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Pricing & Performance of Initial Public Offerings (IPOs)

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ABSTRACT

This paper is carried out to Analyse, observe the stock prices of the IPO, Factors affecting the performance of the stock after it has been listed on the stock exchange and evaluating the long run performance of the IPOs. This is a paper wherein a study has been carried out specifically of the IPOs listed under the Construction and Engineering sector of India from the year 2009 to 2014. The data is extracted from NSE (National Stock Exchange) for all the companies.

The data analysis is done in two parts. The first section uses BHAR (Buy-and-Hold abnormal rate of returns) to evaluate the long run performance of the selected Initial Public Offerings. Various variables are being used. BHAR being the dependent variables, we have taken four independent variables i.e., Issue Size, Company Size, Time Lag and Company Age.

After three years listed in IPO, the condition shows that in the industry of Construction and Engineering, the factors shows that the age of the company and the time lag influence the long run price performance of the IPOs in India as the regression is significant. However, only the age of the company is the only factor that shows a positive influence on the long run IPO performance.

The study signifies that the age of the company has a positive influence on the long run performance of the IPOs of the company. The study finds that if a company in the industry of Construction and Engineering stays and is in operation for a longer period of time, then it will result in the better long tern performance.

This study examines the long run performance of IPOs in India under the Construction and Engineering Industry. Results show that there is a positive relationship between the age of the company and the long run performance of the IPOs. However one of the factors i.e., the time lag shares a negative relationship with the long run performance of the concerned IPOs. The study also reveals that the factors such as company size and the issue size do not influence the long run performance of the IPOs of the listed companies on National Stock Exchange issued under the Construction and Engineering Industry in India.

1. Introduction

Initial public offering refers to the very first sale of the shares issued by the company to the public. Before the issue of such IPOs to the public, the companies are classified as private companies which are considered to be small and younger in nature. These private companies have comparatively a smaller number of shareholders consisting mostly of the promoters, friends, and family or venture capitalists, angel investors as well. However, big and established businesses can also happen to issue IPOs in order to expand their business even further and make their shares traded publicly.

There are a lot of statutory requirements to be fulfilled by the companies before they are publicly traded upon the issue of IPOs. These are to comply with the provisions laid down by the Securities and Exchange Board of India (SEBI) as the company wanting to go public have to get themselves registered with SEBI. Some of the requirements laid would be to possess alternative sources of funds by the company either in the form of retained earnings (internal sources of funds) or borrowing from the external parties (external sources of funds); the total paid up capital of the company shall equal to or more than □10 crores and the minimum market capitalisation shall be □25 crores or more, etc. As SEBI studies and verifies the submitted documents, the company going public prepares its prospectus where SEBI's approval for the same is mentioned as pending. After the obtaining the requisite approval from SEBI, the company decides the number of shares to be issued along with the listing price which is either fixed (where the price is pre-determined) or book-building (where the company offers a range of prices).

IPO is done through a process carried out by the banks known as 'underwriting'. Under this process, the type of security with which the amount of money is to be raised along with other negotiating details as mentioned in the underwriting agreement are considered with the investment bankers acting as underwriters for such issuance of IPOs.

In this study, an attempt has been made to observe, analyseand study the stock prices of the IPO and the factors affecting the performance of a stock after it's been listed on the stock exchange. It also evaluates the long run performance of the IPOs using the buy-and-hold abnormal rate of return (BHAR). Some of the variables taken into consideration for explaining the changes in firm's stock returns are offer size, time lag, age of the company and company size.

2. Review of literature

- (EduPristine, 2018) , this article talks about basics of Initial Public Offering. It also explains the procedure of applying for an IPO, general terms to be understood about the IPO and sums up by stating the current situation of IPO in India and the advantages and disadvantages of the same.

- (Prithvi Haldea, 2017) , this article has been written from the perspective of an active small investor of the IPO market. It emphasizes on the situation of IPOs in India and the transformation that has been brought in by SEBI. The article ends by stating what are the things which are still intact in the Indian IPO system and has not been transformed till date.

- (Hawaldar, Naveen Kumar, Mallikarjunappa, & Baur, 2018), this is a research paper about the pricing and performance of IPOs wherein the main objectives are to state the listing day performance of IPO and book built and fixed price, post listing aftermarket performance. The analysis reveals that compared to fixed price IPOs, the book built IPOs are under-priced.

