
Empirical Evidence on Post Listing Performance of Book Built IPOs: Indian Capital Market

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ABSTRACT

Purpose – The purpose of this paper to document insights on long run performance of Book built IPOs for the 335 IPOs, issued in duration of January 2006- December 2015. Also to examine significance of underperformance and disappearance of underpricing.

Design/methodology/approach – to calculate returns for the time horizon of study, Buy and Hold Strategy is used and also Wealth Relative Index model is used to assess the performance of IPOs. To examine significance of returns, a T-Test is applied and Descriptive statistics is calculated.

Findings – Since after listing of 30 days performance turned to negative sign. The issuing firms (335 IPOs) during January 2006 – December 2015 substantially underperformed a sample of matching firms from the closing price on the first day of listing of public trading to their three-year anniversaries throughout. There is substantial variation in the underperformance year-to-year. Indian Book built IPOs starts to produce negative return after listing of 2 years and underpricing gets disappeared in 2nd year of listing. The Wealth Relative index (WR) and Buy and Hold Strategy is used to measure long run performance of the sample.

Evidence documents that one can gain good positive return till 6th month from the offer price and till second day from the listing price in Indian book built IPOs. Till the 3rd anniversary the sample of study produce negative returns from the offer price and as well as from the listing price. The findings assists to national and foreign investors who really want to invest or survive for a long time in capital market.

Practical Implication- yes, Listing day and 2nd day of listing are the good opportunity window to gain positive return in Indian IPO capital market.

Originality/value – This is my original empirical research paper which is based on 3rd objective of my research work.

Key words: Initial public offerings (IPO), Long run performance, BHAR, WR and Initial return (IR)

INTRODUCTION

The decision to go public through an Initial Public Offering (IPO) is one of the most significant decisions in the life cycle of a firm. Due to its alleged importance, it has become one of the most widely researched topics in the literature. One aspect of this literature is always been concerned with analysis of long run performance means after listing how long IPOs produce positive returns or outperform the market. Empirical evidence on international literature sought for negative long run performance. Since decades long run issue of underperformance of stocks had been a debated subject for the research study. A number of empirical explanations for the puzzling result of IPO under performance have been formulated. Many of them rely on the assumption of influencing variables which are here like underwriter reputation, venture capital affiliation, business group affiliation, issue size, age of company and past financial performance of companies. For example, smaller issues show worse performance in long run and highly underpriced issues records worse performance in long run (Ritter, 1991). After three years stock underperforms the matching firm as BHR wealth relative value comes to 0.801 (Loughran and Ritter, 1995).

Generally a post listing performance is called after market performance. Long run performance is a puzzling issue in context of its methodology, factors influencing it, time frame. So this paper is around to answer the puzzling domain. Hence this paper is an attempt to analyze the 3years performance of Book built IPOs from the offer price and listing price as well and to examine the impact of variables on long run performance.

LITERATURE REVIEW

The testing of the long-run performance has generated varied results in different countries (see Table 1). In fact, it is puzzling to know that same IPOs which give very high returns to investors in the initial period tend to underperform in the long run. By definition, the long-run performance of issuing firms is measured by stock-price return adjusted with benchmark over a long time, generally from one year to five years after the IPO. The major result, broadly accepted but time to time put into question, is that IPOs perform badly over one to three and five years following their introduction in the secondary stock market (Bhatia and Singh, 2012). The issue of long-run performance of IPOs has received increased attention since Ritter's (1991) exposure of the potential wealth hazard of a buy-and-hold strategy toward investing in IPOs (Deb and Mishra, 2009; Chi and Padgett, 2002). Validating Ritter's (1991) findings, studies in several countries have confirmed the existence of long-run underperformance.

