

Short-term IPO Performance Amidst Fear of COVID-19 Pandemic: Evidence from India

Vision

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Madhu Maheshwari (Totla)¹ and Anil Kumar²

Abstract

The study of investor behaviour in and around tail events is important as these impact market returns. Since the onset of the COVID-19 pandemic, financial markets worldwide have seen enormous falls amid widespread uncertainty initially and then bounced back strongly with greater momentum. This article investigates the short-term performance of public issues which had their debut on the Indian Stock exchanges during the time of the COVID-19 pandemic. It also analyses the impact of fear of the pandemic on underpricing, if any and the factors impacting their performance.

It compares the pre-COVID and post-COVID initial public offerings (IPOs) in Indian Capital Market with a sample of 158 listings across nine years from 2013 to 2021 on the main board segment of the National Stock Exchange (NSE) and Bombay Stock Exchange (BSE). With the help of the *t*-test and multivariate regression applied on subscription data, listing data, listing gains, issue size, return on net worth, age and other factors, a more active retail investor group emerges with a statistically significant increase in underpricing during the COVID-19 era.

The study provides strong evidence that the pandemic contributed towards increase in number of firms getting listed and higher levels of underpricing. It also suggests that the impact was particularly on the investors' sentiment with increase in retail subscription four folds. Desire to synthesize short term benefits and over optimism among the retail investors, has led to such increase. We summarize that in the post pandemic era, higher than usual listing gains and larger than usual issue sizes are affected by a radical shift in Indian retail investor behaviour. Tail events like COVID-19 have changed the way Indian investors behave and invest in IPO's causing them to base their decisions on speculative metrics rather than the actual fundamentals of the issue.

This article is a first-of-its-kind study to examine the impact of the pandemic on the equity market practices in India, namely, the anomaly of underpricing of IPOs or new listings on the main board segment.

Key Words

Initial Public Offering, COVID-19, Underpricing, Information Asymmetry, Retail Subscription

Introduction

The pandemic induced by COVID-19 played havoc across the world including India with more than 30 million people infected since March 2020 and reported deaths of more than 0.35 million in India alone till April 2021. The pandemic, in the very short span of time of its outbreak, caused a huge loss of value in markets across the world. This turbulence happened because of the fear induced by the sheer speed of the spreading of the Corona virus. The global stock markets experienced double-digit falls, with S & P 500 losing 30% in just 16 trading sessions. Even in India, the Nifty 50 lost 35% in the month of March 2020 alone, which was the second worst fall since inception (<https://www.businesstoday.in/markets-2020-03-23>).

With this volatility in the stock markets globally, an increasing body of researchers examined the repercussions of the COVID-19 pandemic to see its impact on worldwide stock market performances and safe heavens. To cite a few for example, Okorie and Lin (2021) confirmed the effect of fractal contagion during the pandemic of COVID-19 on various stock markets by using data from 32 worst-hit economies; Jawad (2020) maintained that during the COVID-19 pandemic, the global systemic risk and the density of spill over, were highest even in comparison with that of the 2008 financial crisis. Ashraf (2020) concluded that all the stock markets globally reacted unfavourably to the spike in COVID-19 cases.

In India, after the crash of March 2020 and subsequent lockdown, the investor sentiment improved and the stock

¹ Department of Commerce, Delhi School of Economics, University of Delhi, New Delhi, India

² Shri Ram College of Commerce, University of Delhi, New Delhi, India

Corresponding author:

Madhu Maheshwari (Totla), Department of Management Studies, Shaheed Sukhdev College of Business Studies, K. N. Katju Marg, Sector 16, Rohini, University of Delhi, New Delhi 110089, India.

E-mail: madhumaheshwari@sscbsdu.ac.in

market started gaining momentum and moved unidirectionally. The primary initial public offering (IPO) market too gained momentum post the lockdown and there were more than 30 companies which got their shares listed on the main board on Indian Stock exchanges from September 2020 to March 2021. Some of the IPO listings even gave first-day raw returns of more than 100%. This first-day positive raw return has been coined as underpricing. There is extensive literature on IPO markets addressing the issue of deliberate ‘underpricing’ by firms and the long-run underperformance of IPOs. However, no study has been conducted on investor sentiment and underpricing during the period of the pandemic. This brings us to study the impact of the fear of COVID-19 on the widely persisting equity market anomaly of ‘underpricing’. The tail events such as the pandemic of COVID-19 necessitate the study of investor reaction and sentiment in and around these events, as these occurrences usually result in a paradigm change in the way the world operates.

To date, there has been no study on the impact of fear induced by the COVID-19 pandemic on underpricing in India. The current study aims to fill this gap with the objective of determining the impact of fear of the pandemic on underpricing and the reaction of the Indian primary market investors to the COVID-19 outbreak in terms of retail subscription.

This being a pioneer study linking the primary equity market and the COVID-19 pandemic will help and guide investors, policymakers and firms to safeguard their investment, devise means towards investor protection and correctly value their equity offerings respectively.

