

Empirical evidences of Under-Pricing of Initial Public Offering (IPO) in Indian Capital Market

Girish B.N

Research Scholar
St. Joseph's Research Centre.
Bangalore-01

Dr. Padmashree V

Research Scholar
JSS Research Foundation
University of Mysore

Abstract

There are several sources of fund for raising funds from primary market viz., public issue, rights issue, private equity placement and offer for sale. IPO's is a part of public issue and it is widely used tool by corporate companies for raising capital. Indian being a developing nation and flourishing corporate companies is focussing on IPO. The motivation for this research study is to understand the case of under-pricing in IPO's and its impact on the performance of stock on listing day. There have been various reasons, theories, which have been formulated by various researchers. In this research paper, we found that the under-pricing of exist in India because of lack of information for investors.

Keywords: Primary Market, IPO, Under-Pricing, Listing, Stock Performance.

Introduction

“When an unlisted private company make a fresh issue of shares or promoters of the company offer their holding of shares for sale to the general public for the first time is called an IPO”. Issue of IPO promotes investment activities in the economy as it tends to raise money from public for growth of enterprise. It has been observed that in many developed and developing countries the IPOs are issued at under-price.

The term under-priced is defined to sell or offer a security or an asset at a lower price. In other words, the pricing an asset below the market value. In this research, the pricing of the initial public offering below the market value is discussed. When the offer price of the share is lower than the first trading price, then that stock is termed as under-priced. It leaves money on the table which is considered as a loss of capital for investors who had applied and got allotment of shares from an IPO. On the other hand, it can be considered as a gain for investors who has not allotted shares in the IPO and have an option to buy when the shares are listed in bourses. It is a regular practice of companies to offer shares to a large number of investors so that they can become part of the shareholding family which can also add value to the company's profile by getting listed in recognized stock exchanges. The issue of IPO for the company helps to gather funds required for the growth of

their business. Basically, IPO brings high valuation for the company, raises required capital, and helps in growth and diversifying their business. The concept of IPO is explained as “IPO is considered as an investment tool for the stock market investor”. IPOs are one of the largest sources of capital for the companies to invest in growth opportunities. It also encourages to mobilize funds.

An IPO is under-priced when it is issued at less than the market price or in other words, when the price of IPO is lower than price of the stock on the first trading day. There have been several reasons, theories, which is formulated by various researchers on under-pricing of IPOs. This research paper tries to find the companies offering the IPOs at an under-price and reasons.

Objectives of the Study

1. To analyse IPOs' performance on the listing day
2. To study the relationship between the condition of the market and under-pricing of the IPOs'

Literature Review

IPO Under-pricing in India is researched in the paper titled “IPO Under-pricing in India was published by Bitihotra Das, Sourav Kumar Hui, and Kamini Kaushal”, objective of the paper was to analyse IPO performance on the listing day and to figure out the difference between condition and under-pricing of IPO. The researcher used secondary data. The variables were under-priced stocks from 2008-2020 and there were totally 134 securities which were under-priced out of 219 securities. But the data was not sufficient to conclude why stocks was under-priced or over-priced. Another research by Neeta Jain & C Padmavathi on ‘Under-pricing of Initial Public Offerings in Indian Capital Market’ focussed on determinants of under-pricing of Initial Public Offerings (IPOs) in the Indian Capital Market, and to find out the factors which are causing under-pricing in India. Regression model, Anova, Correlation was used to infer the results.

In the Indian capital market, IPOs are under-priced in book-building mechanism, which is the most accepted mechanism throughout the world for pricing of the new issues. The results of the empirical study indicate that under-pricing is the result of investors' high willingness to pay (high return on opening), high demand of the issue (high subscription), high firm value (low pre-IPO leverage), and high fluctuations in the market returns (high index volatility). Results show that IPOs of high value firms (with lower Pre-IPO leverage) are more under-priced in India.

