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Long Run Performance of Initial Public Offerings and Seasoned Equity Offerings in India

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Long Run Performance of Initial Public Offerings and Seasoned Equity Offerings in India

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Abstract

This study will try to estimate the long run performance of Initial Public Offerings (IPOs) and Seasoned Equity Offerings (SEOs) in India with the help of event study methodology wherein stock returns are examined around the date when new information about the performance (or prospects) of a company is announced. The long run performance would be tested by taking a study period of five years. The data regarding IPOs and SEOs has been collected from 1999 to 2005. By testing the long run performance, this study will try to throw some light on market efficiency. The long-run underperformance of IPOs has also been documented as a global phenomenon. Very few studies have been conducted on long term performance of Indian IPOs and tried to infer whether the markets have been efficient or not. Studies on SEOs in India have also been almost nonexistent. This is the motivation to conduct a study on IPOs and SEOs with the help on Indian data.

JEL Classification: G-14.

Keywords: Initial public offerings, Seasoned equity offerings, Efficient market hypothesis, Underpricing

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1. Introduction

The primary market provides the channel for sale of new securities. It provides the opportunity to issuers of securities, Government as well as corporate, to raise resources to meet their requirements of investment and/or discharge some obligation.

It is a place where securities are introduced as an offer to the public. This offer may be for the first time i.e. an Initial Public Offer (IPO) or an issue by an existing listed company i.e. a Seasoned Equity Offering (SEO), or a Follow-on Public Offering (as known in India). The Indian IPO market in the pre-reforms period i.e. before 1991 was controlled by the Controller of Capital Issues (CCI) which was controlled by the Ministry of Finance. The CCI used to decide the price of the issues. It was abolished in 1992. The SEBI Act, 1992 was enacted to empower SEBI with statutory powers for protecting the interests of investors in securities, promoting the development of the securities market, and regulating the securities market. The market was allowed to allocate resources to competing uses. In the interest of investors, SEBI issued Disclosure and Investor Protection (DIP) guidelines. The guidelines contain a substantial body of requirements for issuers/intermediaries, the broad intention being to ensure that all concerned observe high standards of integrity and fair dealing, comply with all the requirements with due skill, diligence and care, and disclose the truth, whole truth and nothing but truth. IPO market has undergone a change with an introduction of free pricing regime and has further advanced with implementation of Book Building process in 1999 as per the recommendations of the Malegam Committee which was set up in 1995. In November 2005, there was another shift in regulations governing the IPO process.

Various changes followed in the secondary markets as well. The secondary market overcame the geographical barriers by moving to screen based trading. Trades enjoyed counter-party guarantee. The trading cycle shortened to a day and trades are currently settled within 2 working days (T+2) on rolling settlement basis. Deferral products like 'badla' were banned. Physical security certificates almost disappeared with the introduction of dematerialization. A variety of derivative products were permitted. The market presently offers futures and options on various stocks and indices on the National Stock Exchange and the Bombay Stock Exchange; on interest rate products;

and on currency. Another major change introduced in the secondary markets was corporatization and demutualization of stock exchanges.

The Equity segment of the Primary market in India has come a long way in terms of raising money. The trend is visible from the table below:

Table 1: Resources raised from the Primary Market

Year	Equity Rs crores)
1993-94	13028
1994-95	17970
1995-96	14685
1996-97	7853
1997-98	1881
1998-99	857
1999-00	4566
2000-01	3226
2001-02	1272
2002-03	1457
2003-04	18949
2004-05	24388
2005-06	27372
2006-07	32901
2007-08	79739
2008-09	14272
2009-10	54875
2010-11	57667

Source: Handbook of Statistics on the Indian Securities Market, SEBI, 2011

This study will try to estimate the long run performance of Initial Public Offerings (IPOs) and Seasoned Equity Offerings (SEOs) in India with the help of event study methodology wherein stock returns are examined around the date when new information about the performance (or prospects) of a company is announced. The long run performance would be tested by taking a study period of five years. The data regarding IPOs and SEOs will be collected from 1999 to 2005.

By testing the long run performance, this study will try to throw some light on market efficiency.

2. Concept of Underpricing

Generally, it has been found that investors, who purchase IPO's on the offering day, experience high returns on the first trading day, indicating that these shares may have been priced at values much below their intrinsic value at the time of their offering to the public. This concept is known as underpricing.

