WP/15/2015

NSE WORKING PAPER

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January 2015

NSE Working Paper

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In this paper, we study the long run equity performance of Indian firms which issued Seasoned Equity Offering (SEO) during the period January 2000 to March 2014. With a sample of 177 such SEO issuing firms, we show that the long run equity performance of these SEO issuing Indian firms have been significantly inferior compared to firms from the same industry which are similar w.r.t other parameters like Size, age and price -book ratio. Investing in an SEO at the close of the first trading day and holding it for 5 years, on an average, gave 17% (3% on an annualised basis) less returns than comparable firms. This pattern is more or less independent of the market conditions (bull or bear) except for a brief period during the global financial crisis.

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Long Run performance of Rights Issues and FPOs : Evidence from India

1. Introduction

In this paper, we study the long run equity performance of Indian firms which issued Seasoned Equity Offerings (SEO henceforth)[1] during the period January 2000 to March 2014. We show that the long run equity performance of these SEO issuing Indian firms have been significantly inferior compared to similar firms from the same industry. And this pattern has been more or less independent of the market conditions (bull or bear market) except for a brief period during the Global Financial crisis, during which there was no such differential performance visible.

Research (Marisetty et al., 2008) shows that, the rights issue is the most common method in the Indian equity market for the firms to raise secondary equity capital. The rights issue offered by a firm entitles the existing shareholders to buy additional shares in proportion to the number of shares existing with them. The subscription price at which each share may be purchased is usually at a discount to the market price. These rights are often transferrable to others and openly sold in the market. Firms usually offer rights issue to their shareholders to give them an opportunity to buy additional shares before others buy through Follow on Public Offering (FPO). FPO is another method of raising secondary equity capital by issuing shares to the investors at large at a discounted price by a public company that is already listed on the stock exchange. In both the cases, the number of outstanding shares in the market increases by the amount of shares issued.

Empirical studies in the U.S. and other global markets (Loughran and Ritter, 1994; Spiess and Graves, 1995), in United Kingdom (Levis, 1995) and in Japan (Cai, 1998; Kang, Kim, and Stulz, 1999) have shown that the firms issuing the SEO have exhibited poor stock market performance following the offer.

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[1] Within SEOs we have considered only the rights issues and FPOs in this study, though Qualified Institutional Placement (QIP) is also another mode of raising secondary equity money in India. Due to the lack of adequate data, particularly w.r.t the control companies, we could not include the QIPs in the study.

A possible interpretation of the underperformance of the rights issues and FPOs is the "management timing" hypothesis. It argues that the managers are able to determine whether the market is willing to overpay, or is currently overpaying for their stock and they take advantage of these opportunities to issue new equity through the FPO or the rights issue. Because of the long period of underperformance following equity offerings, the management timing interpretation further indicates that the market is not able to assess this motive and fails to accurately evaluate the firm at the time of the equity issue announcement. It indicates that the equity issuing signal is not correctly interpreted, on the average and that the investors have to wait for additional evidence to be revealed over time before re-evaluating the firm.

A number of prior studies, however, report significant price appreciations post the announcement of SEOs (Dhatt et al., 1996; H. Kang, 1990; J.K. Kang and Stulz, 1996; Loderer et al., 1988; Tan et al., 2002; Tsangarakis, 1996). These studies have interpreted their findings by employing an investment opportunity rationale. According to this rationale, the SEOs that are used to finance the investment opportunities, which entail future growth, are viewed favourably by the market. Additionally, they proposed that, the SEOs decrease leverage which can be perceived favourably by the market as a signal of reduced financial distress potentiality.

Contrasting findings and arguments in extant literature and very little work on this very important issue in the Indian context prompted us to explore the issue. India is an emerging market where lack of adequate information among common investors is not uncommon. If we look at the country ranking on Transparency International, India's overall rank is quite low (94/177) as compared to the U.S. (19/177) and India's rank on financial secrecy also stands much lower (25/71) compared to the U.S. (5/71)[2]. Khanna, Palepu and Srinivasan (2004) analyse the firm level disclosure data of S&P[3] and show the average score on the overall transparency, and the financial transparency and disclosure of India is 4.5 and 5.7 respectively (on a ten point scale) as compared to the best practices in the U.S. With the equity market booming and the potential for a series of fund raising activities looming large,

[2] http://www.transparency.org/country

[3] The transparency and disclosure survey developed by Standard and Poor's (S&P) contains 98 questions for the scoring process, segmented into three different categories namely the ownership structure, the financial transparency and disclosure, and the Board and management structure. All these questions included for the scoring purpose are benchmarked with the U.S. best practices.

we thought it would be the right time to explore this important issue, as to whether the firms offering the rights issue and the FPOs underperform in the long run in India.

