

Determinants of Under Pricing in Initial Public Offerings of Small and Medium Enterprises

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ABSTRACT

The study aimed at evaluating the extent of under pricing at public issue platforms of small and medium enterprises (SMEs) and to identify the factors impacting this short-run anomaly. The sample data comprised 383 IPOs of the Indian SME platforms (NSE SME Emerge and BSE SME IPO). The study used the model of market-adjusted excess return to identify under pricing levels and the multivariate regression model to identify the significant variables impacting IPO under pricing. The study found, on an average, under pricing of 8% at the Indian SME platform. Additionally, oversubscription, listing gains, issue size, pre-issue total assets, pre-issue debt-equity, firm size, pre-issue sales, pre-issue book value and promoters holding significantly impacted the under pricing levels in the Indian market. The results indicated under pricing being a universal phenomenon with the study's implication for the investors, SMEs, intermediaries and regulatory bodies of the security market.

Key words: SME, under pricing, IPO, small business, capital market

INTRODUCTION

Small Medium Enterprises (SMEs) symbolize the backbone of a country's economic system. SMEs provide entrepreneurship, employment and innovation through efficient productivity to ensure economic and social development (Bhattacharya, 2017). In addition, SMEs contribute significantly to exports, GDP, employment and valuable resource mobilization (Arora and Singh, 2019). According to the report "MSME at Glance 2016" prepared by the Ministry of MSME, India has more than 36.1 million SME units creating 120 million jobs, having more than 6000 products, and 40% of SME export showing the potential of Indian small-scale enterprises. It shows the pivotal role of small businesses in the economy and the potential of the SME platform in resolving many challenges faced by Indian small-medium enterprises.

SMEs are facing various challenges that include the lack of finance, heavy debt dependence, economic cycle impacts and minimal access to venture capital. To overcome these financing restraints, SMEs can use initial public offerings that help listed firms to have prestige and increased borrowing capacity. The Security Exchange Board of India (SEBI) in 2008 suggested the use of capital

markets to provide financial access to small businesses through exclusive SME platforms. However, setting up these platforms to promote the inflow of equity capital was recommended by the Prime Minister's Task Force in January 2010. Subsequently, the BSE SME and NSE SME Emerge platforms were established for capital mobilization in 2012.

Under pricing is well investigated in financial literature with various answers to this phenomenon. However, under pricing in SME IPOs is still an emerging area that requires more research focus. The IPO under pricing is also considered as 'money left on the table' by the issuer firms. Hence, there is a concern about evaluating the magnitude of money left on the table by the issuers of Indian SME IPOs. Therefore, the study aimed at assessing the extent of under pricing at Indian SME platforms and to identify the factors impacting this short-run anomaly. The study was designed in five sections: the first section was a brief introduction for the research topic. The second section of the article involved literature review with previous research to build a theoretical framework. The third section of the study dealt with the research design and methodology used to evaluate the under pricing levels in the Indian SME IPOs. The fourth section contained data analysis and interpretation of the results.

At last, the fifth section included the conclusion of the study and further research opportunities in the area.

In globalization, small-medium enterprises depend heavily upon the economies of scale and scope economies that can be achieved through cooperative arrangements. For listing on the Indian SME IPO exchange, a firm must have a post-issue paid-up capital of INR 30 million (minimum) to INR 250 million (maximum). The SME issue should have a minimum IPO application size of INR 100,000. The underwriting for all the SME issues is 100% mandatory, with 15% on the merchant banker's book. SME exchanges have relaxed track record norms with an IPO time frame of two to three months. Market-making is mandatory for SME listing with half-yearly reporting requirements. Offer to vet is usually done by the exchange itself, and there is no mandatory requirement for the grading of SME IPOs. In Indian SME IPO platforms, the BSE SME norms are a little more relaxed than NSE Emerge. The annual fee of BSE SME is 0.01% of the entire market capitalization or INR 25,000, whichever is higher. The NSE Emerge is having the initial listing fee and processing fee of INR 25000. The NSE also has one annual listing fee based on the paid-up capital of the listed small-medium enterprises stretching from INR 10,000 to 45,000. The key parties involved in the public issues are the IPO issuer, intermediaries and investors. As a result, small business firms often show a significant share price appreciation in the short run, finding it hard to sustain in the long run.