- (Malhotra & Premkumar, 2017) , this is a research paper which states the long run performance of IPOs. In this, an attempt has been made to analyse whether Indian market indicates under-pricing of IPOs. It also talks about the financial and non-financial aspects of an IPO.

- (Professor & JHaji, 2016) , this paper talks about the performance of IPOs which are listed in BSE, NSE and Gulf base GCC index. The main objective of this paper is to find out the performance of IPOs for a short period, to measure the long term performance of IPOs by eliminating the initial returns and to reach to a conclusion that returns are more in long period or short period.

3. Research Design

a) Statement of Problem:

This is a paper wherein a study has been carried out to specifically of the IPOs listed under the Construction and Engineering sector of India to -

- Analyse, observe the stock prices of the IPO
- Factors affecting the performance of the stock after it has been listed on the stock exchange
- Evaluating the long run performance of the IPOs from the period 2009 to 2014

b) Scope of the study:

The scope of this paper is a total of 16companies which went public through the issuance of its IPOs under the Construction and Engineering sector in India for a term of 5 years i.e. from 2009 to 2014.

c) Sources of Data:

The data type is secondary and it is extracted from the following sources –

- NSE- National Stock Exchange website
- SEBI – Securities & Exchange Board of India website
- Moneycontrol

d) Limitations of the study:

- Our study is restricted to only one sector i.e. Construction & Engineering in India, which can fail to give us a complete picture of IPOs in India.
- We have taken into consideration a limited time period ranging from 2009 – 2014.
- Factors like internal management, risk mitigation etc. has not been taken into account due to the complexity of huge data

e) Data Analysis Tools:

The following tools were used in this paper to obtain the objectives –

- Buy-and-hold abnormal rate of return (BHAR) – This is defined as the difference between the raw return and the corresponding market return.

BHAR = Raw return - Market return

1. Raw return refers to the individual return for each of the company being chosen for the purpose of this study.
2. Market return refers to the average return from all the company which are listed on the National Stock Exchange.

f) Expected Outcome:

A clear understanding about the long run performance of IPO and the factors affecting the stocks after it has been listed on the stock exchange.

4. Data Analysis

The data for the purpose of this study is extracted from NSE (National Stock Exchange) website. A total of 16 public issues were made in the 'Construction and Engineering' Industry for a period of five years from the year 2009 to 2014. The following factors were kept in mind while choosing the data for the purpose of this study:

1. The variables chosen for the purpose of this study is available for the time period 2009 to 2014.
2. The sample will be observed for a period of three years after the listing date.
3. A follow on offering i.e., an issuance of stock post company's IPOs which means the stock of the company is already listed and traded in the stock exchange and the same has not been considered in this study.

Table 1: Issue Details

Particulars	2009	2010	2011	2012	2013	2014
Number Of Issues	1	8	2	3	2	1
Suitable Issues for this study	1	8	2	3	2	1

Note: We have considered the possible issues with the listing of the IPOs such as withdrawn issues, not traded issues, not listed issues, etc., for the purpose of this study. We found zero such cases for such IPOs in this study and therefore, the number of suitable or eligible issues for this study is the same as the number of issues made during such period.

Following is the list of the companies whose IPOs were issued under the 'Construction and Engineering' industry for the period 2010-2014 along with their respective issue price, issue date, listing date, etc.:

Company Name	Issue Date	Issue Price (in □)	Listing Date	Issue Type	Issue Period
1. Anubhav Infrastructure Limited	26-Nov-2014	25	12-12-2014	Fixed Price	26-Nov-14 - 28-Nov-14
2. VKJ Infradevelopers Limited	12-Aug-2013	25	30-08-2013	Fixed Price	12-Aug-13 - 16-Aug-13
3. Silverpoint Infratech Limited	12-Aug-2013	15	28-08-2013	Fixed Price	12-Aug-13 - 14-Aug-13
4. Bronze Infratech Limited	19-Oct-2012	15	07-11-2012	Fixed Price	19-Oct-12 - 23-Oct-12
5. VKS Projects Limited	29-Jun-2012	55	18-07-2012	Book Built	29-Jun-12 - 4-Jul-12
6. National Building Construction Corporate Limited	22-Mar-2012	106	12-04-2012	Book Built	22-Mar-12 - 27-Mar-12
7. Prakash Constrowell Limited	10-Sep-2011	138	04-10-2011	Book Built	19-Sep-11 - 21-Sep-11
8. RPP Infra Projects Limited	18-Nov-2010	75	06-12-2010	Book Built	18-Nov-10 - 22-Nov-10
9. BS Transcomm Limited	06-Oct-2010	248	27-10-2010	Book Built	6-Oct-10 - 13-Oct-10
10. Ramky Infrastructure Limited	21-Sep-2010	450	08-10-2010	Book Built	21-Sep-10 - 23-Sept-10
11. Electrosteel Integrated Limited	21-Sep-2010	11	08-10-2010	Book Built	21-Sep-10 - 24-Sep-10
12. Prakash Steelage Limited	05-Aug-2010	110	25-08-2010	Book Built	5-Aug-10 - 10-Aug-10
13. Technofab Engineering Limited	29-Jun-2010	240	16-07-2010	Book Built	29-Jun-10 - 2-Jul-10
14. Man Infraconstruction Limited	18-Feb-2010	252	11-03-2010	Book Built	18-Feb-10 - 22-Feb-10
15. ARSS Infrastructure Projects Limited	08-Feb-2010	450	03-03-2010	Book Built	8-Feb-10 - 11-Feb-10
16. MBL Infrastructure Limited	27-Nov-2009	280	11-01-2010	Book Built	27-Nov-09 - 1-Dec-09

i. Methodology

A study has been conducted to observe the long run performance of IPOs. The same has been measured by using buy-and-hold abnormal rate of return (BHAR) which is defined as the difference between the raw return and the corresponding market return.

BHAR = Raw return - Market return

Raw return: It can be defined as the percentage of the difference between the closing price of N day trading and closing price of first day trading upon the closing price of first day trading

$$\text{Raw return} = \frac{(\text{Closing price of 'N' day trading}) - (\text{Closing price of first day trading})}{\text{Closing price of first day trading}}$$

Where, 'N' is the day of trading that the long-run calculated performance is based.

Market Return: It can be defined as the percentage of the difference between the S&P CNX Nifty taken on the "n"th day of trading and S&P CNX Nifty taken on the "n-1"th day upon S&P CNX Nifty taken on the "n-1"th day of trading.

$$\text{Market Retune} = \frac{\text{S\&P CNX Nifty(1)- S\&P CNX Nifty (0) X 100}}{\text{S\&P CNX Nifty (0)}}$$

Where, S&P CNX Nifty (1) = S&P CNX Nifty taken on the "n''Th day of trading

And, S&P CNX Nifty (0) = S&P CNX Nifty taken on the "n-1''Th day of trading

S&P represents the stock market index of the Indian Stock Market. S&P CNX Nifty is based upon solid economic research and the results of which is reflected in the stock market in the following ways:

(a) the correct size to use is 50

(b) stocks considered for the same must be liquid by the 'impact cost' criterion

(c) The largest 50 stocks that meet the criteria go into the index.

ii. Selection of the variables:

This is with respect to the second part of the study where the following variables has been taken into consideration for assessing the long run price performance of company's IPOs. The variables chosen for the purpose of this study are the factors which are most likely to have an impact and assist in analysing the long run performance of the IPOs. Therefore the variables for the same has been mentioned as follows:

Buy and Hold Adjusted Return (Dependent Variable)

This study has been undertaken to analysis the performance of Buy and Hold Adjusted Return (BHAR) of the IPOs in order to analyse the long run performance of the companies that have been taken for the purpose of this study. This study studies the performance for three years after the issue of such IPOs as it would be difficult and tedious to analyse day to day data. BHAR has been calculated taking in view the raw return and the market return as a whole under such period.

This study assists in analysing the additional wealth being created by the company for its shareholders based on an assumption that the money being invested as on the listing and being examined after the period of three years from such date.

