Optimization
Vol. 15, No. 2, July-December 2023 (pp. 65-77)

RESEARCH ARTICLE

IPO Performance Analysis: How to Maximize Gains

Parul Bhatia[1], Annu[2]*, Akshay Matai[3] and Shayan Sen[4]

ABSTRACT

Initial Public Offerings (IPOs) have become an investment avenue for wealth generation, given the attractive rate of returns. In such circumstances, it is imperative for investors to know and understand the risks associated with and factors affecting the returns and performance of IPOs. Investors would prefer informed and planned investments regarding risk characteristics. This study has been carried out to analyze the performance of IPOs and determine if they were underpriced or overpriced. Here, using the data analysis method, we have examined the performance of 57 SME companies listed on the BSE (Bombay Stock Exchange) that went public between 2018 and 2021. The presented study also endeavors to identify several key factors that significantly impact the short-term performance of IPOs. These factors include Issue Price, Issue Size, Lot Size, Subscription Ratio, 3-year Profit After Tax, 3-year Revenue growth, and Promoter Holdings, all of which are carefully considered in the analysis. During the conducted study, it was discovered that 63% of the IPOs were underpriced. Among all the variables analyzed, the "Subscription Ratio" emerged as the sole significant factor in determining both the underpricing and overpricing of IPOs, as well as their short-term performance.

Keywords: Risk-return, IPO, Issue price, Subscription ratio, Issue size

INTRODUCTION

An IPO is a tool companies use to raise money from the general public in exchange for limited ownership of the company. IPOs play a significant role in furnishing firms with monetary assets, which are vital for development and help businesses have an upper hand in the market over competitors. A comprehension of the IPO market is of great significance for financial backers, monetary managers, guarantors, and, additionally, for entrepreneurs. Entrepreneurs may need this market to realize the value of their enterprises, which are yet to go public. Furthermore, publicly listed firms should remain vigilant about market conditions as they might consider spinning off divisions or organizing a leveraged buyout that could potentially lead to an eventual IPO.

IPOs are prominent among the main sources of long-term or perpetual funding for a company (NSE website, Updated on 06/01/2023). IPOs open a nation's door to rewarding speculation, urge financial backers to profit from them, and persuade them to build assets from low learning experiences to high learning experiences. Both domestic and foreign investors consistently favor the Indian market, though the main area of concern remains its high analyzed volatility concerning returns and associated risks (Rakshit, 2008).

[1]Assistant Professor, Shri Vishwakarma Skill University, Haryana, India

[2]Banker, Axis Bank and Former Student, Apeeja school of Management, Delhi, India

[3,4]Former Student, New Delhi Institute of Management, Delhi, India

*Corresponding author email id: annu122796@gmail.com

How to cite this article: Bhatia, P., Annu, Matai, A. and Sen, S. (2023). IPO Performance Analysis: How to Maximize Gains. *Optimization,* 15(2): 65-77.

Source of support: Nil

Conflict of interest: None

The general purpose of investors is to make a profit, for which it is imperative to gain insights into why and how under- and over-priced items occur. Underpricing is the situation where the IPO price is lower than the fair market value of the issue, and vice versa for overpricing. Overpricing is also referred to as a persistent underperformance of the IPO in the long run. The magnitude of IPO price fluctuations varies across countries and even within the same country for different issues.

The underpricing of IPOs benefits investors, providing them with a positive and abnormal initial return. However, it results in a loss of capital for the issuing company (Shah, 2015).

A theory proposed by Rock (1986) and subsequently advanced by Beatty (1986) states that there are two types of investors in IPOs: "Uninformed" about the prices and "Informed" about the market equilibrium prices. Both investors tend to apply for an underpriced IPO, causing the issue to be oversubscribed, so that an allotment of the issue is necessary. In the case where an issue is overpriced, the uninformed investors absorb the overpricing as the informed investors do not bid, thereby proving that IPOs have to be underpriced to churn out an expected return for the uninformed investors so that they continue to participate in the IPO market, thereby proving that underpricing and overpricing exist.

