Initial listing and Long run performance of IPOs in Indian Stock Market

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Abstract

This paper attempts to evaluate the initial listing and long run performance of Initial Public Offerings (IPOs) in Indian capital market. The initial listing performance is measured by taking the closing prices of IPOs on the first day of their listing. Whereas, the long run performance of IPOs are measured by considering the closing prices after one, two, three and six years respectively from the date of listing of IPOs. A total of 80 IPOs are considered for the study from 1st January 2011 to 31st December 2013. The objective of this paper is to analyze the characteristics of IPO such as the number of IPOs issued during the period, method of pricing and offer price and also to examine the initial listing and long run performance (one, two, three and six years from the listing day) of IPOs in Indian Capital market. The study highlights the existence of underpricing and outperformance of IPOs in the long run.

Key words: Initial listing, IPOs, Book Building, Fixed Price, Underpricing, Overpricing.

Introduction

IPOs are gaining momentum globally as an important source nationally and internationally for the companies to procure funds and accelerate the growth of the business. On the other hand, there are investors with intense interest in the recent times to invest their investible resources in the IPOs with an objective for wealth creation. Financial system acts as an intermediary in linking the investors and issuers on one platform by providing an opportunity to raise money and also to invest their money in the financial instruments of the capital market. The growth of any economy depends upon strong financial system, part of integrated economic system, creates the mechanism for the flow of funds from surplus spending units to deficit spending units with an objective to mobilize savings to channelize that in to an investment activity in acceleration towards the growth of the nation. It is crucial for the investors, issuers and market makers to understand the dynamics of the capital market in general and also to learn the skill sets to analyze the pricing of securities in particular for taking better decisions related to short term and long term investment activities. There are enormous studies related to the pricing and performance of IPOs at the national and international level. Emeli Alm et al (2009) highlighted underpricing and long run underperformance of IPO in Swedish market. A few others examined the underpricing and underperformance in the long run (Arwah 2003, K Sasi kumar 2015, Seema verma 2016, Sanjay Dhamija and Ravinder kumar 2017). Whereas, Nurwati A et al (2006) highlights that IPOs are over performed in the long run except in few situations. Mehmet Orhan (2006) says IPOs have shown overpricing in short run and more promising returns in medium and long run. The results are seen to vary temporally, spatially and geographically. It is in this background, the study makes an attempt to analyze the characteristics of IPOs and also evaluates the initial listing and long run performance by computing the raw return and market adjusted excess return of IPOs in Indian capital market.

Review of Literature

Emelie Alm, Elin Berglund and Andreas Falk (2009) carried out an investigation of initial public offering in Swedish market during the period 1998-2007 by 224 IPOs only 58 companies (listed) are chosen for the study in Swedish market. It was found that 51% of IPOs are underpriced. The study also investigated whether the two abnormalities (underpricing and underperformance of IPO in the long run) exist in the Swedish market or not. The first abnormality is "underpricing" which refers to the situation where "offer price is lower than the closing price on the first day of trading" and it is a cost for the company and the underperformance refers to the IPOs have shown negative return in the long run. Further, the study concluded that the two abnormalities exist in the Swedish market.

Nurwati A, Ahmad Zaluki et al (2006) examined the long run price performance of Initial public offerings during 1990 to 2000 in Malaysia. The Cumulative mean abnormal return, Buy and Hold return, Wealth relative are used to measure the performance of 454 IPOs. Researched found from the study that the long run performance of IPOs are over performed except when matched companies are used as the benchmark.

AmetSeitibraimov (2012) carried his thesis with an objective to analyse the underpricing and underperformance of initial public offering and also to analyse the factors influencing the performance of IPOs by using the Market adjusted excess return and market adjusted buy and hold returns of Russian, Ukrainian & Kazakhstan markets during 1996-2010. The statistics used for the study such as descriptive statistics, mean, minimum, maximum, standard deviation and researcher has found that their exist the anomaly underperformance of IPOs in the countries considered for the study

Mehmet orhan (2006) has analysed in his research paper with an objective to analyse the short run and long run performance of 118 initial public offerings of Istanbul stock exchange. Researcher has highlighted that the IPOs have shown negative returns in the short run and more promising returns in medium and long run.