The following are the independent variables being considered for the purpose of study of long run performance of the IPOs:

1. **Company's Age**
2. **Time lag**
3. **Issue Size**
4. **Company Size**

iii. Multiple Regression:

For the second part of the objective, an Ordinary Least Square (OLS) regression is done for the variables. The initial returns of the IPO is taken as the dependent variable and the others as independent variable.

The regression that is being used is:

The entire model was subjected to OLS regression and the significance of different variables are found.

The raw return and market return has been calculated as given in the methodology section i.e., using BHAR methodology. The BHAR was calculated and the results are tabulated below which shows the raw return, market return and the BHAR of IPOs for each of the 5 years from 2009 to 2014. In order to obtain comparable or a relative performance perceptive, all the variables taken into consideration are constant.

Table 2: Performance of IPO for the years 2009-2014

Name of the company	Issue Date	Raw return	Market return	BHAR
Anubhav Infrastructure Limited	12-Dec-14	-0.35	0.26	-0.61
VKJ Infradevelopers Limited	30-Aug-13	3.93	0.57	3.36
Silverpoint Infratech Limited	28-Aug-13	-0.15	0.63	-0.78
Bronze Infratech Limited	07-Nov-12	0.34	0.37	-0.03
VKS Projects Limited	18-Jul-12	-0.90	0.65	-1.55
National Building Construction Corporate Limited	12-Apr-12	9.19	0.67	8.51
Prakash Constrowell Limited	04-Oct-11	-0.88	0.65	-1.52
RPP Infra Projects Limited	06-Dec-10	-0.38	0.04	-0.42
BS Transcomm Limited	27-Oct-10	-0.37	0.01	-0.38
Ramky Infrastructure Limited	08-Oct-10	-0.88	-0.03	-0.85
Electrosteel Integrated Limited	08-Oct-10	-0.65	-0.03	-0.62
Prakash Steelage Limited	25-Aug-10	-0.52	0.00	-0.52
Technofab Engineering Limited	16-Jul-10	-0.69	0.12	-0.81
Man Infraconstruction Limited	11-Mar-10	-0.52	0.16	-0.67
ARSS Infrastructure Projects Limited	03-Mar-10	-0.95	0.12	-1.07
MBL Infrastructure Limited	11-Jan-10	-0.07	0.13	-0.21

From the above table, all the companies except National Building Construction Corporate Limited and VKJ Infradevelopers Limited, have negative returns. Having a negative BHAR implies that the company's individual return is less than the average market return which means market/industry's performance was better than the company's individual performance. Out of the 16 IPOs being issued in the period of 5 years from 2010 to 2014, 14 of them are being traded below their issue prices. Therefore the stock market performance of the IPOs under the period under study in Construction and Engineering Industry has shown disappointing results. Overall, 87.5% IPOs showed under-performance during the period 2010-2014.

Table 3: Regression Results

Variables	Coefficient	Std Error	t-Stat	Prob
Age	11.15%	0.04	2.66	0.02
Tlag	-3.77%	0.03	(1.09)	0.29
Issue size	-0.26%	0.00	(0.22)	0.83
Company size	-0.02%	0.00	(0.55)	0.59

Dependent Variable = BHAR

After three years listed in IPO, the condition shows that in the industry of Construction and Engineering, the factors shows that the age of the company and the time lag influence the long run price performance of the IPOs in India as the regression is significant. However, only the age of the company is the only factor that shows a positive influence on the long run IPO performance which is 11.15%.

Note: For the easy understanding of the readers of this study, the coefficient figures have been converted into percentage forms whose impact on the performance of the IPOs has been explained below:

There could be more than the above four factors being analysed to have an influence on the long run price performance of IPOs in India. Following are the factors being taken into consideration for the same:

1. Age of the company : Coefficient being 11.15%
2. Time lag : Coefficient being -3.77%
3. Issue size : Coefficient being -0.26%
4. Company size: Coefficient being -0.02%

The first factor being age of the company, as it plays an important role as an older company will always have more operational and functional days in the business and is more experienced where they might gain some competitive advantage. The regression coefficient is 0.1115, this condition meaning that for every one percent increase of BHAR, there would be an impact on 11.15% increase in the age of the company with the assumption that the factors i.e., TLAG percentage, issue size and the company size will remain the same. The age and the price performance of the company under the Construction and Engineering are positively related.