Under pricing is a state of deliberately setting the issue price below the market price of IPO so that investors will get rewarded for taking the risk. Under pricing prevails every time the initial return of the stock is higher than the market-adjusted return of the issue on the listing day (Dhamija and Arora, 2017a). Although the literature supports information asymmetry as the leading cause of under pricing (Chiraz and Jarboui, 2016), it also proposes two stages to endorse information asymmetry. One is the behaviour of informed and uninformed investor towards the public issue, and the second is the behaviour of the issuer and underwriter. Various authors explain the under pricing phenomenon in later stages with diverse aspects like pricing

mechanism, intermediary roles, ownership structure, business group affiliation, and market timing. There is a consensus among various authors that high first-day initial return and under pricing levels can lead to lower long-term IPO performance. IPO under pricing can also be affected by the business cycles hot and cold market periods.

The issue price is the value per unit share offered for the public in an IPO. The higher issue price signals the solid underlying company fundamentals, and similarly, lower issue price can reflect the speculation and uncertainty around the public issue (Arora and Singh, 2020). In addition, oversubscription indicates the number of times the investor subscribes to an issue. A negative relationship has been reported between listing delay and oversubscription (Arora and Singh, 2020a). Underwriters' reputation indicates the maximum number of IPOs handled by the underwriters. Multiple studies indicated a positive association between under pricing and underwriter's prestige (Anderson *et al.* 2015; Bhattacharya, 2017; Dhamija and Arora, 2017b). The results also reported higher under pricing in the case of reputed underwriters.

In the case of Indian SMEs, the information asymmetry risk is critical due to limited publicly available information of Indian firms and the lack of historical records available for the benchmark valuation of the firm. Singh and Anand (2019) identified an 8.66% positive return in the Indian SME market and found the significant impact of age, issue price, subscription, market sentiment, financial, and construction sector dummies on listing day performance. Board-specific characteristics found little involvement in elucidating the under pricing of Indian IPOs (Anand and Singh, 2019). Similarly, Arora and Singh (2020) investigated the corporate governance impact on Indian SME IPOs. They identified the positive board size, board age, board independence, and board directorship with under pricing along with a curvilinear relationship with promoter holdings. They strongly marked that the ownership patterns and role of board structure played a vital role in investing decisions by investors of the SME platform. Arora and Singh (2020a) stated that under pricing, underwriter reputation, hot market conditions, and size of the issuer firm positively impacted the oversubscription of the

public issue in the Indian SME IPOs. Similarly, the price mechanism, issue price, and delay in IPO listing negatively impact the oversubscription of the Indian SME IPOs.

METHODOLOGY

The SME IPOs data were collected from the official website of NSE, BSE, Prime database, and Capitaline database. The sample encompassed 455 public issues of Indian SME platforms that further reduced to 383 public issues after removing the companies that moved to the main board or delisted from the SME board. The final sample comprised 163 companies from the NSE SME Emerge and 220 companies from the S&P BSE SME platform.

The study attempted to identify the factors impacting the under pricing levels on the Indian SME IPO platform. Therefore, the market-adjusted excess return model was used to estimate the under pricing levels at the respective stock market platforms. Furthermore, multivariate regression was used to identify the independent variables that significantly impacted the under pricing levels at public issues. The regression model was tested additionally for multicollinearity and heteroskedasticity. Initial return (IR) and the market-adjusted return (MAR) were calculated to analyze the extent of under pricing (Dhamija and Arora, 2017a; Arora and Singh, 2019). The percentage difference of IR and MAER resulted in under pricing of the issue. The IR was calculated through the price difference of closing and opening price of the issue day that was further divided by the day's closing price. The index value of BSE SME IPO and NSE SME

Emerge was used as the benchmark index to calculate the MAER of SME platforms. The explanatory variables in the regression model were used to get the interaction effects on the dependent variable. The study used 14 explanatory variables to predict the response variable outcome. The natural log transformation was done for independent variables such as issue size, firm age, and pre-issue total assets. Similarly, underwriter reputation was calculated based on the IPO proceeds managed by an underwriter. Furthermore, Table 1 represents the detailed selected variables under study.

RESULTS AND DISCUSSION

The SME IPO platforms showed significant growth in public issues and capital raised till 2018-19. More than 50% of the public issues were offered from 2016 to 2019. The two years recorded the highest number of IPO issues that were 360 public issues and therefore the study used this time period as a hot market period for the IPOs. Similarly, both the IPO platforms rose more than INR 64 billion through initial public offerings. The number of IPO issues showed the priority of companies to get listed with BSE SME over NSE Emerge. Likewise, the public issues of NSE SME emerge were highly oversubscribed than BSE SME IPOs that showed the investor sentiment towards the IPO issues.