To measure the magnitude of underpricing or overpricing, IPOs' initial returns can be used, i.e., the excess of the offer price (P0) over the first traded price (P1) in comparison to the offer price (P0). Underpricing occurs when P1 is higher than P0, and vice versa for overpricing. This change in the ratio of P1 to P0 is called the Initial Return (Fernandez, 1993).

According to Manu (2020), the Indian government demonetized the currency in 2016 primarily to flush out black money. In this period, various companies and individuals faced serious difficulties and hardships. In 2017, deemed the golden year for the Indian IPO market, witnessed a remarkable achievement, with over 150 companies, including SMEs, raising a total capital of $11.6 billion. During this period, nearly half of the IPOs yielded positive returns, outperforming the market from their issuance date. This highlights the substantial risk investors encounter when venturing into an IPO and underscores the necessity for exercising utmost caution while considering investments in such offerings.

The widespread presence of underpricing and high risk in IPOs raises important questions for investors, such as understanding the factors that impact IPO performance and grappling with the decision of whether to invest in them or not. As a result, this research aims to offer valuable insights into the crucial factors that should be taken into consideration before making IPO investments.

Statement of the Problem

As IPOs gain allure as a compelling investment option, it becomes imperative for investors to acquaint themselves with the factors influencing their performance to make well-informed choices. While various factors can impact an IPO's performance, limited data exists to validate these factors, creating a quandary for investors seeking clarity in their decision-making process.

Objectives

- To assess the performance of chosen small and medium-sized companies' IPOs.
- Assess IPOs for undervaluation/overvaluation.
- Study the impact of variables: issue price, lot size, issue size, profit after tax, net revenue growth, subscription ratio, promoter holding, and IPO listing delay.

Scope of the Study

This study has emphasized several factors that assist and advise investors in maximizing IPO returns. However, like any research, there are opportunities for improvement, including the following aspects:

The study focuses solely on SMEs listed on the BSE Index. It examines IPOs conducted within the period from 2018 to 2021.The study considers only seven factors, but there is potential to explore numerous additional variables for further research.

LITERATURE REVIEW

According to a report from 2000, the Indian stock market has shown significant volatility but has remained a reliable, secure, and stable investment option. This was evident during the March 2020 lockdown when not only the Indian market but also many other global stock markets experienced a downturn and bouts of instability. However, as we adapted to the new normal, the stock market demonstrated a V-shaped recovery, delivering substantial returns to investors in 2021.

On the contrary, Wazal (2017) stated that the total number of retail investors in India was 59.1 million, accounting for only 4.45% of the country's entire population. When compared to leading economies such as the United States, where nearly half the population invests either directly or indirectly (as of 2013), India's retail investor participation appeared relatively lower. Singapore's stock market attracted a third of its workforce (2015), while in Malaysia, it represented 26% of the overall population (2015), and in China, 14.6% (2015) participated in the stock market. However, it is noteworthy that India's retail investor count of 59.1 million, as per the SEBI investor survey of 2015, witnessed a 75% increase by 2017, indicating a surge in trust and confidence among retail investors. The majority of these investors (about 70%) are from urban areas, while the remaining 30% hail from rural regions.

As per Shukla's survey in 2010, Indian investors predominantly allocate 65% of their savings to liquid funds, encompassing cash on hand and bank or post office deposits. They invest 23% in tangible assets like gold and real estate, while only 12% is directed towards financial instruments. The survey also highlighted the robust saving habits of Indian households, with income levels playing a pivotal role in determining their saving patterns. Furthermore, educational attainment and occupation equally influence variations in saving behavior.

In 2003, Thomas studied 2000 NASDAQ IPOs, deducing that financial and non-financial information are crucial for an IPO-bound company. In 2015, Jing Gao found that Chinese IPO-bound companies utilized conservative accounting techniques, leading to conservative valuations during the IPO process and subsequent underpricing after listing. Contrarily, Leal (2008) explored accounting information's effect on IPO investment decisions in Brazil, finding return on assets and long-term debt-to-equity ratios influential in IPO outcomes.