Using a sample of 144 rights issues and 33 FPOs offered during the period 2000-2014 for our study, we find that the firms offering these rights issues and FPOs underperform significantly in the long run. Investing in an SEO at the close of the trading day and holding it for 5 years, on an average, gave returns of only 28% (5% annualised) which is 17% (3% annualised) less than the returns given by the firms similar in size, price-to-book ratio (P/B) and age and in the same industry that did not issue SEOs. The results are significant and are in line with those observed in the developed economies like the U.S. Therefore, we conclude that our results are consistent with the "management timing" hypothesis and that the Indian managers have actually been able to take advantage of the pockets of opportunities when their firm's stock is overvalued to raise new secondary equity.

The remaining part of the paper is organised as follows: in the next section, we analyse the literature available in the area, section III talks about the data used in the study and their sources, section IV describes the methodology, and section V discusses the results and observations followed by the conclusion. Further, we discuss the key results and conclude with a brief summary.

2. Literature Review

The long run performance of the Initial Public Offer (IPO) has been widely documented in literature. In the U.S. and other Global markets, it has been usually observed that the IPOs can be associated with initial remarkable performance (McDonald and Fisher, 1972) followed by a long-run underperformance (Aggarwal and Rivoli, 1990; Loughran and Ritter, 1994). A similar trend of the initial remarkable performance followed by the long run underperformance has been observed in the Indian market as well (Madhusoodanan and Thiripalraju, 1997; Nandha and Sawyer, 2002; Garg et al., 2008; Deb, 2009).

A recent study performed on the short term and the long term performance, post the issue of the SEOs, by the firms listed on the Athens Stock Exchange (ASE) also reported similar results (A. Dasilas and S. Leventis, 2013). They examine changes in systematic risk, changes in leverage, operating performance, as well as the long term stock price of the firms that issued the SEOs. They found a stock price rally after the announcement of the SEOs and

subsequent share price drop post issue. They reported that the capital structure and the long-run operating performance of the firms issuing SEOs, deteriorates for up to two years, post the announcement of the issue.

Ritter and Jay R. (1991) suggests that this negative aftermarket performance is consistent across the firms taking advantage of a "window of opportunity" that arises periodically at the peak of the business cycles, when the investors are highly optimistic about the stock value in specific industries. If managers can exploit overvaluation when making an IPO, they may be able to do so for the rights issue as well (Spiess and Graves, 1995).

Previous studies on the rights issue have mainly focused on the returns over a short term post announcement period. A few of these studies (Barclay and Litzenberger, 1988; Loderer et al., 1991; Tripathy et al., 1992) do report small positive abnormal returns over the first 20 to 30 days following the issue date. Although, they do not explicitly examine the post-issue date performance, Asquith and Mullins (1986) find an average or below performance in the 480 days following the announcement, which includes a large part of the post-issue period. Spiess and Graves (1995) report a significant long term underperformance of Rights issue in the U.S. markets over a time period of five years following the issue.

A significant long-run underperformance post issue of Seasoned Equity offerings (SEO) is observed in the UK (Panagiotis Andrikopoulos, 2009). Using the sample of rights issues, Andrikopoulos suggested that this long-run underperformance is due to the weakening operating fundamentals of the companies post the issue. On further research, he found out that the underperformance is mostly robust in the case of the fast growing firms with an over optimistic management.

However H. DeAngelo, L. DeAngelo and R. M. Stulz (2010) have a different stand on the market timing opportunities and the stage of the corporate life cycle. They suggest that the primary motive of the firms offering the SEO is to raise cash for their short term needs. They argue that the issuers would run out of cash in less than a year after the issue of the SEO, had they not raised the new equity capital through the issue of the SEO, and a majority of the firms would have below normal cash balances without these issues. Operating on tight financial constraints is what motivates the firms to issue the SEOs while the opportunity to sell the shares at an over-valued price and the market timing are secondary considerations.

3. Data

We consider the SEOs issued in India, in the last 15 years i.e., from 2000 to 2014. To explore the differential patterns, if any, of these firms across various phases, during this overall period, we divide the full study period into four sub-periods. The basis of our classification is the clear pattern, in terms of the overall market returns generated during these sub-periods. Table 1 shows the overall movement of the CNX Nifty index, the most broad-based index in India during these sub-periods.