Sajal Das (2013) undertook an analysis of assessing the trend of pricing in initial public offerings during the period 2000-2009, covering 328 IPOs, of which, the researcher has selected 40 initial public offerings during boom and recession period in India. Researcher has examined the extent of underpricing by computing first day initial returns and also long and short run performance of initial public offerings in mega and minor issues. The study concluded that out of 40 IPOs around 92.5% of initial public offerings are underpriced. The study points out that the performance of initial public offerings in short run, weekly and monthly returns are positively generated for mega issues (issue size is more than 100 crores) whereas weekly returns are positive and monthly returns have shown negative returns except in the first month for minor issues (issue size is less than 100 crores). The performance of long run initial public offerings have shown negative returns both in mega and minor issues except positive return in first year by mega issues.

Ravichandran (2014) has made an attempt to analyse the performance of Initial public offerings on listing day and after market performance for short, medium and long term period for the period 2006-2013 covering 322 IPOs in India. The performance of IPOs as compared to both the index - Sensex and Nifty. The work analyses the nature and characteristics of IPOs by considering various factors like issue size, offer price, ownership pattern, sector wise, year wise, subscription ratio. The author has examined the relationship between market return and return on various Initial public offerings by calculating market adjusted excess returns. Multi variate linear regression model is used to examine the factors influencing the performance of Initial public offerings in India. Author has highlighted that out of 322 IPOs , around 68% of IPOs are underpriced and are able to post positive returns and remaining 38% of IPOs are overpriced.

SeshadevSahoo and PrabinaRajib (2010) evaluates the price performance of 92 initial public offerings on listing and the period of 36 months during the period from 2002-2006 in Indian capital market. The key point highlighted that out of 92 IPOs on an average around 46.55% initial public offerings are underpriced on the listing day compared to the market index. The short run IPOs performance are analysed by Market adjusted abnormal returns and the Wealth relatives and Buy and Hold abnormal returns are used to measure the long run performance of Initial public offering for 36 months. Further researcher has also analysed the factors like underpricing, offer size, post issue promoter holding leverage ratio, ex-ante uncertainty, subscription rate, age of the firm, price to book value ratio, influencing the long run performance of initial public offering. Finally concluded that the initial public offerings are underpriced and underperformed is fresh evident which adds to the existing literature.

Arwah ArjunMadan (2003) has documented his research paper with an objective to analyses the behaviour of IPOs in pre and post liberalisation era and also to analyse the long run performance of IPOs and the factors (Issue price, Issue size, Issue rating, Issued capital, Age of the company, Foreign equity, listing delay, stock index and industry index) influencing the returns of IPOs. The study considered 1597 IPOs during 1989 to 1995 from Bombay stock exchange. Out of 1597 IPOs, 1368 IPOs are underpriced (positive returns) , 157 IPOs are overpriced (negative returns) and 72 IPOs are fairly priced (zero returns). Further, pointed out that the phenomenon of underpricing unveils three characteristics such as underpricing, hot issue phenomenon and long run underperformance. Finally concluded that the long run performances of IPOs are underperformed (negative return). The factors like the issue rating, foreign equity, stock index, industry index has shown positive significant and the remaining variables has shown negative significant towards the returns of initial public offerings.

ManpreetKaur et al.. (2017) has analysed the short run and long run performance of Initial public offerings and follow on public offerings during 2001 to 2016 from national stock exchange. A total 375 IPOs and 9 FPOs are considered for the study, the market adjusted abnormal return and buy and hold abnormal return are used to measure the short term and long term performance of Initial public offerings and concluded that the performance of IPO and FPO behave different compared to short term and long term of IPOs. The IPOs and FPOs have performed better in short run compared to long term period of time.

Kampalli Sasi kumar (2015) explores the short run and long run performance of initial public offerings by using Market adjusted abnormal return and Buy and hold abnormal return of 211 IPOs during 2007-2012. The study found that the initial public offerings are underpriced and underperformed in the long run.