Rock, K. distinguishes between well-informed and ill-informed investors in IPOs. Informed investors tend to oversubscribe to underpriced IPOs, leaving fewer shares for uninformed buyers. Expensive IPOs are mainly sold to uninformed investors, leading to potential losses-an occurrence known as the "winner's curse."

To attract uninformed investors, securities are offered at a discount. The winner's curse theory proposes that the reduction of the disparity of information available to uninformed and informed investors can cause a reduction in IPO underpricing. Investment bankers leverage their market expertise to underprice new issuances, streamlining the marketing process and fostering trust among clients (Baron, 1980).

Book-build IPOs exhibit notable underpricing variation from fixed price IPOs. IPOs with a fixed price option are more expensive or overpriced than those with a book-building method (Bansal, 2012).

Ghosh's study (2004) indicates that pricing in the Indian primary market is influenced by uncertainty. This research aimed to identify factors contributing

to the underpricing of 1,842 companies traded on the BSE from 1993 to 2001.Interestingly, the extent of underpricing was lower in IPOs with large issue sizes and seasonal offerings.

In financial institutions' IPOs, underpricing serves as an indicator of uneven knowledge, supported by various signaling studies like R. Faulhaber's work (1989). It shows that the issue size impacts IPO pricing.

H1: Issue size significantly influences underpricing or overpricing levels. There is a significant underpricing difference between fixed price and book-building IPOs. IPOs with a bookbuild are less expensive in comparison to those with a fixed price (Bansal, 2012). According to this theory, the issue price has a significant impact on an IPO's underpricing or overpricing.

H2: Issue Price significantly impacts Underpricing or Overpricing levels. While studies on IPO valuation majorly focus on the listing-day return, some empirical studies (Omran, 2005; Reber, 2007; Singh, 2008) consistently support IPO underpricing evidence on their initial public offering day.

According to Mao (2006), issuers intentionally underprice IPOs to attract a larger subscription. The behavioral argument suggests that on the IPO's listing day, exuberant investors bid the price above its true underlying value. This idea indicates that the subscription ratio significantly affects whether an IPO is underpriced or overpriced.

H3: Subscription Ratio significantly impacts Underpricing and Overpricing levels. IPO pricing preferences vary with individual and institutional investment (Fernando, 2004).Institutions lean towards high-cost IPOs, whereas individuals prefer low-cost ones. Because investors have varying IPO offer price preferences, each IPO's post-listing ownership is distinct. According to this idea, the promoters' holdings have a considerable impact on whether an IPO is underpriced or overpriced.

H4: Promoter Holdings Significantly Impact Underpricing or Overpricing Level. Previous research, such as Rizita Abdul Rahim's (2013), looked at offer size to understand the elements that influence IPO oversubscriptions. In their study (Rahman, 2017), they employed LOT as a measuring variable to interpret subscription times. Large LOT increases IPO costs, causing liquidity problems for small investors, potentially leading to IPO undersubscription. (Rahman, 2017) As a result, the alternate hypothesis is as follows:

H5: Lot Size significantly impacts Underpricing or Overpricing levels. Strong past earnings, as indicated by James Brau (2006), are a positive factor for IPO investors. EPS is widely used to assess a company's profitability and has been studied by LO (2012), Sahoo (2014), and Asghari (2014) as an independent variable to understand its impact on the IPO oversubscription ratio. While Asghari (2014) found no significant effect, Sahoo (2014) discovered that EPS has a considerable favorable impact on investor valuation of IPOs, leading to increased oversubscription. The current analysis considers the most recent EPS from the prospectus, calculated by dividing Net Profit by the number of outstanding equity shares. Additionally, an increase in the CAGR of PAT over the last three years is expected to influence the underpricing or overpricing of IPOs. Thus, the hypothesis for the 3-year CAGR of Profit After Tax (PAT) is as follows:

H6: The 3-year CAGR of PAT significantly impacts Underpricing and Overpricing levels. On the other hand, we can claim that PAT will continue to rise in tandem with Net Revenue, implying that Profit After Tax is directly proportional to Net Revenue. Therefore, businesses that have reported higher Net Revenue may have attracted more subscribers, and vice versa. Based on this alternate hypothesis for three years, the Compound Annual Growth Rate (CAGR) of Net Revenue is as follows:

H7: The 3-year CAGR of Net Revenue significantly impacts Underpricing and Overpricing levels.