The mean abnormal performance of IPOs from different countries is reported in Table 1. With the exception of following mentioned countries, Kim et al. (1995), who investigate 169 Korean initial public offerings listed on the Korean Stock Exchange during the period 1985–1989. Unlike previous international evidence, their results reveal that the Korean IPOs outperform seasoned firms with similar characteristics. Similarly, Paudyal et al. (1998) find that the performance of IPOs in Malaysia is not different from the performance of the market portfolio. Furthermore, Xia and Wang (2003) for China, Omran (2005) for Egypt, Madhusoodan and Thiripalraju (1997) for India, Durukan (2002) for Istanbul, Corhay et al. (2002) for Malaysia, Allen et al. (1999) for Thailand, etc., report that IPOs perform better than market index or the other benchmarks. Generally, IPOs in all reported countries underperform over a period of 3 to 5 years subsequent to offering. Boissin and Sentis, 2012 produce evidence of negative return -68.10% after 3rd year for 370 French IPOs. The Operating performance of firms keeps positive till one year and turns to negative in 2nd year after IPO (Mayur, 2013). A negative BHR after 5th day of listing is recorded by 28 Portugal IPOs (Fernard and Ferreria, 2014). The Malaysian IPOs also produce negative BHR after 6th month to 3 years of listing which varies - 5.2% to -32.8% respectively.

After exploring a wide review it is concluded with most perspective domain for future research. Here still long run underperformance is a puzzle as empirical evidences are mixed and vary country to country. Mostly developed economy's capital market turned to negative result after post listing of 3 years. For example, see Ritter (1991); Loughran and Ritter (1995) Whereas Chen and Pan, (1998) document a positive return up to 65.64% over a 3 years in Taiwan IPO Market. The poor long-run stock price performance was first documented by Ritter (1991). By using a sample of 1,526 U.S. IPOs during 1975-84, found that after 3 years of going public, these firms significantly under performed market returns and a set of comparable firms matched by industry and size. The IPOs in a study sample produced an average 3-year holding period return of 34.37%. However, a control sample of matching firms, paired by industry and market value, produced an average total return of 61.86% during the same 3-year holding period. The long-run underperformance of IPOs found to continue after the three-year period examined by Ritter (1991). As per Indian evidence, Subramanian and Marisetty, (2008); Bhatia and Singh, (2012) produce facts that stocks start to underperform after 1 year of listing.

DATA and METHODOLOGY

This objective of this paper is bound to presents fresh evidence on IPO's long run performance for Indian Book built IPOs issued during the period January 2006 - 2015. Hence the sample of this study is 335 Book built IPOs, listed at NSE. The benchmark is taken Nifty 50.

It is reported that mostly the Indian IPOs are underperformed after listing day (listing day return *vis-à-vis* issue price) compared to the market index. The evaluation of the long-run price performance of Indian book built IPOs up to a period of 36 months are measured by using the two most promising evaluation techniques, i.e., wealth relative (WR) and buy-and-hold abnormal rate of return (BHAR), both being adjusted with market index, CNX-Nifty 50. Further, the results evidence that the underperformance is most prominent during the initial year of trading, i.e., after 1 month up to 36 months from the listing. To get possible explanations for

long-run performance for Indian IPOs, this study used two techniques that are **Wealth Relative Index (WR) and BUY and HOLD RETURN STRATEGY** (Consistent with Ritter, 1991; Sahoo and Rajib, 2010, Heerden and Paul, 2013; Sohail and Nasar, 2007).

Broadly, there are two ways in which the paper builds and sheds further insight into the current literature. First, the recent dataset (period covering 2006 - 2015) has been used to uncover long-run after-market price performance. Second, since there has been a lack of consensus on the application of the right method to evaluate the long-run performance, both market-adjusted wealth relatives (WRs) and buy-and-hold returns (BHARs) have been employed. The results obtained from the study provide an important insight for investors intending to invest in IPOs. On the basis of the empirical findings, it is to be suggested that the long-term investors should show caution while targeting IPO investment.

Methodology for Computation of Long-run Abnormal Returns

Both WR and BHAR to evaluate long-term performance for a period of 36 months from the date of listing with reference to issue price and listing price (closing price) as well. The study calculate the wealth relatives and BHR for different time periods, i.e., listing day, 2nd day, at 1, 2, 3,4,5, 6 months, 12 months, 18 months, 24 months, 30 months and 36 months from the listing day and offer day. Wealth relatives have also been evaluated for the IPOs issued each year. The total size of IPOs in the portfolio for discussion is represented by N. This methodology for the computation of WR is consistent with Ritter (1991).