Table 1: CNX-Nifty Total Returns during various macro phases

Phase	Period	CNX-Nifty total returns
Bear	2000-2002	-29.28%
Bull	2003-2007	489.20%
GFC	2008	-42.40%
Recovery	2009-2014	119.28%

The list of firms issuing the SEOs (rights issues and FPOs) is collected from the Prime database[4]. Initially, we had around 300 firms offering the rights issues and around 60 firms conducting the FPOs in our sample. However we finally include only those firms in our sample which had at least five years of monthly return data available after the issue and also had a "Control firm" with similar characteristics in terms of market capitalisation (size), price-to-book (P/B) ratio and age of the firm, with a similar range of return data available. This finally brought our sample size down to a total of 177 (144 rights issues and 33 FPOs).

We also collect the following data from the Prowess database of CMIE (Centre for Monitoring Indian Economy)

Market Capitalisation (MC): MC is reported on a daily basis and is computed as the product of the closing market price on the day and the number of outstanding shares at the end of the day. This would be used as our size indicator, high MC denoting a big company and low MC denoting a small company.

Price-to-Book Ratio (P/B): P/B is defined as the ratio of the closing market price of the stock on the date on which the ratio is reported, divided by the last reported book value of the stock

[4] Under the sponsorship of NSE, as a part of their initiative, under the NSE working paper series

equity. This would be used as our growth indicator, high P/B denoting high growth stocks and low P/B denoting low growth stocks.

Age of the firm (Age): Age of the firm is defined as the number of years since its inception till the time of issue.

Monthly Return (MR): MR is the total return (sum of the dividend yield and capital gains yield) from the first trading date of that month to the first trading date of the next month and is adjusted for stock dividends and stock splits. In other words, it assumes that the investor buys the stock at the closing price of the first trading day of a month and sells it at the closing price of the first trading day of the following month; the dividends received during this period are considered without any adjustment for the time value of money.

4. Methodology

4.1 Long term performance

The long term performance of companies is measured by comparing the monthly-adjusted-return (MAR) of the target companies and their control companies. Alternately, the long term performance is measured by comparing the buy-and-hold-return (BAHR) of the target companies and their control companies.

4.2 Identification of control company groups

For each target company, the market capitalisation (MC), the price-to-book (P/B) ratio and the age of the firm are calculated for all the companies which belong to the same industry of the target company. A score S_i is calculated for each control firm of the industry group as the sum of the absolute percentage deviations of the MC, P/B and Age of the sample firm from the control firm, as shown by the formula below:

$$S_i = \left| {MC_i}/{MC_t} - 1 \right| + \left| {PB_i}/{PB_t} - 1 \right| + \left| {Age_i}/{Age_t} - 1 \right|$$

where MC_i and MC_t are the market capitalisations of the control firm and the target firm respectively, for which the score is calculated, PB_i and PB_t are the P/B ratios of the control firm and the target company respectively, and Age_i and Age_t are the ages of the control firm and the target company respectively. Based on the scores we sort the control firms and take

the top five firms in the ascending order of the score (firms with minimum deviations get priority to be included in the group, therefore) are considered as the "control company group" for each sample firm.

4.3 Monthly Average Return (MAR) analysis

We find the monthly average return (MAR) for each sample firm and also the control group. Relative MAR (RMAR) for each sample firm is calculated by subtracting the average MAR of the control firms from the MAR of the sample firm. This is a measure of the excess monthly return that the sample firm gives compared to its control group.

$$\mathrm{RMAR_i} = (\mathrm{MAR_i} - \mathrm{AMAR_{ci}})$$

where $\mathrm{MAR_i}$ the monthly-adjusted-return of the sample firm i and $\mathrm{AMAR_{ci}}$ is the average of monthly-adjusted-returns of all the identified control firms. The monthly RMAR of each sample firm is then calculated over various periods of 12, 24, 36, 48 and 60 months, post the issue. Their mean and t statistics are also calculated to check how the mean monthly return of the sample firms compare with respect to the control firms.

4.4 Buy and Hold Return (BAHR) analysis

The RMAR indicates the short term performance of the sample firms post issue vis-avis their control group. To have a long term perspective of their performance vis-a-vis the control groups we also do a buy and hold return (BAHR) analysis. BAHR (annualised) is computed using the following formula.

$$\mathrm{BAHR_{(i,N)}} = \left[\prod_{t=1}^{N}(1 + \mathrm{MAR_i})\right]^{12/N} - 1$$

where $\mathrm{MAR_i}$ is the monthly-adjusted-return of the firm in the month i, and N chosen as 12, 24, 36, 48 and 60 to calculate BAHR for one to five years respectively. To calculate BAHR for 5-years, only those firms for which the data is available for five consecutive years are considered, which means BAHR for five years cannot be calculated for firms which offered the rights issue or the FPOs during the period 2011-2014. Similarly, BAHR for one to four years are calculated for only those firms which have data available consecutively for one to four years respectively. BAHR of the control firms is subtracted from the BAHR of the

sample firms to get the relative BAHR. This is a measure of the excess return that the sample firms gave compared to the control firms over a longish period.