RESEARCH METHODOLOGY

Time Duration of Study

The relevant data were collected from the firms that issued IPOs from December 2018 to December 2021 to analyze the listing day performance of the IPOs.

Data Collection

From December 2018 to December 2021, the study will compile a list of IPOs using the official websites of BSE and NSE. The relevant company prospectus will provide crucial data, including Issue Price, Issue Dates, Issue Size, promoter Holdings, Listing Dates, 3-year CAGR of PAT, 3-year CAGR of Net Revenue, Subscription Ratio, and Oversubscription

Source of Data

This study exclusively relies on secondary data gathered from various sources. BSE, and NSE are the major source of data collection on Market Return, Market Adjusted Excess Return and Listing Day Return. Additional vital information was extracted from the companies' Red Herring Prospectus (RHP). The focus of the analysis is on BSE-listed companies from 2018 to 2021. To aid our study, the techniques adopted were as follows:

Calculating the market-adjusted excess return

In accordance with established methodology, the raw return on a particular day is the excess of the closing price over the offer price in comparison to the offer price itself.

Raw Return = (Closing Price – Offer Price) Offer Price

Secondly, index return (SENSEX) on listing day is the excess of closing price over opening price.

Market Return = (Closing Price – Open Price) Open Price

Market-adjusted returns determine underpricing/ overpricing. Calculated by comparing raw returns with market returns. For IPO listing day, it's the difference between projected raw return and SENSEX benchmark return.

Multiple Regression Model (MLR)

MLR, regularly known as multiple regression, is a measurable procedure that predicts the aftereffect of a reaction variable by consolidating various illustrative factors. MLR represents a linear relationship among the response (dependent) variable and the explanatory (independent) variable.

Multiple regression analyzes factors impacting Indian IPOs' underpricing/overpricing on listing day, determining their magnitude and direction.

Correlation Matrix

Covariance is a proportionate connection between two arbitrary factors in arithmetic and insight. The measurement surveys how far and how much the factors change. In short, it quantifies the variation between two factors but doesn't consider their relationship.

Covariance is measured in units, which are obtained by multiplying the units of the two variables. Variance can take any value (Dempster, 1972).

Positive covariance: A positive correlation is observed when two factors advance in a similar direction.

Negative covariance: A negative correlation occur when two variables are advancing in opposite directions.

The coefficient of correlation is a numerical measure ranging from -1 to 1 representing a statistical relationship among two variables. Correlation coefficient: +1 for perfect positive, -1 for perfect negative. +1 implies assets move together with the same intensity. -1 means they move opposite, and 0 means no linear relationship.

Independent Variables

Variables	Operationalization
Issue Price	1st price at which securities are sold.
Issue Size	Issue size represents the money firms aim to raise through an IPO, calculated as final offer price multiplied by total shares issued.
Lot Size	Money raised in IPO; final offer price multiplied by total shares issued.
Promoter Holdings	Percentage of share help by promotor at the time of issue.
Subscription Ratio	The subscription ratio indicates how many times the IPO has been subscribed.
3 Years CAGR of PAT	The 3-year CAGR of Profit After Tax (PAT) is the annualized growth in PAT recorded before filing for an IPO.
3 Years CAGR of Net Revenue	The 3-year CAGR of Net Revenue is the annualized growth in Net Revenue recorded before filing for an IPO.

ANALYSIS AND INTERPRETATION

Determining the Underpricing/Overpricing of IPOs

For the study, we have taken the IPOs of 57 SMEs between 2018 and 2021.