Wealth Relatives (WR)

The performance of a group of IPOs on using the wealth relatives is evaluated for a specific point of time. Ritter (1991); Levis (1993) studied the long-run performance by calculating the wealth relatives (WR), which is defined as follows:

$$WR_{it} = \frac{1 + \frac{1}{N} \sum_{i=1}^N R_{it}}{1 + \frac{1}{N} \sum_{i=1}^N R_{mt}}$$

Where, Rit is the return of the individual IPO stocks i on day t from the offer day; Rmt is the market index return for Nifty for the corresponding time period. The sample size is represented by N.

***The WRs of more than one indicates better performance of IPOs over the market index, while a value of less than one indicates underperformance of IPOs.**

Buy-and-hold Abnormal Returns (BHAR)

The long-run performance of stock aims to assess the value of investment in the average sample firm with respect to an appropriate benchmark over the horizon of interest that is why the correct measure is the buy and-hold return. Long-term investor experience is better captured by compounding short-term returns to obtain long-term buy-and-hold returns. This investment strategy presumes that an IPO is received at the first closing price and is kept in the portfolio over a period of T months.

Market-adjusted BHAR has been computed with reference to both offer price and list price. Through this method, study assess the change in the wealth of the investors for the sample IPOs by assuming that the same amount of money is passively invested in the initial day and held for a specified period (excluding initial day) and then compare these with a market benchmark. The market-adjusted BHAR as the excess return for the IPOs over and above the market return is computed as:

$$BHAR_{iT} = \prod_{t=1}^T (1 + R_{it}) - \prod_{t=1}^T (1 + R_{mt})$$

Where, BHAR(iT) is the buy-and-hold abnormal return for firm i during holding period T, Rit is the raw return for firm i in month t, and Rmt is the return of the market index (Nifty 50) used as the benchmark return.

The average BHAR for the entire sample is also calculated to find out the overall performance of the portfolio of IPOs for a specific period of time. The mean BHAR is computed as the arithmetic average of abnormal returns on all IPOs in the sample of size N. Mean BHAR is computed by the following formula:

$$\overline{BHAR} = \frac{1}{N} \sum_{i=1}^N BHAR_{iT}$$

where, BHAR_{IPO, T} is the mean buy-and-hold abnormal return of all the IPOs in the sample of size N for the holding period T and BHAR_{iT} is the buy-and-hold abnormal return for firm i during the holding period T.

A positive BHAR for a specific time period is interpreted as a better performance for the IPOs compared to the benchmark return for the same period. The advantage of this method is that the terminal values of both of the investment strategies, i.e., investment on a portfolio of IPO and market index, are compared. From the investors' point of view, BHAR indicated whether the benefit (positive initial day return) accrued in terms of investing through IPO subscription is extended to the late buyers or is completely exhausted on the listing date.

RESULTS AND DISCUSSION

Extent of three years Long-run Share Price Performance of book built IPOs in India

To analyze the long run performance of the sample for the time period 2006-2015, the sample is reduced to 309 IPOs to get a common sample size. Therefore the **table no.1** documents descriptive statistics of the sample.