The article is organized into six sections: While the present section introduces the study, the second section focuses on the current literature. The third section lays out the objectives of the article including hypotheses; the next section contains details of the data and research methodology used; followed by a discussion of the findings in the fifth section and a conclusion of the study in the last section.

Literature Review

Many researchers around the world have studied IPO underpricing and varied premises have been ascertained to determine the attributes. Ibbotson (1975) was the first to investigate favourable first-day returns on IPOs. The information asymmetry theory presented by Rock (1986) is one of the widely accepted theory of underpricing. India has seen a record-breaking increase in the number of internet users in the recent decade and the investors today are well informed with easier access to pools of data and regulators requiring dissemination of more information leading to higher transparency. This growth in access to the internet in India might also be ascribed to the rise in the number of investors. Sahoo and Rajib (2010), based on examination of IPOs listed in India during 2002–2006 concluded that

the mean underpricing in India is about 47%. Using event study, Manu and Saini (2020) examined IPOs of the Indian capital market of 2017 and found that 70% of the IPOs had a short-run positive performance. The study also identified different elements that influence IPO underpricing. However, it claimed that the age of the firm, issue size, post-issue promoter holding and ownership sector do not have a statistically significant impact on short-term performance. These researches are from a time when there was no COVID-19-like event. In this context, underpricing in the Indian primary market becomes an interesting subject of study.

During the preliminary phase of the COVID-19 period, the negative market reaction was substantial (Ashraf, 2020). Global stock markets reacted immediately to the pandemic, but the response varied depending on the stage of outbreak. It also showed that at least some of the turmoil was caused by short-term investor mood—specifically the fear induced by the Corona virus. On the basis of investigation of the reaction of global markets to COVID-19 and its after-phases, Ali et al. (2020) concluded that the worldwide wealth deteriorated by almost 30% during the first 100-day period of 2020. They also contended that the Chinese markets were comparatively calmer than those of the US and Europe. Ding et al. (2020) also found that market sentiment during COVID-19 times had an impact on market returns across sectors. Their study was based on daily stock returns in sectors in conjunction with the market mood on firms listed on NASDAQ. Wu et al. (2020), studied the Chinese stock market during the pandemic to see if there were any signs of herding behaviour. They found that it was lesser than normal. This means that during the time of the COVID-19 crisis, Chinese investors had become more wary and sceptical of the financial markets.

A recent detailed literature analysis on the economic and financial effects of natural disasters, nuclear wars, climate change, or a localized disaster was conducted by Goodell (2020). He posed that the pandemic could have a broad influence on the financial sector including the stock market, banking and insurance and emphasised a need for more research in this area. Ndirandu et al. (2014), investigated individual investor behaviour based on sentiments in Kenyan equity market during IPOs. The study pointed out a huge market rush around IPO despite minor listing day gains and bulk of the retail investors were ultra-short-term investors.

The gap in the recent literature is evident. None of the studies has a perspective on the IPOs during the COVID-19 pandemic. The focus was either on the secondary stock market or on investors’ sentiment during the pandemic.

Objectives and Hypotheses

In view of the gap in the available literature, it is imperative to investigate the impact of the COVID-19 pandemic outbreak on underpricing in the Indian IPO market and

how the pandemic influenced the behaviour of Indian investors. The primary objective of this research is to determine the impact of fear of COVID-19 on listing gains or in other words ‘underpricing’, and the reaction of Indian primary equity market investors to the COVID-19 outbreak in terms of retail subscription.

The following two hypotheses are formulated:

- H_1 : There is a significant difference in the extent of IPO underpricing in the Indian Primary Capital Market in post-COVID-19 times in comparison to that of IPOs in pre-COVID-19 times.
- H_2 : There is a significant difference in the subscription levels in the retail category of IPOs in the Indian Primary Capital Market in post-COVID-19 times in comparison to that of IPOs in pre-COVID-19 times.
- H_3 : There exists a significant impact of various variables—issue size, IPO age, type of sale, retail subscription, institutional subscription, return on net worth, lead manager reputation and stock market return.

Data and Research Methodology

The data set chosen for the study is all IPOs in India from April 2013 to March 2021. IPOs prior to 11 March 2020 are considered as pre-COVID-19 IPOs and after this date as post-COVID-19 IPOs, in consonance with the declaration of COVID-19 as a pandemic by the WHO.

Two metrics have been used in the study to assess underpricing of IPOs: first—listing day raw returns; and

second—market adjusted excess returns. Listing day raw returns are determined as the difference of the closing price of the script on the listing day in the secondary market and the issue price divided by the issue price. To provide for market movements between the IPO closing date and the listing date, market adjusted excess returns (MAER₀₁) is used. Listing day raw returns is then compared with the return earned over the contemporaneous period on the market index (Nifty 50 Index). Market adjusted excess returns on listing day are determined by subtracting the market return (as measured by NSE-Nifty 50 Index) from the listing day return.