SME Companies	Status
MRP Agro Limited's IPO	IPO-Overpriced
ADJIA Technologies Limited IPO	IPO-Underpriced
NIKS Technology Limited's IPO	IPO-Underpriced
EKI Energy Services Limited IPO	IPO-Underpriced
Gleam Fabmat Limited's IPO	IPO-Overpriced
Jetmall Spices and Masala Limited's IPO	IPO-Overpriced
Navodaya Enterprises Limited's IPO	IPO-Overpriced
Adeshwar Meditex Limited's IPO	IPO-Underpriced
Times Green Energy (India) Ltd. IPO	IPO-Underpriced
Focus Business Solution Limited's IPO	IPO-Underpriced
AA Plus Tradelink Limited's IPO	IPO-Overpriced
Gretex Corporate Services Ltd. IPO	IPO-Underpriced
SBL Infratech Limited's IPO	IPO-Underpriced
Platinumone Business Services Limited IPO	IPO-Underpriced
Prevest Denpro Limited's IPO	IPO-Underpriced
Markolines Traffic Controls Limited's IPO	IPO-Overpriced
Shri Venkatesh Refineries Limited's IPO	IPO-Underpriced
Adishakti Loha and Ispat Limited's IPO	IPO-Underpriced
Janus Corporation Ltd. IPO	IPO-Overpriced
ICL Organic Dairy Products Ltd. IPO	IPO-Underpriced
SM Auto Stamping Ltd. IPO	IPO-Underpriced
Nirmitee Robotics India Ltd. IPO	IPO-Underpriced

SME Companies	Status
Cospower Engineering Ltd. IPO	IPO-Underpriced
DJ Mediaprint & Logistics Ltd. IPO	IPO-Overpriced
Bonlon Industries Ltd. IPO	IPO-Overpriced
Suratwwala Business Group Ltd. IPO	IPO-Underpriced
Trekkingtoes.com Ltd. IPO	IPO-Overpriced
Advait Infratech Limited IPO	IPO-Underpriced
SecMark Consultancy Limited's IPO	IPO-Overpriced
G.M. Polyplast Limited IPO	IPO-Underpriced
Shine Fashions (India) Ltd. IPO	IPO-Overpriced
Net Pix Shorts Digital Media Limited IPO	IPO-Underpriced
Ashapuri Gold Ornament Limited's IPO	IPO-Underpriced
Northern Spirits Limited's IPO	IPO-Underpriced
Roopshri Resorts Limited's IPO	IPO-Underpriced
Jinaams Dress Limited's IPO	IPO-Overpriced
V R Films & Studios Limited IPO	IPO-Overpriced
Cian Healthcare Limited's IPO	IPO-Underpriced
SK International Export Limited's IPO	IPO-Underpriced
City Pulse Multiplex Limited's IPO	IPO-Overpriced
Alphalogic Techsys Ltd. IPO	IPO-Underpriced
Transpact Enterprises Ltd. IPO	IPO-Underpriced
Novateor Research Laboratories Ltd. (IPO)	IPO-Underpriced
G. K. P. Printing & Packaging Limited IPO	IPO-Underpriced
CRP Risk Management Ltd. IPO	IPO-Overpriced
Ashoka Metcast Limited's IPO	IPO-Overpriced
Gujarat Hy-Spin Limited's IPO	IPO-Underpriced
Gautam Gems Limited's IPO	IPO-Overpriced
Medico Remedies Ltd. IPO	IPO-Overpriced
Kenvi Jewels Limited's IPO	IPO-Underpriced
Sungold Media and Entertainment Limited's IPO	IPO-Overpriced
Add-Shop Promotions Limited's IPO	IPO-Underpriced
Synergy Green Industries Limited IPO	IPO-Underpriced
Ranjeet Mechatronics Limited's IPO	IPO-Underpriced
Manorama Industries Limited's IPO	IPO-Overpriced
Mac Hotels Limited's IPO	IPO-Underpriced
Innovative Ideals and Services (India) Limited (IPO)	IPO-Underpriced

Interpretation: Among the 57 SMEs in consideration, 36 IPOs are underpriced, resulting in a positive market-adjusted excess return, while the rest, 21 IPOs, are overpriced, which generated a negative market-adjusted excess return.