Table 2 shows the year-wise number of IPOs issued on both platforms with the extent of under pricing against the initial return of the same year. In the case of BSE SME in nine years, only three years of data showed the

Table 1. Detailed variables under study

Variables	Description
Under pricing (MAER)	Raw return-market adjusted return
Issue price	Each unit share price offered at IPO day
Issue size	Values of total shares issued converted into natural log
Firm age	Natural log of firm incorporation to public issue
Total subscription	Total number of time issues subscribed
Listing gains	Percentage gain on the date of an issue
Pre-issue total assets	Natural log of total assets before the public issue
Pre-issue debt equity ratio	Ratio of debt to equity before public issue
Pre-issue sales	Pre-issue revenue generated through sales
Pre-issue B/V	Pre-issue total assets - intangible assets and liabilities
Pre-issue promoter holding	Percentage share holds by the promoters before the issue
Firm size	Total market value of the outstanding shares
Return on assets (ROA)	Ratio of net income to total assets
Market conditions (Hot/Cold)	Number of IPO in one year/Total no of IPOs
Under writer reputation	(Number of IPOs undertaken/Total IPOs in the sample) x 100

Table 2. Level of under pricing at Indian SME platforms

Year	No. of IPOs		BSE SME IPO		NSE SME EMERGE	
	BSE SME	EMERGE	IR (%)	MAER (%)	IR (%)	MAER (%)
2011-12	1	0	2.8	0.00*	0.00*	0.00*
2012-13	19	3	21.63	23.68	-0.12	0.00*
2013-14	17	2	11.45	13.09	-10.17	0.00*
2014-15	36	2	5.5	4.87	2.17	0.00*
2015-16	40	8	5.95	5.15	6.61	0.00*
2016-17	43	37	4.18	4.71	8.23	9.29
2017-18	62	92	3.63	3.47	7.33	7.5
2018-19	53	53	4.23	3.39	5.12	4.43
2019-20	19	6	16.53	16.30	2.39	2.34
Total	290	203				

All identified SME IPOs before starting of index base value shown as 0.00.

The following multivariate regression equation was used to test the variables under study:

$$\text{Under pricing (MAER)} = \alpha + \beta_1\text{IP} + \beta_2\text{TS} + \beta_3\text{LG} + \beta_4\text{Age} + \beta_5\text{ISz} + \beta_6\text{PIAst} + \beta_7\text{PI_DbEq} + \beta_8\text{PI_sales} + \beta_9\text{PI_B/V} + \beta_{10}\text{PI_PH} + \beta_{11}\text{FSz} + \beta_{12}\text{ROA} + \beta_{13}\text{M_CD} + \beta_{14}\text{UDP_REP} + \varepsilon_i$$

under pricing and initial return of more than 10% against NSE SME Emerge that never touched positive 10% from the origin. The selected SME IPOs showed an annual average initial return of 8.43% for BSE SME and 2.69% for NSE SME Emerge. The study found 10% under pricing, on an average, in BSE SME IPOs against the 5% average annual under pricing in NSE SME Emerge after adjusting to the market return with a total under pricing of 8.18% for both SME platforms.

Table 3 reports the model summary that includes the correlation matrix to identify the association between predictor variables and the response variables and the variance

inflation factor (VIF) statistics to identify multicollinearity in the data. The p-values to identify the significant relationships between variables and the coefficient values represented the direction of that relationship. The Durbin-Watson test was used to check the autocorrelation, F-statistics was used to test the best fit model and R^2 was used to test the variation in the dependent variable explained by the independent variable. The model identified nine variables having a significant relationship at 1% significance level with no multicollinearity in the data.

The higher issue price signals the firm's market demand and long-run price

Table 3. Model summary

Independent variables	Coefficients	p-values	Correlation	VIF
Constant	2.578	0.651	-	-
Issue price	-0.003	0.794	-0.093	2.415
Total subscription	1.026	0.010***	0.210	1.250
Listing gains	0.793	0.000***	0.856	1.135
Firm age	0.041	0.938	-0.007	1.083
Issue size	-0.128	0.032***	0.006	2.485
PI_total assets	1.513	0.013***	0.095	2.956
PI_debt equity ratio	-0.240	0.018***	-0.056	1.066
Firm size	0.032	0.001***	0.106	1.382
ROA	0.014	0.184	-0.056	2.250
PI_sales	0.022	0.019***	0.170	1.488
PI_BV	-0.006	0.004***	-0.117	1.135
PI_promoter holding	-0.059	0.012***	-0.111	1.233
Market conditions	-2.332	0.068	-0.069	1.857
Underwriter reputation	1.570	0.340	0.030	2.413
Model diagnostics				
R2	0.8818			
Adjusted R2	0.777			
Observations	383			
F statistics	59.834			
Durbin-Watson	1.999			