Seema Verma (2016) has made an attempt to analyse anomalies such as underpricing in short run and long run performance and also explores the factors impacting the underpricing and long run performance of Initial public offering by considering 521 IPOs in Indian capital market during 2006-2015. At the end researcher concluded that there exists underpricing and underperformance of IPOs across different periods in Indian capital market.

Sanjay Dhamija and Ravinder kumar (2017) has carried their research paper with an objective to explore the long run performance of Initial public offerings and also to analyse the factors such as type of issuer, type of sale, method of pricing, grading, premium, anchor investor, market sentiment, market condition, auditor prestige, lead manager prestige, oversubscription, promoter's holding, issue size, issue age, industry influencing the long run performance of initial public offering by carrying 377 IPOs during 2005-2015 from BSE & NSE. The methodology used for the study to measure the performance of short run and long run performance of IPOs are Initial excess return and cumulative average abnormal return, buy and hold return, wealth relative respectively. The study concludes by highlighting that the Indian IPOs are underpriced in short run and underperformed in long run.

Research Gap

There is no dearth of literature on the pricing and performance of IPOs in the international markets. Apart from it, there are also numerous studies on the factors such as offer price, method of pricing, issue size and listing delay in different periods. However, the result varies from country to country and year to year. Studies have shown clear evidence of existence of underpricing and underperformance of IPOs in the long run (Emeli Alm et al.,2009, Arwah ArjunMadan 2003 and Seema Verma, 2016). There is also hand full of literature emphasizing on the promising return of IPOs in the long run (Mehmet orhan, 2006). Nurwati A et al (2006) observed that the long run performances of IPOs are over performed except when matched companies are used as the benchmark. There are investors with intense interest in the recent times to invest their investible resources in the public issues with an objective for wealth creation. Question arises, being an investor, should they invest in IPOs in the long run or not. In this backdrop, this study is a humble attempt to evaluate the initial listing and long run performance of IPOs by calculating the raw return and market adjusted excess return of IPOs for one, two, three and six years.

Objectives of the Study

To study the characteristics of IPOs during the period 2011 to 2013.

To evaluate the initial listing performance of IPOs.

To examine the overall long run performance of IPOs

Research Methodology

Data Sources: Secondary data such as research papers, published thesis, books are used for the study and website of Bombay Stock Exchange is used to collect the closing price of the stocks.

Scope and Period of Study: The period 1st January 2011 to 31st December 2013 is considered for the study. A total 94 IPOs were issued during this period, Of the 94 IPOs, 80 IPOs (39 Book Building and 41 Fixed Price) are considered for the study owing to the non availability of data for the remaining 14 IPOs. Since, one of the objectives of the paper is to analyse the long run performance of IPOs (periods of one, two and six), the study period 2011 to 2013 enables to fulfill the objective.

Methodology: Calculation of Mean, Standard Deviation, Minimum, Maximum, Raw return, Market return, Market Adjusted Excess Return and t-test.

Mean: Mean is also known as arithmetic average and is the most commonly used tool to measure the central tendency. It is calculated by the sum of all the given numbers divided by the number of observations.

$$\bar{x} = \Sigma x_i / n.$$

Where,

$\bar{x}$ = Mean

x_i = The values of the independent variable

n = Number of observations

Standard Deviation: Standard deviation was introduced by Karl Pearson in 1893 and is widely used tool to measure the dispersion of a set of data from its mean. It measures the absolute variability of a distribution. The formula to calculate the Standard deviation is given by

$$\sigma = \sqrt{\frac{\Sigma (x - \bar{x})^2}{n}}$$

Where,

σ = Standard deviation

$\bar{x}$ = Mean

x = The values of the independent variable

Calculation of Raw Return: Raw return or Initial Return of each of the IPO is calculated by taking the difference between the closing price on the first day of listing and the closing price on the offer day. Further the numerator is divided by the closing price on the offer day.

RR = (P1/ P0) – 1 ……………………………………(1)

Where,

RR = Raw Return or Initial return

P1 = Closing Price on the first day of trading

P0 = Offer price

Calculation of Market Return : Market Return is also known as the Index return. Since BSE Sensex is considered for the study, the market index return is calculated by taking the difference between the closing value on the first day of Market return and the closing value of the market index on the offer day, divided by closing value of the market index on the offer day.