Multiple regression model

Table Estimated Equation 1

Dependent Variable- Market-Adjusted Excess Return
Method of assessment- Least Squares
Date of the test: 10/23/21 Time: 19:16
Sample size: 157
Included observations: 56

Variables	Coefficient	Standard Error	t-Statistic	Probability
C	-0.120	0.186	-0.645	0.522
Issue Price: Rs	0.000	0.001	-0.097	0.923
Issue Size: Rs Cr	0.000	0.002	0.048	0.962
Lot Size	0.000	0.000	-0.635	0.529
Net Revenue Growth: 3 Year	0.006	0.036	0.159	0.875
PAT: 3 Years CAGR	0.003	0.006	0.517	0.607
Promoter Holdings	0.266	0.241	1.105	0.275
Subscript ion Ratio	0.009	0.003	3.801	0.000
R-squared	0.274	Mean dependent variable		0.046
Adjusted R-squared	0.168	S.D. dependent var		0.203
S.E. of regression	0.185	Akaike info criterion		-0.401
Sum squared resid	1.650	Schwarz criterion		-0.112
Log likelihood	19.233	Hannan-Quinn criter		-0.289
F-statistic	2.584	Durbin-Watson stat		2.108
Probability (F statistic)	0.024			

Table Estimated Equation 2

Dependent Variable- Market-Adjusted Excess Return
Method of assessment - Least Squares
Date of the test: 10/23/21 Time: 19:19
Sample size: 157
Included observations: 57

Variables	Coefficient	Standard Error	t-Statistic	Probability
C	0.008	0.025	0.324	0.747
Subscript ion Ratio	0.010	0.002	4.039	0.000
R-squared	0.229	Mean dependent var		0.046
Adjusted R-squared	0.215	S.D. dependent var		0.201
S.E. of Regression	0.179	Akaike info criterion		-0.574
Sum Squared resid	1.752	Schwarz criterion		-0.502
Log likelihood	18.362	Hannan-Quinn criter		-0.546
F-statistic	16.312	Durbin-Watson stat		2.159
Probability (F statistic)	0.0002			

Level of significance: 0.05

Interpretation basis Table 1, we can see that:

- The level of significance is lower than the p-value of the issue price and is 0.9232; Therefore, we accept null. Thus, no significant impact on under or over-pricing levels.
- The level of significance is lower than the p-value of Issue Size and is 0.9620; Therefore, we accept null. Thus, the Issue Size has no significant impact on under- or over-pricing levels.
- The level of significance is lower than the p-value of Lot Size and is 0.5285; Therefore, we accept null. Thus, the Lot Size has no significant impact under- or over-pricing levels.
- The level of significance level is lower than the p value of the 3-year CAGR of PAT and is 0.6072; Therefore, we accept null. Thus, the 3-year CAGR of PAT has no significant impact under- or over pricing levels.
- The level of significance level is lower than the p value of the 3-year CAGR of Net Revenue and is 0.8747; Therefore, we accept null. Thus, the 3-year CAGR of Net Revenue has no significant impact on under- or over-pricing levels.
- The level of significance is lower than the p-value of Promoter Holdings and is 0.2749; therefore, we accept null. Thus, the Promoter Holdings has no significant impact under- or over-pricing levels.
- The level of significance is higher than the p value of the subscription ratio and is 0.0004; therefore, we reject null. Thus, the subscription ratio has significant impacts under- and over pricing levels.
- Therefore, the table indicates that the subscription ratio is the sole significant variable impacting IPO under- or over-pricing.

The Regression Equation is as follows:

In Table 1, the adjusted R-square is 16.775%, indicating that 16.775% of the underpricing or overpricing level is explained by the subscription ratio.

Furthermore, the p-value of F statistic in Table is 0.024091, which is below the chosen level of significance. Thus, the model is well suited.