The underpricing in the case of firms selected for the study here is found out by calculating the returns achieved as the difference between the listing price and the issue price expressed as a percent. The formula used for calculation of returns for each firm is as follows:

(Closing price of the first day of listing – issue price) / issue price

The average returns for the 135 IPOs from 1999 to 2005 has been found to be 114.67% which is a phenomenal return and is an indicator of underpricing in the Indian markets. If we break up the underpricing year wise, it would look as following:

Table 2: Underpricing

Year	Underpricing
1999	481.71%
2000	21.72%
2001	59.92%
2002	9.43%
2003	43.19%
2004	53.91%
2005	43.43%

The underpricing is the highest in the year 1999 when the overall market was in a bullish phase and the lowest in the year 2002 when the market was in a bear grip.

3. Literature Review

The underpricing in the Indian context has varied from as high as 153 percent to as low as 7 percent for various periods studied. Underpricing has been quite high in the nineties as indicated by the studies of Shah (1995), Baral & Obaidullah (1998), Krishnamurti & Kumar (2002), Madan (2003), Ghosh (2006), excepting the study done by Kakati (1999) who reported underpricing of around 37 percent. The underpricing in the new millennium has reduced to as low as 7 percent as reported by Garg et al (2008). The studies by Kumar (2007), Deb (2009), Pande & Vaidyanathan (2009) and Sahoo & Rajib (2010) have reported higher underpricing ranging from 22 to 47 percent.

Most of the studies on IPOs, worldwide, have documented their long-run underperformance of IPOs. Aggarwal and Rivoli (1990), Ritter (1991), and Loughran and Ritter (1995, 2000) reported that US IPOs significantly underperformed benchmarks

during the two to five-year aftermarket period. Keloharju (1993) studies a sample of 80 initial public offerings in Finland between 1984 and 1989 and suggests that there is evidence for the long-run underperformance of the IPO firms in Finland. Levis (1993) studies initial public offerings in the UK and reports that the 36-month cumulative abnormal return, excluding first month returns, for initial public offerings in the UK is

-22.96 percent and significant. A study of initial public offerings in Australia provides further evidence on the poor long-run performance of the initial public offerings (Lee, Taylor, and Walter, 1996). Leleux (1993), Firth (1997), and Ljungqvist (1997), reported that IPOs underperformed comparison benchmarks in France, New Zealand, and Germany, respectively, a finding consistent with the US evidence. There is further evidence for the long-run underperformance of the initial public offerings in Germany (Stehle, Ehrhardt, and Przyborowsky, 2000). In contrast, Hwang and Jayaraman (1992) and Kim *et al*. (1995) report that in Japan, Korea, Spain, and Malaysia, IPO stocks perform better than, or equally as, non-IPO stocks in the two to three year post-issue period, a finding inconsistent with the US evidence.

Some seminal papers on related issues have been conducted by Loughran and Ritter. Ritter (1991) had studied 1526 firms that came out with IPOs in the U.S. from 1975 to 1984. He found that the firms significantly underperformed a set of comparables matched by size and industry and provided a negative return of seventeen percent in the three years following the IPOs.

Loughran and Ritter (1995) studied 4753 companies in the U.S. which issued stock through IPOs and 3702 companies in the U.S. through SEOs between 1970 and 1990. They found that the companies underperformed relative to non issuing firms for five years after the offerings.

Loughran and Ritter (2000) used various methodologies for testing long term abnormal returns which employed different weighting schemes. The various methodologies should provide different estimates of abnormal returns but they found lack of robustness in the magnitude of abnormal returns to alternative methodologies.

Loughran and Ritter (2004) tried to address the issue of changing underpricing from 1980s to 1999-2000 and 2001-2003. They provided three explanations viz., changing risk composition of the firms going public, analyst lust hypotheses i.e. hiring lead underwriters with a highly ranked analyst to cover the firm , and spinning hypothesis i.e.

offering under-priced shares to the senior executives of a third party company in exchange for future business with the investment bank. In the post-bubble period, increased regulatory scrutiny reduced spinning dramatically. This is one of several explanations why underpricing dropped back to an average of 12%

Some recent studies have also demonstrated the underperformance as well including the one by Thomadakis et al (2012) and Gregory et al (2010) in the European markets, but a few studies have shown over performance such as the study by Chi et al (2010) in the Chinese market.