Table No.1: Descriptive statistics of the after market returns

| Returns | N | Mean | Std. Deviation | Std. Error Mean |
|-------------|-----|---------|----------------|-----------------|
| BHARLDOFFER | 309 | .1753 | .42830 | .02437 |
| BHAROFFER2D | 309 | .2150 | .63133 | .03592 |
| BHAROFF1M | 309 | .1447 | .83332 | .04741 |
| BHAROFF2M | 309 | .1101 | .81838 | .04656 |
| BHAROFF3M | 309 | .1231 | 1.01402 | .05769 |
| BHAROFF4M | 309 | .1193 | .99903 | .05683 |
| BHAROFF5M | 309 | .1398 | 1.07144 | .06095 |
| BHAROFF6M | 309 | .1464 | 1.08979 | .06200 |
| BHAROFF12M | 309 | .0246 | 1.17580 | .06689 |
| BHAROFF18M | 309 | -.1849 | .84773 | .04823 |
| BHAROFF24M | 309 | -.2756 | .81958 | .04662 |
| BHAROFF30M | 309 | -.3386 | .92060 | .05237 |
| BHAROFF36M | 309 | -.4297 | .95149 | .05413 |
| ADJSTDIR | 309 | 17.2364 | 42.79193 | 2.43435 |
| BHARLIST2D | 309 | 3.8659 | 56.84345 | 3.23371 |
| BHARLIST1M | 309 | -.0165 | .82233 | .04678 |
| BHARLIST2M | 309 | -.0386 | .83728 | .04763 |
| BHARLIST3M | 309 | -.0285 | 1.05485 | .06001 |
| BHARLIST4M | 309 | -.0309 | .99071 | .05636 |
| BHARLIST5M | 309 | -.0250 | 1.02095 | .05808 |
| BHARLIST6M | 309 | -.0111 | 1.11017 | .06316 |
| BHARLIST12M | 309 | -.1171 | 1.17945 | .06710 |
| BHARLIST18M | 309 | -.2870 | .71757 | .04082 |
| BHARLIST24M | 309 | -.3692 | .70909 | .04034 |
| BHARLIST30M | 309 | -.4299 | .86341 | .04912 |
| BHARLIST3 | 309 | -.5016 | .95634 | .05440 |

EMPIRICAL FINDINGS

Evaluating Price Performance by using WR

Table 2 highlights wealth relative values (WR) with respect to offer price and listing day's closing price. Wealth relative records outperforming performance of the sample indication till 2nd day of listing in case of listing price (see table 2, column -A) and till 1 year in case of offer price (see table 2, column -B). Hence one can take benefit of listing till 2nd day thereafter sample represents underperformance through out the three years. And one, who keeps shares from offer day to long run, could gain positive response till 12th month.

TABLE 2: Results of Wealth Relative Index (WR) : Evidence on post listing performance of IPOs

| Time Period (Event Window)** | *WR with reference to listing day's closing price (Column A) | WR with reference to offer price (Column B) | Number of IPOs (N) | ***Remarks (with respect to listing price) |
|------------------------------|--|---|--------------------|--|
| Listing day | NA | 1.173 | 335 | Outperforming |
| L+ 2 DAY | 1.037 | 1.211 | 335 | Outperforming |
| L+ 1Month | 0.987 | 1.146 | 335 | Underperforming |
| L+ 2Month | 0.975 | 1.123 | 335 | Underperforming |
| L+ 3 Month | 0.987 | 1.134 | 335 | Underperforming |
| L+ 4 Month | 0.984 | 1.132 | 335 | Underperforming |
| L+ 5 Month | 0.987 | 1.148 | 335 | Underperforming |
| L+ 6 Month | 0.999 | 1.152 | 335 | Near to outperform |
| L+ 12Month | 0.902 | 1.039 | 323 | Underperforming |
| L+ 18 Month | 0.737 | 0.837 | 314 | Underperforming |
| L+ 24 Month | 0.657 | 0.747 | 310 | Underperforming |
| L+ 30 Month | 0.624 | 0.704 | 309 | Underperforming |
| L+ 36 Month | 0.589 | 0.647 | 309 | Underperforming |

*WR (wealth relative) is a performance measurement technique, the value 1 indicates better performance and the WR value less than 1 indicates worse or negative performance of stocks (Refer: Ritter, 1991; Sahoo and Rajib, 2010)

** Window is the time period over which aftermarket returns are recorded.

*** Performance remark has been assigned with respect to listing day's closing price.

Evaluating Price Performance on using Buy and Hold Abnormal Return Strategy (BHAR)

