.8% variance in MAAR.
- 2) The p value is less than 0.05, so the model is significant and we reject null hypothesis at 5% level of significance.
- 3) The p value for listing price and offer price is 0.00 which means that individual coefficients of these variables exist. So, there is a significant influence of offer price and listing price on the MAAR (Market Adjusted Abnormal Returns).
- 4) The Standardized Beta Coefficient indicates that a unit change in listing price has a positive effect on MAAR. A higher listing price leads to an increase in the abnormal returns.
- 5) The Standardized Beta Coefficient indicates that a unit change in offer price has a negative effect on MAAR. A higher offer price leads to a decrease in the abnormal returns.

The influence of listing price and offer price on the MAAR can be explained by the following regression equation:

$$MAAR = 29.479 + 0.266(\text{Listing Price}) - 0.353(\text{Offer Price}) + e_i$$

Hypothesis 2

H₀: There is no influence of Offer size, Offer Price, Listing Price and Age on Premium in the short run.

H₁: There is an influence of Offer size, Offer Price, Listing Price and Age on Premium in the short run.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.575 ^a	.330	.319	51.50693

a. Predictors: (Constant), Age, Offer Size, Listing Price, Offer Price

ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	302040.973	4	75510.243	28.463	.000 ^a
	Residual	612834.710	231	2652.964		
	Total	914875.684	235			

a. Predictors: (Constant), Age, Offer Size, Listing Price, Offer Price

b. Dependent Variable: Premium

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-15.106	6.792		-2.224	.027		
	Listing Price	-.021	.026	-.096	-.783	.435	.193	5.188

Offer Price	.214	.039	.667	5.432	.000	.192	5.207
Offer Size	.004	.004	.063	1.144	.254	.969	1.031
Age	.210	.273	.042	.770	.442	.994	1.006

a. Dependent Variable: Premium

Collinearity Diagnostics^a

Model	Dimension	Eigen value	Condition Index	Variance Proportions				
				(Constant)	Listing Price	Offer Price	Offer Size	Age
1	1	3.203	1.000	.02	.01	.01	.01	.03
	2	1.008	1.783	.00	.01	.01	.67	.02
	3	.562	2.387	.02	.02	.02	.27	.38
	4	.180	4.219	.90	.03	.01	.05	.57
	5	.047	8.227	.05	.92	.96	.00	.00

a. Dependent Variable: Premium

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.568 ^a	.323	.320	51.46477

a. Predictors: (Constant), Offer Price

ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	295097.977	1	295097.977	111.416	.000 ^a
	Residual	619777.707	234	2648.623		
	Total	914875.684	235			

a. Predictors: (Constant), Offer Price

b. Dependent Variable: Premium

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-9.639	5.050		-1.909	.058		
	Offer Price	.182	.017	.568	10.555	.000	1.000	1.000

a. Dependent Variable: Premium

Collinearity Diagnostics^a

Model	Dimension	Eigen value	Condition Index	Variance Proportions	
				(Constant)	Offer Price
1	1	1.748	1.000	.13	.13
	2	.252	2.636	.87	.87

Collinearity Diagnostics ^a					
Model	Dimension	Eigen value	Condition Index	Variance Proportions	
				(Constant)	Offer Price
1	1	1.748	1.000	.13	.13
	2	.252	2.636	.87	.87

a. Dependent Variable: Premium

9. Observations

- 1) The Adjusted R square value is 32.0% which means that the present model is able to explain 32.0% variance in Premium in the short run.
- 2) The p value is 0.00 which means that we reject null hypothesis at 5% level of significance.
- 3) The p-value of independent variable, offer price is 0.00 which means that individual coefficients of this variable exist which implies that there is an influence of offer price on the Premium in the short run which can be explained by the following regression equation:

$$\text{Premium} = -9.639 + 0.182 (\text{Offer Price}) + e_i$$

10. Conclusion

The book-building is a process of price discovery where price of the shares is discovered on the basis of demand received from prospective investors at various price levels. Since the mechanism incorporates the investor demand in price discovery, it is expected that the book-building mechanism leads to discovery of price determined by the demand and supply forces of the market. This study found that the average initial Market Adjusted Abnormal Return (MAAR) for all the companies together was 28%. So, the IPOs were underpriced by 28%. 69% of the companies studied, showed positive returns in the short run. The regression analysis showed that offer size, premium on issue and the age of the company had no influence on the short run returns reflected by MAAR (Market Adjusted Abnormal Returns). The listing price had a positive influence on MAAR that means a higher listing price led to an increase in the abnormal returns in the short run. The offer price had a negative influence on MAAR, which implies that a higher offer price led to a decrease in the abnormal returns in the short run. An analysis of the influence of offer size, listing price, age of the company and offer price on the premium an issue shows that the first three variables had no influence on the premium. The offer price had an influence on the premium.

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