Few studies on IPOs have been done in India as well. Madhusoodan and Thiripalraju (1997) examined the initial and aftermarket returns of 1,922 companies listed on the BSE from 1992 to 1995. The returns given by the Indian IPOs were very high in the short-run compared to the experiences of other countries. In the long-run, the returns were still positive and high, compared to negative returns in most other countries. Madan (2003) examined underpricing and long-run performance of 1,597 Indian IPOs listed during 1989-95 on the BSE. His study also confirms that in the long-run (five years after listing), there was a drastic fall in the IPO returns. Ghosh (2005) tried to identify the factors explaining underpricing IPOs by studying 1,842 companies that got listed on the Bombay Stock Exchange from 1993 to 2001. It was found that IPOs with a large issue size and those that went for seasoned offerings had less underpricing. Contrary to the international evidence, underpricing was less during the high volume period compared to the slump period in the Indian IPO market. Singh and Singh (2008) conducted a study based on a sample of 1,963 fixed price IPOs for the period July 1992 to August 2006. The results show that the adjusted initial returns, reputation of lead manager, and age of the company provided a certification to issues leading to oversubscription in Indian IPOs. Garg, Arora and Singla (2008) conducted a study on the IPOs issued through the NSE from 2000-2007 to find out whether significant differences existed between the abnormal returns generated from IPO underpricing under different circumstances. They found that there exists underpricing in the short run and overpricing in the long run. Pande and Vaidyanathan (2009) studied 55 firms listed on the National Stock Exchange from March 2004 to October 2006 and they demonstrate that the degree of underpricing in the Indian stock markets has reduced over the years, from 105.6% as reported by Shah (1995) to 22.6%

Studies on SEOs have been done by various authors. Spiess and Affleck-Graves (1995) found that firms making seasoned equity offerings in the United States during 1975-1989 substantially under-performed a sample of matching firms from the same industry and of similar size that did not issue equity. Teoh et al (1998) found that seasoned equity issuers can raise reported earnings by altering discretionary accounting accruals. The issuers who adjust discretionary current accruals to report higher net income prior to the offering have lower post-issue long-run abnormal stock returns and net income.

Mitchell and Stafford (2000) show that SEOs have strong stock returns in the three years prior to the issue. An analysis of 4,814 U.S. SEOs during 1986-1999 by Mola and Loughran (2004) indicates that the average offering of new shares is priced at a discount of 3.0% from the closing price on the day before the issue. Discounts have risen steadily over time, sharply increasing the indirect costs of issuing seasoned equity. Jegadeesh (2000) and Stehle et al (2000) have also report underperformance of SEOs in the long run.

Very few studies have been conducted on long term performance of Indian IPOs and tried to infer whether the markets have been efficient or not. Studies on SEOs in India have also been almost nonexistent.

4. Data And Methodology

The methodology chosen for the study will be similar to advocated by Brav and Gompers (1997) where they compare five-year buy-and-hold returns on IPOs and SEOs with the returns on portfolios that match them on size. Further, we would calculate the Cumulative Abnormal Returns to check the robustness of the results.

The buy-and-hold returns will be calculated using the following equation:

$$BHR_{iT} = \prod_{t=1}^{T}[1+R_{it}]-1$$

where BHR_{iT} is the buy and hold return for firm i, R_{it} is the return for firm i on date t, t is the date of the first post issue exchange listed closing price and T is the last trading day of the five year window. The average 5 year buy and hold return is measured as

$$\overline{ABHR_T} = \frac{1}{N}\sum_{T=1}^{N} BHR_{iT}$$

where, N is the number of firms which went for an IPO or SEO.

We also find the Cumulative Abnormal Returns by first defining abnormal return for stock *i* in observation period *t* (day or month) as:

$$AR_{it} = R_{it} - R_{mt}$$

where, R_{it} is the stock's realized return for month *t* and R_{mt} is its return for size matched firms.

The average abnormal or excess returns are calculated as:

$$\overline{AR_t} = \frac{1}{N}\sum_{t=1}^{N} AR_{it}$$

where, *N* represents the number of firms that went for an IPO or SEO.

The cumulative excess or abnormal returns are calculated as below:

$$CAR_T = \sum_{i=1}^{T} \overline{AR_t}$$

The time period for the study is 1999-2005. The rationale behind this time period being chosen is that in 1999, book building was introduced into the Indian market and we have stopped at 2005 so that 5 year returns could be calculated till the end of 2010.

The stock price data on Indian IPOs and SEOs and the returns has been sourced from Prowess database of CMIE. The companies which have gone for SEOs were not available directly from the database, so they were segregated from the list of companies who has issued equity by finding out whether the particular company had a history of stock price or not. If it had a history of stock prices it was a case of seasoned equity offering.

The selection of the matching firms was done on the basis of size i.e. market capitalization on the Bombay Stock Exchange and we excluded firms which had issued equity in the last three year to avoid contamination in the matched firms.