The second factor being the time lag which is the period between the date of the offer price and the listing date of IPO. The longer the period of time lag, the more the investors' uncertainty towards the prices of the IPOs. This happens because of the waiting time creating sentiments towards uncertainty in the minds of the investor while there are possibilities of the changes of market conditions during such waiting period.

The coefficient being -0.0377. This condition means that on one percent increase of BHAR, there would be an impact of 3.77% decrease of TLAG percentage assuming that the other factors like issue size, company size, and the company age remains the same.

The third factor being the issue size of the company which has to do with the size of the stock. A better established firm also will issue a large number of shares which is less risky than the smaller ones. From the regression results as ascertained the issue size has a coefficient of -0.0026. This condition means that on each one percent increase of BHAR there would be an impact of decrease of -0.26% of total share with the assumption that the other factors like company age, TLAG and the company size will remain the same.

The last factor being analysed is the company size i.e., the company's total assets. As per previous research, the smaller firms tend to be more risky whereas with more of asset holding capacity the bigger firms are relatively less risky and more stable. The company size coefficient parameter is -0.0002. This condition means that on each one percent increase of BHAR, there would be an impact of 0.02 decrease in the total assets of the company, with the assumption that the other factors like company age, TLAG and the issue size of the IPOs will remain the same.

5. Interpretation of Results

Table 2 shows that the BHAR of long run performance of IPOs in India in the Construction and Engineering Industry. Table 3 shows the regression results of the same keeping BHAR as the dependent variable.

The study signifies that the age of the company has a positive influence on the long run performance of the IPOs of the company. The study finds that if a company in the industry of Construction and Engineering stays and is in operation for a longer period of time, then it will result in the better long tern performance. Therefore, age of the company in this study plays a significant role as the same has a material influence in the long run performance of companies after IPO issue. It is consistent with the notion that an aged company having more experience and an established business is likely to perform better in long term.

The data above shows that time lag influences the long run performance of the company's IPO issuance in a negative manner. It is in line with the previous results that uncertainty is supposed to have a negative influence on the long run performance of the IPOs as it has to do with uncertainty. Investors need more time to take decision about an investment in a company. This study reflecting a negative regression coefficient shows more time lag has a negative impact in the long run performance of IPOs.

Issue size is considered to be an important and significant factor influencing the long run performance of the IPOs. However, this study shows in the industry of Construction and Engineering, the issue size of the IPOs being offered is not a significant factor that might have an impact in the long run performance of the company. Therefore, issue size whenever such IPOs being issued by a company under construction and engineering industry is not what the investors consider before the investment is pitched in.

The data above shows that the last factor being analysed i.e., the company size does not seem to have an influence on the investors' buying decision, and hence does not affect the long run performance of IPOs in India. Therefore, the study reveals that the investors in India when such investment in IPOs comes up, they do not consider total assets being held by the company. It might be due to the other relevant information being offered to judge the performance or the reputation of the company.

5. Conclusion

This study examines the long run performance of IPOs in India under the Construction and Engineering Industry. Results show that there is a positive relationship between the age of the company and the long run performance of the IPOs. However one of the factorsi.e., the time lag shares a negative relationship with the long run performance of the concerned IPOs. The study also reveals that the factors such as company size and the issue size do not influence the long run performance of the IPOs of the listed companies on National Stock Exchange issued under the Construction and Engineering Industry in India.

The key highlights forming the conclusion are listed as follows:

1. There is a significant long run underperformance in India. The IPO performance of the listed companies have performed poorly post listing date.
2. The factors being taken into consideration to show its impact in the long run performance of the IPOs; being all of them influencing the same but only age of the company has proved to be influencing it significantly.
3. From the regression :

a) The Indian Stock Exchange Market shows underperformance long run IPO.
b) The age of the company has proven to be most influencing factor in the long run performance of the IPOs in the Construction and Engineering Industry in a positive manner.
c) Time lag influences the long run performance of the IPOs in a negative manner as in the longer the time lag is, the less the company would be able to perform in the long run.
d) The company size and the issue size of the IPOs in India when such issuance is being made under the Construction and Engineering Industry doesn't influence the long run performance of the company as the investors do not really consider these factors before they buy.

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