In the under-pricing of Initial Public Offerings, the Indian experience is being discussed in ‘Under-pricing of Initial Public Offerings: The Indian Experience’ by Mr. Saurabh Ghosh. The study attempted to identify the factors explaining under-pricing of initial public offerings (IPOs) in an emerging economy, India, using 1842 companies that got listed on the Bombay Stock Exchange from 1993 to 2001, under-pricing is one of the anomalies of the IPO market; the main reason for it is so far identified as asymmetric information. Studies in this field underline the role of uncertainty among investors about the fair value of the new shares. Other explanations highlight issuers' role in deciding on the degree of under-pricing to signal their better quality to the investors. Under-pricing of IPOs: The Case of Bangladesh was published by Md. Amino Islam, Rohan Ali

and Zarma Ahmad. This study analyses the levels of under-pricing in initial public offerings (IPOs) and its determinants of Dhaka Stock Exchange (DSE). “Under-pricing of initial public offering- the case of Portugal” was researched by “Maria Rosa Borges” in the journal ‘Atlantic Economic Society 2007’. The abstract describes about the IPO phenomenon in Portugal which is hot issue of 1987 in the IPO market. It is well explained by investor sentiment theories and issuing firms hold all the IPO’s excessive demand to offer and list the shares. This paper investigates the under-pricing phenomenon in Portuguese IPOs, by observing the behavior of market-adjusted initial returns and the long-run performance of these firms, measured by market-adjusted three-year returns. They separately examine the ‘hot issue’ market of 1987, with a sample of 57 IPOs, and the period that followed, from 1988 to 2004, with a sample of 41 IPOs. Determinants of IPO Under Pricing In The National Stock Exchange Of India: “Determinants of IPO under-pricing in the national stock exchange of India” researched by Alok Pande and R. Vaidyanathan in the Journal Hindu Business Line. This study looked at the pricing of IPOs in the NSE. In particular, it seeks to empirically explain the first day under-pricing in terms of the demand generated during the book building of the issue, the listing delay between the closure of the book building and the first day listing of the issue and the money spent on the marketing of the IPO by the firms. This study demonstrated the degree of under-pricing in the Indian stock markets has reduced over the years which is good for the firms getting listed as under-pricing is an indirect cost to the firm. A unique contribution of this study is that the after-market in India regards the final offer price which has been set after book building as a credible signal for the firm’s under-pricing.

An Empirical Study of Initial Public Offerings under-pricing: The Case of Malaysian Market by Nashirah Binti Abu Bakara, Kiyotaka Uzakib, investigated the average degree of IPO under-pricing for companies (shariah-compliant) and the effect of determinant factors on the degree of IPO under-pricing for companies. The result shows that the degree of IPO under-pricing for company is 28.82 percent. Using a multiple linear regression analysis, this study found that the time of oversubscription has a significant effect on the degree of IPO under-pricing for companies.

IPO under-pricing in China’s new stock market was researched by Gongmeng Chen, Michael Firth and Jeong-Bon Kim and was published by ‘Journal of Multinational Financial Management’. The research paper implies that there are 3 types of shares namely A-shares, B-shares and Seasoned equity offerings (SOE) which are sold to domestic investors, foreign investors and Government or legal entities respectively. Main reason for Shares that are under-priced are due to major lag in issue and sale of shares and investors sell the shares in short duration, the shares that are acquired by government or legal entities entitles to under-pricing of shares. The authors Edward A. Vos & Joe Cheung researched New Zealand IPO Under-pricing: the Reputation Factor which investigated the study of Need of 'legal insurance' in case if there is any under-pricing of IPO's that causes the reputation of capital and the studied sample of IPOs in the New Zealand share market was found to exhibit significant under-pricing (28.77%) which is comparable with the result of other studies.

The evidence from Tunisia suggests that short run performance of Tunisian initial public offerings (IPO). The average market return was adjusted for initial return for the first three trading days of about 17.8 percent and analysed the relation between initial returns of IPOs and their determinants using two steps approach. First, to

measure the short run under-pricing and then to investigate the factors affecting the initial returns. The authors Muhammad Zubair Mumtaz, Athar Maqsood Ahmed did a research on determinants of under-pricing of Initial Public Offerings- Evidence from Pakistan. The details of determinants of under-pricing of Initial Public Offerings (IPOs) using Extreme Bounds Analysis (EBA) in the Pakistani capital market. EBA technique determined coefficient of after-market risk of the IPOs and oversubscription positively affects the degree of under-pricing. The main factors that affects IPO under-pricing are due to lack of knowledge to citizens in their respective countries, most shares which are owned by legal entities and governments were also under-priced.