***Stands for 1% level of significance.

performance. The results indicated a negative relationship of issue price with under pricing. The results suggested that IPOs with higher issue prices may have lower under pricing due to their solid fundamental signals. The study suggested that oversubscribed issues tended to be more underpriced, and there was a positive relationship between total subscription and under pricing. The positive relationship indicated that IPOs with high demand and subscriptions reflected higher under pricing levels. On the contrary, issue size negatively impacted under pricing, which meant that bigger issue size signalled lower under pricing levels. Therefore, the larger issue size signalled solid company fundamentals to the investors and negatively influenced the under pricing. The findings related to total subscription and firm size aligned with the study of Arora and Singh (2019). The negative relationship between under pricing and firm age indicated that the young firms might anticipate a high degree of under pricing due to the less information available in the market concerning the older firms with a long track record (Arora and Singh, 2019). Similarly, the listing gains significantly impacted the MAER and showed a significant positive relationship with under pricing. The results aligned with the study of Dhamija and Arora (2017b). The pre-issue total assets had a positive relationship and showed a significant impact on under pricing levels. This indicated that having a higher number of total assets before the issue opened a window to under price the IPO. Similarly, pre-issue sales were positively correlated with under pricing and significantly impacted the under pricing levels. Pre-issue sales reflected the earning capabilities and future growth of the firm. The results indicated that a good track record of pre-issue sales signalled the excellent quality of the issue. Therefore, higher pre-issue sales attracted higher under pricing for the public issue and vice versa. The pre-issue debt-equity ratio negatively impacted the under pricing level and showed a negative relationship. Lower pre-issue debt-equity ratios signalled lower debt financing hence less risk associated with the public issue resulting in higher under pricing. Firm size was positively correlated with under pricing and had a significant impact on the under pricing levels. This indicated that a bigger firm size had a higher level of under

pricing. The pre-issue book value was positively correlated with under pricing and inversely impacted the under pricing levels. The pre-issue promoter holdings inversely impacted the under pricing levels and reflected a negative relationship. It suggested that higher pre-issue promoters holding led to lower under pricing levels. The findings are in line with the study of Dhamija and Arora (2017a). The underwriter's reputation was positively associated with under pricing but found no significant impact on under pricing. The positive relationship indicated that reputed underwriters were usually associated with quality issues therefore less risk. The model diagnostic showed that the independent variables explained the 77% variance of the dependent variable with F statistics of 59.83.

CONCLUSION

The ability to get financing through the capital market can become a financial achievement of a company for a lifetime, especially in SMEs that face a higher degree of problems in fund arrangements. The SME sector is considered a vital organ in the growth of the economy. The study found a total under pricing of 8.18% in Indian SME IPO platforms, with 10% on average in S&P BSE SME and 5% in NSE SME Emerge. In addition to under pricing, the initial raw return was significantly similar to the under pricing on SME platforms resulting from relaxed regulations and lower investor interest. The minimum requirement to buy a single lot size was remarkably high, deterred small retail investors from investing money in SME IPOs. The higher valuation of the listed SMEs led to higher investor demand for the issue. However, the lack of operational performance dissuaded the investor from investing in SME IPOs.

Similarly, the liquidity problem of SME IPOs in the secondary market was a primary reason for lower investor interest in these public issues. The lack of investor interest caused a lack of research focus in the SME IPO market that eventually created information asymmetry in the market. The result indicated under pricing as a universal phenomenon across various markets and the identified significant variables to predict the further investigation to explore the long-run performance, after market liquidity, and IPOs

survivability of these exclusive SME trading platforms. The information disclosure standards and transparency should be used to retain existing and attract new investors towards the SME IPOs. The Indian economy has many potential SMEs running on private funding and has growth potential in the public market. Those firms can use SME exchanges to expand the business further and bring an organized working environment within the organization. Therefore, further research work can be done to decrease information asymmetry and ex-ante uncertainty in the market. Significant regulatory changes can be made to make this section more lucrative and safer for potential investors. The study has implications for the investors, SMEs, intermediaries and regulatory bodies of the security market.

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