A perusal of **Table 3** reveals that both the buy-and-hold returns (BHR_ offer price) and buy-and-hold abnormal returns (BHAR_ offer price) are positive for the 2nd day, 1,2,3,4,5,6 and 12 months while both buy-and-hold returns (BHR_LIST PRICE) and buy-and-hold abnormal returns (BHAR_LIST PRICE) turn to decline and records negative performance in first month of listing. And throughout the three year, show negative returns. The maximum buy-and-hold returns are earned if the IPO is held by the investor till the 2nd day of listing (21.40%). Buy and- hold abnormal returns show similar pattern of returns as buy-and-hold returns, but returns generated are smaller if calculated using the former strategy. Buy-and-hold abnormal returns is (-10.32%) and 4.13% in the first year from listing price and offer price respectively, and experience a increasing trend in second and third year of listing. leading to negative returns in second and third year and

provide (-50.16% and -42.97% returns from listing price and offer price respectively. Underpricing totally disappears from the market in 18th month of listing as returns come to negative value i.e (-17.56%) from offer price.

Holding period returns does not show positive returns after 2nd day of listing (from listing price) and after 12th month (from offer price). Although returns are statistically significant except BHAR_OFFER 12 M (see table no. 4) and long run underperformance is significant from 1 year to three year after listing while BHAR_OFFER is significant from listing day to three years except 12th month (see table No. 4). Hence there is presence of returns from offer price and null hypothesis is rejected which implies that BHAR_LIST and BHAR_OFFER are equal to zero.

TABLE NO.3: Result of BHR and BHAR : Evidence on post listing performance of IPOs

| Time Period (Event Window) | *BHR with reference to listing day's closing price (%) | BHR with reference to offer price (%) | **BHAR with reference to listing day's closing price (%) | BHAR with reference Offer price (%) | Number of IPOs (N) | Remarks with respect to listing price*** |
|----------------------------|--|---------------------------------------|--|-------------------------------------|--------------------|--|
| Listing day | NA | 17.48 | NA | 17.34 | 335 | + |
| L+ 2 DAY | 3.85 | 21.40 | 3.76 | 21.20 | 335 | + |
| L+ 1Month | -1.00 | 15.68 | -1.28 | 14.75 | 335 | - |
| L+ 2Month | -1.11 | 13.87 | -2.57 | 12.45 | 335 | - |
| L+ 3 Month | -0.29 | 14.97 | -1.75 | 13.54 | 335 | - |
| L+ 4 Month | 0.19 | 15.37 | -1.79 | 13.41 | 335 | - |
| L+ 5 Month | 1.47 | 17.97 | -1.30 | 15.21 | 335 | - |
| L+ 6 Month | 3.20 | 18.98 | -0.07 | 15.74 | 335 | - |
| L+ 12Month | -4.89 | 9.47 | -10.32 | 4.13 | 323 | - |
| L+ 18 Month | -22.30 | -11.79 | -27.69 | -17.56 | 314 | - |
| L+ 24 Month | -30.22 | -20.57 | -36.41 | -26.88 | 310 | - |
| L+ 30 Month | -28.74 | -19.82 | -42.99 | -33.86 | 309 | - |
| L+ 36 Month | -28.18 | -21.19 | -50.16 | -42.97 | 309 | - |

*BHR (Buy and Hold Return) – is a performance measurement strategy, the value (+) value indicates better performance and the (–) value indicates worse or negative performance of stocks (Refer: Ritter, 1991; Sahoo and Rajib, 2010; Bhatia and Singh, 2012)

*** Performance remark has been assigned with respect to listing day's closing price.

Testing of significance of returns

Table 4 advocates about significance of returns from listing day to three years in respect of both returns BHAR_LIST PRICE and BHAR_OFFER PRICE.