Research Gap

The existing literature provides information and base to the current study. However, there are few research problems that have not been addressed in the above studies. The studies suffered the following limitations;

- a. The period which was considered previously were very short
- b. Sufficient data was not available and it was not possible to come up with the conclusion whether IPOs are under-priced or over-priced.

Research Methodology

Data: The data has been collected from NSE website

Period: The data is collected for last 6 years from 2017 to 2022 to get a wider scope whether IPOs are under-priced or over-priced.

Analysis: The 6 years performance with offer price, open price and close price of the samples were obtained. The closing data of the Nifty for open day and offer day was obtained to evaluate the under-pricing of an IPO, and calculated 1st day market return. The first day performance of IPO listing was measured by taking the difference between closing market price of the IPO on first trading day and the company's offer price. To find the under-priced shares for the 1st trading day the following formula was used;

$$UPI_P = (P_{li} - P_{0i}) / P_{0i}$$

Where,

UPI_P= Under-pricing

P_{li} = closing price of security i on the first trading day

P_{0i} = Offer price of security i

The formula is used to find out whether the security is under-priced or appropriately priced or over-priced.

If UPI_P is positive= Under-priced

If UPI_P is negative = Overpriced

If UPI_P is Zero = Appropriately priced

Relation between the market condition and the under-pricing

The situation may arise that the IPO is giving higher return on the listing day because the overall market is in increasing trend. To control this increase in market effect, the use of MAAR (Market Adjusted Abnormal Return) is calculated

$$\text{MAAR}_i = R_i - R_m$$

Where,

R_i = Return on Security

R_m = Return on Market

Market is efficient and under-pricing is taken away by end of the day

To examine the efficiency in the market is by observing the relation between the share prices from offer to open and open to close. If the offer price will be equal to open price then market is inefficient as the process of arbitrage would eliminate any risk-free profits. Absolute prediction error is calculated as,

$$\text{Absolute prediction error} = (\text{OPM} - \text{OP}) / \text{OP}$$

Where,

OPM = Opening market price on listing

OP = Offer price of security

If absolute production error is 0 then valuation method is accurate, there is a chance that investor may earn extraordinary profits. Apart from this relative return of offer to close, offer to open, and open to close was calculated for the analysis.

Findings

Under-pricing in years 2017 to 2022 87 securities were under-priced out of 138 securities.

Table 1: IPO Under-Pricing

Year	Total IPOs	Under-Priced IPOs
2017	6	4
2018	20	13
2019	26	20
2020	37	27
2021	23	12
2022	16	11

From the above table it can be understood that few issues were under-priced. The percentage of the shares which are under-priced are in the year 2017 66.67%, 2018 65%, 2019 76.92%, 2020 72.97%, 2021 52.17% and in the year 2022 68.75% IPO issues have been under-priced.

Table 2: Descriptive Statistics of Shares Under-Priced

Values	Year	Offer Price per share	Open market price per share	Closing market price per share	Under-pricing per share	UP Ratio (UP/OP)	MAAR
Mean	2017	215.5	235.23	225.68	10.18	0.04725	0.041
	2018	313.3	352.94	363.16	49.86	0.15914	-0.016
	2019	405.46	458.08	469.54	64.08	0.15803	0.003
	2020	538.54	617.22	625.06	86.52	0.16065	0.005
	2021	486.70	528.28	535.20	48.50	0.09966	0.011
	2022	387.45	482.1	500.96	113.51	0.29297	0.0003
Median	2017	153	170.00	164.40	11.40	0.07451	0.014
	2018	227.5	289.50	282.55	55.05	0.24198	-0.012
	2019	327.5	380.00	372.58	45.08	0.13763	0.005
	2020	459	555.05	595.65	136.65	0.29771	0.012
	2021	422	412.00	422.05	0.05	0.00012	0.012
	2022	280	291	300	20.00	0.07143	-0.0009
Min	2017	47	76.00	79.80	32.80	0.69787	-0.009
	2018	63	60.05	58.40	-4.60	-0.07302	-0.065
	2019	45	47.25	45.55	0.55	0.01222	-0.064
	2020	50	73.00	72.55	22.55	0.45100	-0.040
	2021	56	61.60	71.65	15.65	0.27946	-0.065
	2022	19	1181	1302.55	1283.55	67.55526	-0.031
Max	2017	645	584.00	567.30	-77.70	-0.12047	0.186
	2018	1050	1380.00	1381.70	331.70	0.31590	0.018
	2019	896	1210.00	1178.10	282.10	0.31484	0.041
	2020	1766	2725.00	2891.55	1125.55	0.63734	0.042
	2021	1215	1726.25	1815.95	600.95	0.49461	0.145
	2022	973	19	19.5	-953.50	-0.97996	0.027