$MR = (Rm_1/Rm_0) - 1$ ………………………………….. (2)

Where,

MR = Market Return or Index Return

Rm_1 = Closing value on the first day of market return (Sensex)

Rm_0 = Closing value of the market index on the offer day

Calculation of Market Adjusted Excess Return: Market Adjusted Excess Return refers to the difference between the Raw return and the Market or Index Return.

Market Adjusted Excess Return = Equ(1) - Equ(2)

Market Adjusted Excess Return = Raw return – Market return

Data Analysis & Interpretation

A. Characteristics of IPOs: Number of IPOs issued, Method of Pricing, Issue size & Offer price

Table 1: Number of IPOs issued and Amount mobilized

Year	No. of IPOs	Percentage	Amount (Cr)	Percentage
2011	27	33.75	5064.18	39.26
2012	21	26.25	6248.09	48.44
2013	32	40.00	1585.29	12.29
Total	80	100.00	12897.56	100.00

All the table figures calculated from the data collected

Analysis: Table 1 highlights the number of IPOs issued and Amount mobilized for three years i.e., 2011, 2012 & 2013 respectively. It is evident from the table that, the year 2013 witnessed maximum number of IPOs floating in the market, but the amount mobilized from the capital market is less compared to IPOs issued in the year 2011 and 2012.

Table 2: Classification of IPOs through Method of Pricing

MOP	Year					Amount (Cr)				
	2011	2012	2013	Total	Percentage	2011	2012	2013	Total	Percentage
Book Building	26	10	3	39	48.75	5004.18	6169.87	1283.95	12458	96.59
Fixed Price	1	11	29	41	51.25	60	78.22	301.34	439.56	3.41
Total	27	21	32	80	100	5064.18	6248.09	1585.29	12897.56	100.00

Analysis: The above table 2 shows the number of IPO and amount mobilized through Book building and Fixed method of pricing from the primary market. Of the 80 IPOs, 39 IPOs (48.75%) are floated through Book building method and mobilized an whooping amount of Rs. 12,458 crore (96.59%). Though 41 IPOs are promoted through fixed price method, only 3.41% of amount is mobilized.

Table 3: Issue wise - Number of IPOs

Issue Size (Cr)	No. of IPOs	Percentage	Amount (Cr)	Percentage
0-50	50	62.5	723.08	5.61
50-200	18	22.5	1860.85	14.43
Above 200	12	15	10313.63	79.97
Total	80	100	12897.56	100.00

Analysis : It is clear from the table 3 that maximum number of IPOs (50) have raised capital in the issue size Rs. 0-50 crore followed by the issue size Rs.50-200 crore (18) and above Rs. 200 crore (12). 15% of the IPOs issued in the issue size of above 200 Cr accounts to 80% (10313.63 crore) of amount mobilization.

Table 4: Offer price wise – Number of IPOs

Offer Price (Rs)	No. of IPOs	Percentage	Amount (Cr)	Percentage
0-50	43	53.75	1634.77	12.68
50-150	24	30	2896.45	22.46
Above 150	13	16.25	8366.34	64.87
Total	80	100	12897.56	100.00

Analysis: The IPOs issued are classified based on the offer prices as shown in the above table 4. Of the 80 IPOs, 53.75% (40 IPOs) are offered in the range of offer price Rs. 0-50 followed by 24 and 13 IPOs in the range of Rs. 50-150 and above Rs. 150 respectively. The maximum amount raised is Rs.8,366.56 in the range of above Rs.150.

B. Initial Listing Performance of IPOs

Table 5: Overall Initial listing performance of IPOs

	Mean	SD	Min	Max	PR	NR	ZR
RR	10.83	51.64	-69.83	241.25	61.25	35	3.75
MAER	11.02	52.17	-76.54	245.07	55	45	0

PR – Positive return, NR – Negative return, ZR – zero return

Analysis: The overall initial listing performance of IPOs for the period of three years 2011, 2012 & 2013 respectively is displayed in table 5. The mean raw return is in the range of -69.83% to 241.25% which is slightly less than the market adjusted excess return. It is observed from the table that, 49 IPOs (61.25%) have given positive returns (underpriced IPOs) and remaining 31 IPOs are overpriced (returns are negative). It is evident from the above table there exist underpricing in the Indian capital market. The mean raw return is positive, therefore the alternate hypothesis (Ha1) stands accepted.