The initial sample size consisted of 219 firms for the IPOs and 21 firms for the SEOs. A number of companies were excluded because we had chosen only those firms which traded at least once in a quarter. The number of companies finally studied for the IPOs are 148 and for SEOs are 15.

The matching of the firms was done on the basis of market capitalization. The firm with the market capitalization closest to, but higher than that of the issuing firm was chosen as the matching firm.

Further, Cumulative Abnormal Returns (CAR) are calculated by matching the firms' returns with the returns from the Sensex, the most popular benchmark for the secondary markets in India.

5. Findings

The average 5-year Buy and Hold Return for IPOs is 156.79% as compared to the average return of 427.33% from the size matched firms. The IPOs are generating much lower returns in comparison. This clearly demonstrates the long term underperformance of IPOs which is very much consistent with the international evidence, by and large.

The average 5-year Buy and Hold Return for SEOs is 208.53% which is higher than the returns generated by the size matched firms which have generated an average return of 145.92%. So Indian SEOs have outperformed the matching portfolio. But this is not consistent with the results from international studies and further research needs to be carried out for the reasons thereof.

The average 5-year compounded annual returns have been -0.59% for firms issuing stock and the size-matched firms have earned 20.32%. The similar returns calculated for seasoned equity offerings have been 12.18% as compared to 0.32% for the size matched firms.

The following tables report the average abnormal returns (AR) and cumulative average abnormal returns (CAR) for the 60 months after the offering date of IPOs.

Table 3

IPOs											
	AR	**CAR**		**AR**	**CAR**		**AR**	**CAR**		**AR**	**CAR**
AbR_1	-0.72%	-0.72%	AbR_16	-1.12%	-35.94%	AbR_31	-2.73%	-47.44%	AbR_46	1.45%	-71.04%
AbR_2	-7.25%	-7.97%	AbR_17	-0.95%	-36.89%	AbR_32	-3.24%	-50.68%	AbR_47	-0.24%	-71.28%
AbR_3	2.54%	-5.43%	AbR_18	-2.47%	-39.36%	AbR_33	-1.03%	-51.71%	AbR_48	1.49%	-69.79%
AbR_4	-3.14%	-8.57%	AbR_19	1.73%	-37.63%	AbR_34	-1.85%	-53.56%	AbR_49	1.26%	-68.53%
AbR_5	-1.88%	-10.45%	AbR_20	4.65%	-32.98%	AbR_35	-1.34%	-54.90%	AbR_50	-0.60%	-69.13%
AbR_6	-9.81%	-20.25%	AbR_21	-0.40%	-33.37%	AbR_36	-3.18%	-58.09%	AbR_51	4.73%	-64.40%
AbR_7	-8.87%	-29.13%	AbR_22	1.36%	-32.01%	AbR_37	-4.27%	-62.36%	AbR_52	-5.87%	-70.27%
AbR_8	-1.12%	-30.25%	AbR_23	-4.94%	-36.95%	AbR_38	-2.60%	-64.96%	AbR_53	-1.26%	-71.53%
AbR_9	-3.12%	-33.37%	AbR_24	-1.52%	-38.47%	AbR_39	-0.39%	-65.35%	AbR_54	-0.42%	-71.95%
AbR_10	-6.23%	-39.60%	AbR_25	2.32%	-36.15%	AbR_40	-1.86%	-67.21%	AbR_55	-1.72%	-73.67%
AbR_11	0.49%	-39.11%	AbR_26	-3.28%	-39.42%	AbR_41	-4.54%	-71.75%	AbR_56	-4.09%	-77.76%
AbR_12	1.95%	-37.17%	AbR_27	-0.22%	-39.64%	AbR_42	-0.33%	-72.07%	AbR_57	1.90%	-75.86%
AbR_13	-1.35%	-38.52%	AbR_28	-3.06%	-42.70%	AbR_43	-2.06%	-74.14%	AbR_58	5.48%	-70.38%
AbR_14	3.47%	-35.05%	AbR_29	-3.58%	-46.29%	AbR_44	-0.44%	-74.58%	AbR_59	-0.33%	-70.71%
AbR_15	0.23%	-34.82%	AbR_30	1.58%	-44.71%	AbR_45	2.09%	-72.49%	AbR_60	-6.16%	-76.88%

*AbR_1 indicates abnormal returns in month 1

The following table reports the average abnormal returns (AR) and cumulative average abnormal returns (CAR) for the 60 months after the offering date of SEOs.