Table No. 4: Summary of T-test: significance

| Returns | Test Value = 0 | | | | | |
|-------------|----------------|-----|--------------|-----------------|---|---------|
| | T | Df | Significance | Mean Difference | 95% Confidence Interval of the Difference | |
| | | | | | Lower | Upper |
| BHARLDOFFER | 7.194 | 308 | .000* | .17528 | .1273 | .2232 |
| BHAROFFER2D | 5.985 | 308 | .000* | .21496 | .1443 | .2856 |
| BHAROFF1M | 3.052 | 308 | .002* | .14467 | .0514 | .2380 |
| BHAROFF2M | 2.366 | 308 | .019** | .11013 | .0185 | .2017 |
| BHAROFF3M | 2.134 | 308 | .034** | .12308 | .0096 | .2366 |
| BHAROFF4M | 2.099 | 308 | .037** | .11929 | .0075 | .2311 |
| BHAROFF5M | 2.294 | 308 | .022** | .13984 | .0199 | .2598 |
| BHAROFF6M | 2.361 | 308 | .019** | .14638 | .0244 | .2684 |
| BHAROFF12M | .368 | 308 | .713 | .02462 | -.1070 | .1562 |
| BHAROFF18M | -3.835 | 308 | .000* | -.18493 | -.2798 | -.0900 |
| BHAROFF24M | -5.911 | 308 | .000* | -.27559 | -.3673 | -.1839 |
| BHAROFF30M | -6.465 | 308 | .000* | -.33860 | -.4417 | -.2356 |
| BHAROFF36M | -7.939 | 308 | .000* | -.42975 | -.5363 | -.3232 |
| ADJSTDIR | 7.081 | 308 | .000* | 17.23645 | 12.4464 | 22.0265 |
| BHARLIST2D | 1.196 | 308 | .233 | 3.86591 | -2.4970 | 10.2289 |
| BHARLIST1M | -.352 | 308 | .725 | -.01646 | -.1085 | .0756 |
| BHARLIST2M | -.810 | 308 | .418 | -.03859 | -.1323 | .0551 |
| BHARLIST3M | -.476 | 308 | .635 | -.02854 | -.1466 | .0895 |
| BHARLIST4M | -.548 | 308 | .584 | -.03091 | -.1418 | .0800 |
| BHARLIST5M | -.431 | 308 | .667 | -.02501 | -.1393 | .0893 |
| BHARLIST6M | -.176 | 308 | .860 | -.01113 | -.1354 | .1131 |
| BHARLIST12M | -1.745 | 308 | .082*** | -.11709 | -.2491 | .0149 |
| BHARLIST18M | -7.031 | 308 | .000* | -.28702 | -.3673 | -.2067 |
| BHARLIST24M | -9.152 | 308 | .000* | -.36918 | -.4485 | -.2898 |
| BHARLIST30M | -8.752 | 308 | .000* | -.42987 | -.5265 | -.3332 |
| BHARLIST36M | -9.219 | 308 | .000* | -.50156 | -.6086 | -.3945 |

*Returns are significant at 1% level; ** significant at 5% level; significant at 10% level

CONCLUSION

Historically, empiricists have found negative returns (underperformance) in long run (post listing returns). The findings of this study are in tune with literature. As per the result of this study, it is to be concluded that an investor subscribed at offer price could earn a higher gain on listing day and on immediate 2nd day of listing as **17.48% (unadjusted), 17.34% (market adjusted), and 21.40% (Unadjusted), 21.20% (market adjusted) respectively**. Hence the initial subscribers who are investing at offer price are able to earn an abnormal rate even for a longer period up to 12 months (refer evidence from table 3 and table 4) and investors who purchases on listing day's closing price are able to earn positive return only up to 2nd day from the date of listing (refer table no 3 and table no 4). After 2nd day of listing the returns turn to negative i.e – 1.00% and - 1.28% respectively and are negative till 3 years from the listing. Here the results are in contrary to Sahoo and Rajib (2010).

LIMITATIONS AND FUTURE PROSPECTS OF THE STUDY

This study only measured performance from 2nd day of listing to 3rd year of listing. So, for future research, the extension of this analysis could be done in terms of time period i.e. 4, 5..... 10 yrs. The scope of the research study could even be improved by extending the time period of event window.

To find the answers of underperformance, additional explanatory variables including issue fundamental characteristics of IPO firms could be taken into consideration. Moreover, operating performance could be examined after IPO. Apart from this, other techniques as cumulative abnormal return (CAR) and Fama French Factor model could be used to analyze long run performance (Bhatia and Singh, 2012; Deb and Mishra, 2009) respectively.

RESEARCH IMPLICATION

The findings of this study are beneficial for the investors who want to invest for long time. Research scholar, academicians, industrialists, investors and company may use this information in their decision making regarding their investment planning.