From the above computation, in the year 2017 the share was under-priced of Rs. 10.18 per share and approximately it was decreased by 4% and abnormal returns was also 4%.

In the year 2018 there was Rs.49.86/share was under-priced which shows 15% of the share price was under-priced and abnormal loss of 1% was occurred.

For the year 2019 the share was under-priced by Rs. 64.08 which reflects 15% of total share price and only 3% abnormal returns were up to 3%.

As observed in 2020 the market share was under-priced of Rs. 86.52 in which the total percentage of 16 was presented with abnormal returns of 3%.

In the year 2021 each share of Rs.48.50 was under-priced which represents 9% of total shares were under-priced along with 1% of abnormal returns.

In the year 2022 there was Rs. 113.51/share was under-priced which shows 29.9% of the share price was under-priced and abnormal loss of 1% was occurred.

The current study intended in investigating about IPO under-pricing in India for 6 years. The main objective of this analysis was to find out the trends in IPO under-pricing, Relation between market condition and under-pricing (MAAR), and absolute prediction error to find out the shareholder's returns. As per the above results under-pricing of IPO's existence in India is huge because of investor's lack of knowledge at the time of issuing IPO. Hence there is a need of advertisement or government shall take some measures to educate citizens about IPO.

Conclusion

This study finds that IPOs in India are under-priced based on their performance on the first trading day. The finding of this study is consistent with the findings of Narasimhan and Ramana (1995), Madhusoodanan and Thiripalraju (1997), Karmakar (2002), Chaturvedi et al. (2006), Sehgal and Singh (2007), and Garg et al. (2008). Bora et al. (2012) reported that Indian IPOs are under-priced when measured using offer price and the opening price on listing day (which is again consistent with our measure using the same prices). Also, Cheung and Krinsky (1994) and Cheng et al. (2004) documented under-pricing using similar measure. Both of these studies found that under-pricing is significant when computed using offer-to-open measure. While, Cheung and Krinsky reported that under-pricing is positive and significant for subscribers who sell their IPO shares even after the market opens on the listing day but not for the day traders, Cheng et al. reported that under-pricing exists only in the pre-listing market (offer-to-open) and vanished once trading begins. Consistent with Benveniste and Spindt (1989), Ljungqvist, Jenkinson, and Wilhelm (2003) and Sherman (2005), who argued that book-building leads to better price discovery, and, therefore, lower under-pricing of IPOs, we document that book-built IPOs in India are under-priced by lesser magnitude. This confirms the findings of Bora et al. that book-built IPOs in India are less under-priced when compared to fixed-price IPOs.

In recent years, the IPO market in India has witnessed many landmark developments like the introduction of ASBA (Application Supported by Blocked Amount), grading of IPOs, launching of IPO Index, introduction of Anchor Investors, introduction of Safety Net for IPOs, derivatives, circuit filter, price–volume tracking by the SEBI to detect price manipulations. Therefore, future studies on IPOs may link to these developments. For example, the grading of IPOs which is based on the fundamentals of the issuing company may be correlated to the initial as well as long run performance of the IPOs. The listing day and long run performance of IPOs that have gone public after the launching of S&P BSE IPO index in 2009 may be tested against the performance of this IPO index. Also, the return from this index (which includes IPO stocks for up to two years from listing) may be tested against the returns from a portfolio consisting of seasoned securities to see whether IPOs offer better investment opportunities than seasoned securities to the investors.

The important implications of our study are that like many other capital markets, companies in India time their issues. They come out with their IPOs during the time when the market sentiment is high. In the long run, the same IPOs which had initially offered positive return, later underperform. Considering the existence of such windows of opportunity for issuers, policy-makers must come out with measures to protect the long run interest of investors. The retail investors while investing in IPO shares should consider the fundamentals and prospects of IPO companies rather than the prevailing market sentiments. Otherwise, they will incur loss due to the underperformance of IPOs in the long run.