The relative BAHR of all sample firms in our sample is calculated as above over various holding periods of one to five years. Their cross sectional means are also calculated to check how the mean BAHR of the sample firms compare with respect to the control firms.

5. Observations

Table 2 presents the sample size, the average market capitalisation, the average P/B and the average age for the five groups.

Table 2: Sample Description

Period	Sample size	Average MC (Rs. Million)	Average P/B	Average age (years)
Bear	16	1733.68	0.81	38.25
Bull	88	57200.50	2.40	43.59
GFC	12	148685.02	2.04	50.08
Recovery	61	41427.94	1.94	41.13
Entire	177	52953.15	2.08	42.70

Table 3 presents the comparison between the average annualised BAHRs of the sample and control firms for various years. In this table, a continuous sample of 109 firms which has the data for at least five consecutive years is considered for this comparison. For both the sample and the control firms, we observed that, the BAHR returns were positive and increased as the holding period also increased. However, our sample firms always underperformed compared to the control firms.

Table 3: BAHR Description

	Annualised Returns		
No. of years	Sample firms	Control firms	Sample size
1	3.62%	7.14%	109
2	4.96%	7.44%	109
3	4.76%	7.33%	109
4	5.00%	7.50%	109
5	5.14%	7.78%	109

Table 4 represents the t-statistics of the relative BAHR of the SEOs considered for various time periods after issuing the SEOs. We observe that the mean is negative for all the periods, which means that the sample firms gave less BAHR returns compared to the control firms. As we can see, the results are statistically significant. This would imply that, on an average, the performance of the firms issuing SEOs have deteriorated across the time compared to similar firms operating in the same industry.

Table 4: t-statistics of the relative BAHR

	1 year	2 years	3 years	4 years	5 years
Mean of returns of sample firms	3.39%	4.30%	4.30%	4.37%	5.14%
Mean of returns of control firms	8.13%	8.53%	7.50%	7.51%	7.78%
Relative Mean	-4.74%	-4.22%	-3.20%	-3.14%	-2.64%
t	-5.31	-5.00	-5.74	-5.82	-5.61
significance (2 tailed)	0.00	0.00	0.00	0.00	0.00
n (sample)	172	155	145	127	109
Median	-3.91%	-4.28%	-3.74%	-3.49%	-3.17%
Minimum	-37.19%	-62.53%	-17.94%	-20.08%	-12.85%
Maximum	28.48%	18.61%	15.86%	18.15%	16.89%
Standard deviation	0.12	0.11	0.07	0.06	0.05

Table 5, Table 6, Table 7, Table 8 and Table 9 represent the t-statistics of the relative MAR of the SEOs issued in various periods considered for one to five years respectively after issuing the SEOs. We observe that, irrespective of the time horizons, the mean of RMAR is negative and statistically significant for all the periods except for GFC. It means that the sample firms, irrespective of issuing SEOs in any period, gave less MAR compared to the control firms except for the sample firms that issued SEOs during GFC period. The mean is positive for the GFC period for one to three years, which might indicate that the sample firms issuing SEOs in this period performed better than their control firms. However, the results are not statistically significant for the GFC period.

Hence we conclude that the firms issuing SEOs underperform in the long-run compared to the firms of similar size and operating in the same industry. However nothing can be concluded about the firms issuing the SEOs when the economy is in recessionary phase.

Table 5: t-statistics of the relative MAR for 1 year for all periods

1 Year					
	Total	Bear	Bull	GFC	Recovery
Mean	-0.37%	-0.99%	-0.30%	0.03%	-0.39%
t	-4.98	-2.69	-3.14	0.10	-3.36
Significance (2 tailed)	0.00	0.01	0.00	0.92	0.00
n (sample)	2064	192	1056	144	672
Median	-0.41%	-0.70%	-0.40%	-0.31%	-0.35%
Minimum	-17.23%	-17.23%	-13.72%	-14.55%	-14.68%
Maximum	22.87%	22.87%	20.27%	13.72%	12.91%
Standard deviation	3.39	5.10	3.12	3.96	3.04