From Table 2, we can see that after eliminating insignificant Independent Variables and keeping only significant independent variables, i.e., the subscription ratio, the adjusted r square has increased to 22.8743%.

It is evident from Table 2 that there is a considerable increase in Adjusted r Square when only subscription is considered as the Independent Variable in determining underpricing of IPOs. The reason for this is that the subscription ratio as an independent variable is part of a model that rejects null hypotheses, as the p-value is 0.0002 (less than 0.05) as well as the f statistic is 0.000168, which signifies that this model fits, and thereby an increase in Adjusted r Square when considered independently.

Residual Diagnostic

Autocorrelation Test of Residuals

Breusch-Godfrey Serial Correlation LM Test

H_0: There is no autocorrelation between residuals.

H_1: There is autocorrelation between residuals.

Interpretation: The Table of Covariance Matrix shows the covariance between independent variables, which are issue price, issue size, lot size, subscription ratio, PAT (3 years CAGR), net revenue growth (3 years CAGR), and promoter holdings. The covariance table indicates positive covariance for most independent variables (except issue price and lot size),

Table Autocorrelation Test

Breusch-Godfrey Serial Correlation LM Test:

Null hypothesis: No serial correlation (R) at up to 2 lags

F statistic	0.250	Probability F (2,53)	0.780
Obs*R squared	0.532	Probability Chi-Square (2)	0.766

Test Equation:

Dependent Variable: RESID

Method of assessment: Least Squares

Date of the test: 10/23/21 Time: 20:04

Sample size: 157

Included observations: 57

Pre-sample missing value lagged residuals set to Zero.

Variables	**Coefficient**	**Standard Error**	**t-Statistic**	**Probability**
C	-0.002	0.026	-0.064	0.950
Subscription Ratio	0.000	0.002	0.133	0.895
Resid(-1)	-0.093	0.140	-0.666	0.508
Resid(-2)	-0.043	0.140	-0.309	0.758
R squared	0.009	Mean dependent variance		-7.80E-18
Adjusted R squared	-0.047	S.D. dependent variance		0.1769
S.E. of regression	0.181	Akaike info criterion		-0.5133
Sum squaredresid	1.736	Schwarz criterion		-0.3699
Log likelihood	18.62 9	Hannan Quinn criterion		-0.4576
F statistic	0.167	Durbin Watson stat		1.985
Probability (F statistic)	0.919			

Interpretation: From the table, it is evident that Chi-square's p-value is more than 0.05 (significance level), and is 0.7663; therefore, we reject alternative hypotheses and accept null hypotheses. Hence, we can conclude that there is no autocorrelation between residuals.

Heteroskedasticity Test of Residuals

Breusch-Pagan-Godfrey

H_o: There is no heteroskedasticity in residuals.

H_1: There is heteroskedasticity in residuals.

Table Autocorrelation Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey

Null hypothesis: Homoskedasticity

F-statistic	47.846	Probability F (1,55)	0
Obs*R squared	26.518	Probability Chi-Square (1)	0
Scaled explanation of SS	160.354	Probability Chi-Square (1)	0

Test Equation:
Dependent Variable: RESID2
Method of assessment: Least Squares
Date of the assessment: 10/23/21 Time: 20:04
Sample size: 157
Included observations: 57

Variables	Coefficient	Standard Error	t-Statistic	Probability
C	0.001	0.012	0.078	0.938
Subscription Ratio	0.008	0.001	6.917	0.000
R-squared	0.465	Mean dependent variance		0.031
Adjusted R squared	0.456	S.D. dependent variance		0.112
S.E. of regression	0.083	Akaike info criterion		- 2.118
Sum squared resid	0.374	Schwarz criterion		- 2.046
Log likelihood	62.363	Hannan-Quinn criterion		- 2.090
F-statistic	47.846	Durbin-Watson stat		2.014
Probability (F-statistic)	0.000			

Interpretation: It is evident that Chi-square's p value is below 0.05 (significance level), and is 0.000; hence, we accept alternative hypotheses and reject null hypotheses. Hence, we can conclude that there is heteroskedasticity in the residuals.