BIBLIOGRAPHY

1. Abhyankar, A., & Ho, K. Y. (2004). Exploring long-run abnormal performance using stochastic dominance criteria: additional evidence from IPOs. In *EFMA 2004 Basel Meetings Paper*.
2. Ahmad-Zaluki, N. A., Campbell, K., & Goodacre, A. (2007). The long run share price performance of Malaysian initial public offerings (IPOs). *Journal of Business Finance & Accounting*, 34(1-2), 78-110.
3. Alanazi, A. S. (2013). IPO Underpricing and Long-Run Performance: Evidence from the Six Countries of the Gulf Cooperation Council (GCC). Available at SSRN 2229622.
4. Alanazi, A. S., Liu, B., & Forster, J. (2011). The financial performance of Saudi Arabian IPOs. *International Journal of Islamic and Middle Eastern Finance and Management*, 4(2), 146-157.
5. Ang, J., & Boyer, C. (2009). Performance differences between IPOs in new industries and IPOs in established industries. *Managerial Finance*, 35(7), 606-623.
6. Bessler, W. (2002). Initial public offerings, subsequent seasoned equity offerings, and long-run performance: Evidence from IPOs in Germany. *Subsequent Seasoned Equity Offerings, and Long-Run Performance: Evidence from IPOs in Germany (January 15, 2002)*.
7. Bhatia, S., & Singh, B. (2012). Examining the Performance of IPOs An Evidence from India. *Management and Labour Studies*, 37(3), 219-251.
8. Bildik, R., & Yilmaz, M. K. (2006). The market performance of initial public offerings in the Istanbul Stock Exchange. Available at SSRN 952526.
9. Boehmer, B., Boehmer, E., & Fische, R. P. (2006). Do institutions receive favorable allocations in IPOs with better long-run returns?. *Journal of Financial and Quantitative Analysis*, 41(04), 809-828.
10. Boissin, R., & Sentis, P. (2014). Long-run performance of IPOs and the role of financial analysts: some French evidence. *The European Journal of Finance*, 20(2), 125-149.