Table 6: Initial Listing Performance of IPOs (2011)

	Raw Return (RR)	Market Adjusted Excess Return(MAER)
Mean	-1.13	-0.29
SD	53.31	53.97
Min	-69.83	-76.54
Max	101.29	98.75
PR	44	44
NR	56	56

Analysis: From table 6, it is apparently seen that the mean raw return for the year 2011 is -1.13. This indicates that IPOs are overpriced. A total of 27 IPOs were issued in the year 2011, out of which 12 IPOs (44%) shows positive return and the rest of them report negative return.

Table 7: Initial Listing Performance of IPOs (2012)

Statistics	Raw Return (RR)	Market Adjusted Excess Return (MAER)
Mean	10.49	9.96
SD	32.48	32.91
Min	-13.09	-13.75
Max	146.25	147.31
PR	71.43	61.90
NR	23.81	38.10
ZR	4.76	0

Analysis: The above table 7 shows the initial listing performance of IPOs for the year 2012. The mean raw return here is 10.49% and is in the range of -13.09% to 146.25%. The statistics shows that the raw returns are better in comparison with the market adjusted excess return. Whereas, the standard deviation is almost same for both raw return and market adjusted excess return. It is also seen that 15 IPOs (of 21 IPOs), 71.43% of IPOs are underpriced showing the existence of underpricing in the Indian market context.

Table 8: Initial Listing Performance of IPOs (2013)

	Raw Return (RR)	Market Adjusted Excess Return (MAER)
Mean	21.14	21.26
SD	59.14	59.79
Min	-19.67	-19.93
Max	241.25	245.07
PR	68.75	59.38
NR	25	40.63
ZR	6.25	0

Analysis: The initial listing performance of IPO for the year 2013 is displayed in table 8. The mean raw return, standard deviation, minimum and maximum values of raw returns of IPOs are nearly same as the market adjusted excess return of IPOs. It is clear from the table that 68.75% of IPOs have shown positive return (underpriced) and remaining 25% of IPOs shown negative return.

C. Long run Performance of IPOs

Table 9: Overall long run performance of IPO

RAW RETURN				
	1 year	2 year	3 year	6 year
Mean	101.16*	53.35	42.15*	35.06
SD	268.38	277.36	163.14	244.04
Min	-90.72	-99.63	-98.78	-99.16
Max	1531.43	1730.67	888.41	1398.52
PR	53.75	43.75	47.5	30

NR	46.25	56.25	50	60
MAER				
	1 year	**2 year**	**3 year**	**6 year**
Mean	87.2**	22.00	-0.68	-54.71
SD	267.67	273.82	162.58	246.40
Min	-104.32	-139.84	-164.38	-212.06
Max	1519.72	1684.79	820.84	1288.96
PR	45	33.75	27.5	20
NR	55	66.25	70	70

* 5% level of significance **1% level of significance

Analysis: Table 9 explicates the overall long run performance of IPOs for one, two, three and six years respectively from the listing date. The mean raw return after one year from the listing day stood at 101.16% and decreased gradually. The raw returns of IPOs are better compared to market adjusted excess return. The market adjusted excess return are positive for the first two years from the listing day and are also significant in the first year at 1% and negative thereafter indicating the underperformance of benchmark index. Of the 80 IPOs, 43 IPOs (53.75%) have positive return (the closing prices after one, two, three & sixth year is greater than the closing prices on the listing day) and remaining 37 IPOs (46.25%) have negative return. Hence, we conclude that alternate hypothesis (H_{a2}) is accepted.