Table Correlation Matrix

	Issue Price (Rs)	Issue Size (Rs. Cr)	Lot Size	Subscr-iption Ratio	PAT (3-year CAGR)	Net Revenue Growth (3 Years)	Promoter Holdings
Issue Price (Rs)	1	0.28	- 0.75	-0.03	0.04	0.13	0.26
Issue Size (Rs. Cr)	0.28	1	- 0.35	0.00	0.10	0.03	0.04
Lot Size	- 0.75	- 0.35	1	0.04	0.02	0.08	- 0.22
Subscription Ratio	- 0.03	0.00	0.04	1	- 0.01	- 0.03	0.09
PAT (3-year CAGR)	0.04	0.10	0.02	-0.01	1	0.16	0.06
Net Revenue Growth (3 Years)	0.13	0.03	0.08	-0.03	0.16	1	0.02
Promoter Holdings	0.26	0.04	- 0.22	0.09	0.06	0.02	1

Table Covariance Matrix

	Issue Price (Rs)	Issue Size (Rs. Cr)	Lot Size	Subscr-iption Ratio	PAT (3-year CAGR)	Net Revenue Growth (3 Years)	Promoter Holdings
Issue Price (Rs)	2395.21	166.9 6	99840 .00	15.48	9.06	4.67	1.3 3
Issue Size (Rs. Cr)	166. 96	152.5 9	11697 .10	0.11	5.69	0.25	0.0 5
Lot Size	-99840.00	11697.10	7312084.00	1097.15	302.41	160.68	64.17
Subscription Ratio	15.4 8	0.11	1097. 15	101.5 4	0.30	0.23	0.1 0
PAT (3- year CAGR)	9.06	5.69	302.4 1	0.30	20.2 1	0.51	0.0 3
Net Revenue Growth (3 Years)	4.67	0.25	160.6 8	0.23	0.51	0.52	0.0 0
Promoter Holdings	1.33	0.05	- 64.17	0.10	0.03	0.00	0.0 1

implying they move in a similar direction in the market. The correlation matrix shows a high correlation between issue price and lot size, but no other highly correlated variables are found. Therefore, there is multicollinearity among the independent variables.

Conclusion IPOs are prominent among the main sources of long-term or perpetual funding for a company. With IPOs being a commodity for wealth generation for investors and a tool to raise funds for companies, it is imperative that the factors affecting them are highlighted and investors are aware of them.

The study's goal is to examine IPO pricing adequacy and the factors influencing its short-term performance. For the study, only the small and medium enterprises listed on BSE were taken into consideration for a specified time period. We studied the positions of 57 SME firms listed on BSE between December 2018 and December 2021. The study's hypothesis was formulated based on the IPO's Issue price, Issue size, Lot size, Promoter holding, Subscription ratio, 3-year CAGR of PAT (Profit after Tax), and 3-year CAGR of Net revenue of the firm or enterprises.

Among the IPOs examined, 63% were found to be underpriced. Specifically, 36 out of the 57 SME IPOs listed on the BSE between December 2018 and December 2021 experienced underpricing.

The study's key finding is that the "Subscription ratio" emerges as the sole variable significantly influencing whether an IPO is under- or overpriced. To arrive at this conclusion, the least square method was employed. The p-value for the Subscription ratio, as depicted in Table 1, was found to be less than 0.05, indicating its statistical significance. Consequently, investors are advised to give careful consideration to the Subscription ratio when making IPO investments to maximize the potential for positive returns in the short term.

In conclusion, IPOs play a critical role in securing long-term funding for companies and presenting lucrative wealth generation opportunities for investors. The study underscores the importance of correctly pricing IPOs and pinpoints the Subscription ratio as the key determinant of under- or over-pricing. When making IPO investment decisions, investors should consider this factor, acknowledging its potential influence on short-term returns. Nonetheless, it's crucial to approach IPO investments with a long-term perspective and conduct comprehensive research to make well-informed choices.

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