11. Chen, A., & Pan, K. L. (1998). An Answer to the Long-Run Performance Puzzle of IPOs in Taiwan: An application of the Fama-French Model. *Available at SSRN 189909*.
12. Chi J. and C. Padgett (2002), long run performance of IPOs and its characteristics in Chinese IPO market, *Research in International Business and Finance*, 19 (1): 71-93
13. Coakley, J., Hadass, L., & Wood, A. (2004). Post-IPO operating performance, venture capitalists and market timing. *Essex Finance Centre Discussion Paper*, (04/16).
14. Deb, S. G., & Mishra, B. Long-Term Risk-Adjusted Performance of Indian IPOs.
15. Doukas, J. A., & Gonenc, H. (2000). Long-Term Performance of Initial Public Offerings: Venture Capitalists and Reputation of Investment Bankers.
16. Dong, Ming and Michel, Jean-Sebastien and Pandes, J. Ari (2010). Underwriter Quality and Long-Run IPO Performance. Accepted in *Financial Management*. Available at SSRN: <http://ssrn.com/abstract=1340595>
17. Eckbo, B. E., & Norli, Ø. (2005). Liquidity risk, leverage and long-run IPO returns. *Journal of Corporate Finance*, 11(1), 1-35.
18. Gompers, P. A., & Lerner, J. (2003). The really long-run performance of initial public offerings: The pre-Nasdaq evidence. *The Journal of Finance*, 58(4), 1355-1392.
19. Hansen, M. L., Bartholdy, J., & Jørgensen, L. G. (2010). Underpricing and Long-run Operating Performance of Initial Public Offerings: Evidence from Scandinavia.
20. Hovey, M., & Li, L. (2009). Does IPO Underpricing in China Explain a Firm's Long-Term Performance? An Empirical Study of IPOs in China with Corporate Governance Perspectives. *An Empirical Study of IPOs in China with Corporate Governance Perspectives (January 1, 2009)*.
21. Isola, M. N., Teixeira, F. J., & Ferreira, F. A. (2014). Initial Underpricing and the Euronext Lisbon-listed Companies. *Procedia-Social and Behavioral Sciences*, 110, 1116-1123.
22. Khurshed, A., Mudambi, R., & Goergen, M. (1999). On the long-run performance of IPOs. *Managerial Finance*, 33(6), 401-419.
23. Ljungqvist, A., Nanda, V., & Singh, R. (2006). Hot Markets, Investor Sentiment, and IPO Pricing. *The Journal of Business*, 79(4), 1667-1702.
24. Loughran, T., & Ritter, J. R. (1995). The new issues puzzle. *The Journal of finance*, 50(1), 23-51.
25. Marisetty, V. B., & Subrahmanyam, M. G. (2010). Group affiliation and the performance of IPOs in the Indian stock market. *Journal of Financial Markets*, 13(1), 196-223.
26. Mayur, M. (2013). Market Timing and Operating Performance in an Emerging Market: Evidence from Indian IPOs. *Available at SSRN 2271473*.
27. Omran, M. (2005). Underpricing and Long-Run Performance of Share Issue Privatizations In The Egyptian Stock Market. *Journal of Financial Research*, 28(2), 215-234.
28. Perera, W., & Kulendran, N. (2012). Short-Run Underpricing and Its Determinants: New Evidence from Australian IPOs. *Available at SSRN 2131294*
29. Phani, B. V., & Katti, S. (2010). Role of Private Equity Exit Strategy, Governance Mechanism and Regulatory Constraint on Performance of Indian IPOs. *Supriya, Role of Private Equity Exit Strategy, Governance Mechanism and Regulatory Constraint on Performance of Indian IPOs (December 2, 2010)*.
30. Purnanandam, A. K., & Swaminathan, B. (2004). Are IPOs really underpriced?. *Review of financial studies*, 17(3), 811-848.
31. Ritter, J. R. (1991). The long-run performance of initial public offerings. *The journal of finance*, 46(1), 3-27.
32. Ritter, J. R. (2011). Equilibrium in the IPO market. *Available at SSRN 1822542*.
33. Ritter, J., & Welch, I. (2002). *A review of IPO activity, pricing, and allocations* (No. w8805). National bureau of economic research.
34. Seal, JK, & Matharu, JS (2012) Long Run Performance of Initial Public Offerings and Seasoned Equity Offerings in India. W.P. F I. 13-19.
35. Sehgal, S., & Singh, B. (2008). Determinants of initial and long-run performance of IPOs in Indian stock market. *Asia Pacific Business Review*, 4(4), 24-37.
36. Smith, Z. (2009). An empirical analysis of initial public offering (IPO) performance. *Available at SSRN 1326967*.
37. Srinivasa Reddy, K. (2015). The aftermarket pricing performance of initial public offers: Insights from India. *International Journal of Commerce and Management*, 25(1), 84-107.
38. Van der Geest, R., & Van Frederikslust, R. A. (2001). Initial returns and long-run performance of private equity-backed initial public offerings on the Amsterdam Stock Exchange.
39. Von Drathen, C. (2007). The performance of private equity-backed initial public offerings in Germany. *Available at SSRN 1117182*.

-
40. Yip, Y., Su, Y., & Boon Ang, J. (2009). Effects of underwriters, venture capital and industry on long-term initial public offering performance. *Managerial Finance*, 35(8), 700-715.
 41. Zarafat, H., & Vejzagic, M. (2014). The Long-Term Performance of Initial Public Offerings: Evidence from Bursa Malaysia. *Journal of Applied Economics and Business Research*, 4(1).
 42. Bai, Zhongguang and Zhang, Wei, Empirical Study on Post-IPO Long-run Performance in the Chinese Stock Market. Available at SSRN: <http://ssrn.com/abstract=482722> or <http://dx.doi.org/10.2139/ssrn.482722>
 43. Zaremba, A., & Szyszka, A. (2014). Post-IPO Underperformance and the Cross-Section of Stock Returns at the Warsaw Stock Exchange. Available at SSRN 2409716.