References

- Affleck-Graves, J., Hegde, S. P., Miller, R. E., & Reilly, F. K. (1993). The effect of the trading system on the underpricing of initial public offerings. *Financial Management*, 22(1), 99–108.
- Aggarwal, R., & Rivoli, P. (1990). Fads in the initial public offering market? *Financial Management*, 19(4), 45–57.
- Baron, D. P. (1982). A model of the demand for investment banking advising and distribution services for new issues. *The Journal of Finance*, 37(4), 955–976.
- Benveniste, L. M., & Spindt, P. A. (1989). How investment bankers determine the offer price and allocation of new issues. *Journal of Financial Economics*, 24(2), 343–361.
- Bora, B., Adhikary, A., & Jha, A. (2012). Book building process: A mechanism for efficient pricing in India. *International Journal of Trade, Economics and Finance*, 3(2), 109–113.
- Brav, A., Geczy, C., & Gompers, P. A. (2000). Is the abnormal return following equity issuances anomalous? *Journal of Financial Economics*, 56(2), 209–249.
- Burch, T. R., & Fauver, L. (2003). The pricing of U.S. IPOs by seasoned foreign firms. *Review of Financial Economics*, 12(4), 345–362.
- Chaturvedi, A., Pandey, A., & Ghosh, S. K. (2006). Firm Financing through IPOs: A study of causal variables responsible for underpricing. *Vision: The Journal of Business Perspective*, 10(3), 23–33.
- Derrien, F., & Womack, K. L. (2019). Auction vs Book building and Control of Underpricing in Hot IPO Markets, 31-61.
- Guo, R.-J., Lev, B., & Shi, C. (2006). Explaining the short- and long-term IPO anomalies in the US by R&D. *Journal of Business, Finance & Accounting*, 33(3–4), 550–579.
- Hameed, A., & Lim, G. H. (1998). Underpricing and firm quality in initial public offerings: Evidence from Singapore. *Journal of Business, Finance & Accounting*, 25(3&4), 455–468.
- Hill, P. (2006). Ownership structure and IPO underpricing. *Journal of Business Finance & Accounting*, 33(1–2), 102–126.10.1111/jbfa.2006.33.issue-1-2
- Jaskiewicz, P., González, V. M., Menéndez, S., & Schiereck, D. (2005). Long-run IPO performance analysis of German and Spanish family-owned business. *Family Business Review*, 18(3), 179–202.
- Karmakar, M. (2002). Initial public offerings: Under-priced or fads? A penny in whose pocket? *The ICAI Journal of Applied Finance*, 8(6), 5–18.

- Lee, P. J., Taylor, S. L., & Walter, T. S. (1999). IPO under-pricing explanations: Implications from investor application and allocation schedules. *The Journal of Financial and Quantitative Analysis*, 34(4), 425–444.
- Levis, M. (1993). The long-run performance of initial public offerings: The UK experience 1980–1988. *Financial Management*, 22(1), 28–41.
- Lowry, M., & Murphy, K. J. (2007). Executive stock options and IPO under-pricing. *Journal of Financial Economics*, 85(1), 39–65.
- Lowry, M., & Shu, S. (2002). Litigation risk and IPO under-pricing. *Journal of Financial Economics*, 65(3), 309–335.
- Madhusoodanan, T. P., & Thiripalraju, M. (1997). Under-pricing in initial public offerings: The Indian evidence. *Vikalpa*, 22(4), 17–30.
- Mcguinness, P. (1993). The post-listing return performance of unseasoned issues of common stock in Hong Kong. *Journal of Business Finance & Accounting*, 20(2), 167–194
- Steib, S., & Mohan, N. (1997). The German reunification, changing capital market conditions, and the performance of German initial public offerings. *The Quarterly Review of Economics and Finance*, 37(1), 115–137.
- Welch, I. (1989). Seasoned Offerings, Imitation Costs, and the Under-pricing of Initial Public Offerings. *The Journal of Finance*, 44(2), 421–449.
- Welch, I. (1992). Sequential sales, learning, and cascades. *The Journal of Finance*, 47(2), 695–732.