Table 4

IPOs											
	AR	**CAR**		**AR**	**CAR**		**AR**	**CAR**		**AR**	**CAR**
AbR_1	-22.29%	-22.29%	AbR_16	-3.18%	-39.53%	AbR_31	-2.81%	-37.65%	AbR_46	-7.01%	-19.49%
AbR_2	-36.65%	-58.95%	AbR_17	-1.24%	-40.77%	AbR_32	-6.75%	-44.39%	AbR_47	2.24%	-17.25%
AbR_3	2.37%	-56.58%	AbR_18	-0.03%	-40.80%	AbR_33	7.77%	-36.62%	AbR_48	-3.16%	-20.41%
AbR_4	5.98%	-50.60%	AbR_19	3.75%	-37.05%	AbR_34	0.30%	-36.32%	AbR_49	1.40%	-19.02%
AbR_5	1.95%	-48.65%	AbR_20	-4.92%	-41.97%	AbR_35	-1.95%	-38.27%	AbR_50	-16.29%	-35.31%
AbR_6	-6.93%	-55.58%	AbR_21	-1.80%	-43.77%	AbR_36	-3.15%	-41.42%	AbR_51	7.43%	-27.88%
AbR_7	-1.09%	-56.66%	AbR_22	-3.78%	-47.56%	AbR_37	-4.93%	-46.35%	AbR_52	3.57%	-24.30%
AbR_8	18.18%	-38.48%	AbR_23	-1.95%	-49.51%	AbR_38	4.20%	-42.15%	AbR_53	4.50%	-19.80%
AbR_9	-3.56%	-42.05%	AbR_24	7.22%	-42.28%	AbR_39	13.93%	-28.22%	AbR_54	-7.52%	-27.32%
AbR_10	5.18%	-36.86%	AbR_25	0.63%	-41.65%	AbR_40	7.40%	-20.82%	AbR_55	9.61%	-17.70%
AbR_11	2.90%	-33.96%	AbR_26	9.40%	-32.26%	AbR_41	4.34%	-16.48%	AbR_56	-5.82%	-23.52%
AbR_12	-10.21%	-44.17%	AbR_27	-11.43%	-43.69%	AbR_42	4.56%	-11.92%	AbR_57	3.30%	-20.23%
AbR_13	3.76%	-40.41%	AbR_28	2.76%	-40.93%	AbR_43	7.47%	-4.45%	AbR_58	7.97%	-12.26%
AbR_14	-1.55%	-41.96%	AbR_29	1.00%	-39.93%	AbR_44	-0.07%	-4.52%	AbR_59	6.17%	-6.09%
AbR_15	5.61%	-36.35%	AbR_30	5.09%	-34.84%	AbR_45	-7.96%	-12.48%	AbR_60	15.60%	9.51%

The above tables i.e. Table 4 and Table 5 show the excess or abnormal returns (AR) over 60 months of firms going for IPOs and SEOs over its size matched firms. The IPOs have underperformed the matched firms as understood from the cumulative abnormal

returns (CAR) of -76.88%. But the SEO firms have given better returns than the matched firms to the tune of 9.51% over the five year period.

The IPOs have generated statistically significant (at 5% level) negative excess returns in the month 2, 6, 7, 10, 52, 58 and 60. This shows that initial months and the later months in the 60-month period are more prone to underperformance. The SEOs have generated statistically significant (at 5% level) negative excess returns in the month 1 but generated statistically significant positive excess returns in the month 58 and 60.

The excess returns by matching the issuing firms with the Sensex and the corresponding cumulative abnormal returns (CAR) were also calculated for the 60 months. The CAR for the IPOs was 64.31% i.e. they definitely beat the index but the abnormal returns were statistically insignificant (at 5% level) except for months 2, 14, 19, 42, 48, 49 and 55.

The same exercise when done with SEOs showed a CAR of 243.11% but the Abnormal Returns were statistically insignificant for all 60 months.

6. Conclusion

The overall results show that the returns given by Initial Public Offerings in India from the year 1999 to 2005 have been much lower than given by non issuing firms which have been matched on the basis of size. This is in line with the previous literature all over the world that proves the underperformance of IPO firms. This is an indicator of informational inefficiency of markets in India.

The returns given by Seasoned Equity Offerings in India from the year 1999 to 2005 have been much higher than given by non issuing firms which have been matched on the basis of size. The results may not be conclusive as the number of firms taken for the calculations is very few. So, further research needs to be done to provide a conclusive answer regarding the over performance of SEO firms over the non issuers.

This study tries to shed some light on the efficiency of markets. The underperformance of IPOs and over performance of SEOs cannot be construed to be anomalies as Fama (1998) puts it, that, apparent overreaction is as common as under reaction which is consistent with market efficiency hypothesis.

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