Table 6: t-statistics of the relative MAR for 2 years for all periods

2 Years					
	Total	Bear	Bull	GFC	Recovery
Mean	-0.32%	-1.02%	-0.25%	0.15%	-0.33%
t	-4.99	-2.49	-3.71	0.74	-3.44
Significance (2 tailed)	0.00	0.01	0.00	0.46	0.00
n (sample)	3720	384	2112	288	936
Median	-0.36%	-0.55%	-0.36%	-0.11%	-0.42%
Minimum	-83.13%	-83.13%	-14.15%	-14.55%	-19.64%
Maximum	31.79%	31.79%	20.27%	16.56%	12.91%
Standard deviation	3.91	8.03	3.11	3.39	2.98

Table 7: t-statistics of the relative MAR for 3 years for all periods

3 Years					
	Total	Bear	Bull	GFC	Recovery
Mean	-0.24%	-0.37%	-0.25%	0.04%	-0.26%
t	-5.25	-1.67	-4.44	0.29	-2.93
Significance (2 tailed)	0.00	0.09	0.00	0.77	0.00
n (sample)	5520	396	3132	432	1260
Median	-0.33%	-0.31%	-0.37%	-0.11%	-0.31%
Minimum	-31.41%	-15.85%	-14.15%	-14.55%	-31.41%
Maximum	22.87%	22.87%	20.44%	16.56%	13.07%
Standard deviation	3.25	4.41	3.14	3.13	3.14

Table 8: t-statistics of the relative MAR for 4 years for all periods

4 Years					
	Total	Bear	Bull	GFC	Recovery
Mean	-0.23%	-0.33%	-0.21%	-0.01%	-0.37%
t	-5.35	-1.78	-4.20	-0.11	-3.32
Significance (2 tailed)	0.00	0.08	0.00	0.92	0.00
n (sample)	6096	528	4032	576	960
Median	-0.33%	-0.39%	-0.34%	-0.09%	-0.34%
Minimum	-31.41%	-15.85%	-14.15%	-14.55%	-31.41%
Maximum	22.87%	22.87%	20.44%	16.56%	14.71%
Standard deviation	3.31	4.27	3.17	2.99	3.46

Table 9: t-statistics of the relative MAR for 5 years for all periods

5 Years					
	Total	Bear	Bull	GFC	Recovery
Mean	-0.19%	-0.32%	-0.20%	-0.05%	0.03%
t	-4.71	-2.02	-4.47	-0.49	0.11
Significance (2 tailed)	0.00	0.04	0.00	0.62	0.91
n (sample)	6540	660	4980	720	180
Median	-0.32%	-0.37%	-0.35%	-0.14%	0.15%
Minimum	-15.85%	-15.85%	-14.15%	-14.55%	-10.62%
Maximum	22.87%	22.87%	20.44%	16.56%	12.22%
Standard deviation	3.22	4.06	3.12	2.97	3.53

6. Conclusion

We examined the long term performance of the firms that offered the SEOs during the period 2000-14. Investing in an SEO at the close of the trading day and holding it for three years, on an average gave returns of only 15% (4.76% annualised) which is nine percent (1.74% annualised) less than the returns given by the firms similar in size and in the same industry that did not issue SEOs. Holding this investment for five years would have been even worse for the investor as it has given returns of only 28% (5.14% annualised), which is 17% (3.18% annualised) less than the returns given by the similar firms that did not issue the SEOs. This is consistent with what is observed by Ritter and Jay R. (1991) for holding the IPOs over a three year period. Therefore we conclude that the underperformance reported by Ritter and Jay R. (1991) is not limited to IPOs but is a general public offering phenomenon.

Irrespective of the macroeconomic phases, MAR of the sample firms deteriorated significantly compared to their control firms. However if only those sample firms that issued the SEOs during the GFC are considered, the RMAR of the sample firms are positive for up to a period of three years and are negative for periods above three years. A possible reason for this could be understood from the findings of H. DeAngelo, L. DeAngelo and R. M. Stulz (2010). During GFC, there would be no "window of opportunity" unlike at the peaks of the business cycle. Hence the firms that issued the SEOs during this period could be in need of cash to operate its business and as the cost of debt would be higher during this phase, these firms might have chosen to raise the capital by issuing new equity. However no strong conclusion can be drawn in this case as the results are not statistically significant when the SEOs offered only during GFC are considered.

We observed the statistically significant differential returns, between the issuing firms and the matched control firms. We may conclude that, as each matched firm is from the same industry group and comparable in size, book-to-market ratio and of same age, to the issuing firm, it is unlikely that such a differential return could be explained by the traditional risk measures. Hence posit that the managers are able to take advantage of the firm-specific information to issue equity when the firm's stock is overvalued. Our findings have valuable implications for interpreting the stock returns when an SEO offering is announced as it would be open only for a few days, and for the way market efficiency is understood by the investors.

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