Table 10: Long run Performance of IPO issued in 2011

RAW RETURN				
	1 Year	**2 Year**	**3 Year**	**6 Year**
Mean	0.69	-28.06	-5.17	49.16
SD	106.3	68.8	105.98	167.74
Min	-90.72	-99.63	-98.78	-98.16
Max	460.08	176.73	372.23	553.28
PR	37.04	29.63	37.04	44.44
NR	62.96	70.37	62.96	55.56

MAER				
	1 Year	2 Year	3 Year	6 Year
Mean	-0.95	-40.74	-49.64	-30.21
SD	105.92	69.15	109.23	175.31
Min	-89.14	-125.16	-164.38	-197.79
Max	450.76	165.29	337.76	488.9
PR	37.04	25.93	14.81	37.04
NR	62.96	74.07	85.19	62.96

Analysis: Table 10 elucidates the long run performance of IPOs for the year 2011. The mean raw return is negative for the 2nd and 3rd year indicating underperformance of IPOs. It is important to note that the raw return in 6th year is positive and is at 49.16%. It is better than the market adjusted excess return (-30.21%). The market adjusted excess return of IPOs is negative for all the years from the listing day indicating inferior performance of benchmark index (Sensex).

Table 11: Long run Performance of IPOs issued in 2012

RAW RETURN				
	1 year	2 year	3 year	6 year
Mean	91.05*	45.81*	69.21	49.12
SD	170.67	82.74	203.5	317.06
Min	-62.45	-87.11	-81.19	-99.09
Max	498.5	265.28	888.41	1398.52
PR	52.38	61.9	57.14	33.33
NR	47.62	38.1	42.86	66.67
MAER				
	1 year	2 year	3 year	6 year
Mean	80.2*	5.25	18.47	-45.3
SD	169.28	80.46	201.74	313.82
Min	-70.2	-128.39	-129.44	-192.02

Max	487.3	220.01	820.84	1288.96
PR	47.62	42.86	28.57	19.05
NR	52.38	57.14	71.43	80.95

***Significant at 5% level of significance**

Analysis: The long run performance of IPOs for the year 2012 is shown in table 11. It is observed that IPOs have yielded better returns than the benchmark index (Sensex) as the mean raw return of IPOs are better than the market adjusted excess return. The standard deviations of raw returns are almost close to the standard deviations of market adjusted excess return. Of the 21 IPOs, 52.38% of IPOs generated positive return and 47.62% IPOs negative return.

Table 12: Long run Performance of IPOs issued in 2013

RAW RETURN				
	1 Year	2 Year	3 Year	6 Year
Mean	192.57**	127	65.8*	6.9
SD	371.22	419.82	169.84	251.75
Min	-83.22	-85.35	-95.22	-99.16
Max	1531.43	1730.67	467.02	1140.66
PR	68.75	43.75	50.00	15.63
NR	31.25	56.25	43.75	59.38
MAER				
	1 Year	2 Year	3 Year	6 Year
Mean	166.17*	85.92	29.99	-90.49
SD	376.1	418.39	167.18	254.8
Min	-104.32	-139.84	-130.09	-212.06
Max	1519.72	1684.79	414.8	1058.62
PR	50.00	34.38	37.50	6.25
NR	50.00	65.63	56.25	68.75

Analysis : It is clear from the table 12 that the mean raw return of IPOs fared better than the market adjusted excess return. Of the 32 IPOs issued in 2013, 62 IPOs produced positive return and remaining 31.25% negative.

Conclusion: This paper is an attempt to examine the initial listing and long run performance of 80 IPOs. The performance of IPOs is measured through the raw return and market adjusted excess return. Some of the noteworthy points are the amount raised through book building is greater than the fixed price method of raising IPOs. This study highlights that 61.25% of IPOs yielded positive returns (underpriced) and 35% of IPOs yielded negative returns (overpriced). The IPOs initial listing performance shows the mean raw return (10.83%) to be slightly lesser than the market adjusted excess return (11.02%). The study also observed that the IPOs have performed better in the first year as shown 101.16% of mean return and gradually decreased the performance in the later years as 53.35%, 42.15% and 35.06% shown positive return performed better than the market adjusted excess return in the long run. The market adjusted excess return is high in the 1st year and decreased in 2nd year and shown negative return in 3rd& 6th year respectively that is underperformance of benchmark index (Sensex) in the long run from the listing day.

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