The main variable of interest, employed in the study is the COVID-19 era: a dummy variable which takes a value of 1, if the IPO was listed during post-COVID-19 times, and 0 otherwise. Along with this, based on previous research, we accounted for control variables which are linked to the degree of underpricing. The control variables identified are: type of sale, issue size, subscription ratio (total, retail and institutional), promoter ownership, return on net worth, market sentiment (Nifty return from closing to listing), IPO age, lead manager’s reputation. Table 1 contains details of the variables.

Analysis of several firm characteristics that were associated with ex ante valuation uncertainty was undertaken. As per Ritter (1991), issues with smaller size face higher information asymmetry than large size IPOs and therefore tend to have higher initial returns. So, issue size has been taken as a control variable and is predicted to have a negative association with underpricing. Issue size refers to the product of the issue price and the total number of shares offered, as specified in the prospectus. Lee et al. (2006), analysed initial

Table 1. Description of Variables

Variables	Description
<i>Dependent variable</i> Underpricing	Listing day raw return: closing price on first trading day on the stock exchange minus offer price, divided by offer price MAER: excess raw return over market returns as measured by Nifty 50 during the contemporaneous period.
<i>Independent variable</i> COVID-19 times	1 if the IPO is listed during COVID-19 times, else 0
<i>Control variables (issue related)</i> Issue size	Proceeds received from issuing new shares (Rupees in millions)
Type of sale	2 for Fresh cum offer for sale, 1 for only offer for sale and 0 for only fresh capital
IPO age	Logarithmic transformation of number of years between year of incorporation and IPO year
Return on net worth	Return on net worth of the firm (for the financial year immediately preceding the issue)
Lead manager reputation	Combined market share of all the lead managers of the issue during the study period
Total subscription ratio	Number of times the issue has been subscribed overall
<i>Market Sentiment</i> Institutional subscription	Number of times the institutional category has been subscribed and is a proxy for market sentiment
Retail subscription	Number of times the retail investor category has been subscribed and is a proxy for investor sentiment.
Market	Market return (Nifty 50) from the issue closing day to the first day of trading

Source: The authors.

return on IPO in Singapore new issues market and found a statistically significant and positive correlation between oversubscription and underpricing. So total subscription ratio, is added to the control variable for the possible effect of over-subscription on underpricing and is expected to have a positive sign. For ex ante valuation uncertainty, firm age has previously served as a popular proxy (Benveniste et al., 2003; Megginson & Weiss, 1991; Ritter, 1984). Older firms show lower levels of underpricing as with a longer track record, more amount of information is available for analysis, thus investors require lower compensation to invest. Log transformations of various variables have been done to reduce variability and to make the data fit for analysis. These modifications have helped in reducing the standard deviation. Return on net worth is a proxy for ex ante valuation uncertainty and is expected to have a negative association with underpricing. Lee et al. (2020) As firms with high return on net worth tend to value their offerings correctly without leaving any money or less money on the table, they exhibit lower underpricing.

Promoter holding, a measure of concentrated ownership has been taken as a control variable. Ownership concentration impacts transparency, resulting in positive underpricing (Booth, 1996). QIB Subscription—the subscription rate for the QIB category in the IPO has been taken as a proxy for market sentiment (Johnston & Madura, 2009). Similarly retail subscription was used as a proxy for investor sentiment. We also included MARKET,—the market return (Nifty 50) during the contemporaneous period and is expected to have a positive sign with underpricing. Carter and Manaster (1990) and Sehgal and Sinha (2013) specify that prestigious underwriters are linked with lower risk offerings and hence lower initial returns are expected from IPOs underwritten by reputed investment banks. Thus, the lead manager's reputation is expected to have a negative sign.

There were 163 companies listed during April 2013–March 2021 in the Indian equity markets (the National Stock Exchange [NSE] and the Bombay Stock Exchange [BSE]). Five firms (missing data and outliers) were removed and the final sample consists of 158 firms. The issue opening and closing dates of IPOs, offer size, listing date, offer price, financial data, stock returns, underwriter's and their market share, promoter holding and the date of incorporation of IPO firms were collected from Prime data base. Subscription rates for institutional investors and retail investors were taken from the websites of NSE and BSE.

As the article aims to investigate how the pandemic impacted IPO underpricing in India, a measure for the extent of underpricing is the initial raw return (IR), which is the return of the stock on the first day of the listing is determined as:

$$IR = (P_i \text{ listing day} - P_i \text{ offer}) / P_i \text{ offer}$$

where P_i offer is the IPO offer price of firm i , and P_i Listing day is the closing price of firm i on the first day of trading (Arthurs et al., 2008). We also used the listing day market

adjusted excess return ($MAER_{01}$) as another proxy for the extent of underpricing:

$$MAER_{it} = \sum_{t=1}^T AR_{it}$$

Where $AR_{it} = R_{it} - R_{mt}$

R_{it} is firm i 's stock return at time t ; and R_{mt} is the market return at time t (return on Nifty). Nifty 50 index values for calculation of MAER were taken from the website of NSE.

Univariate Analyses

We segmented our sample into two separate groups of IPOs to test our hypotheses—whether the IPO was listed during COVID-19 times or pre COVID-19 times and established whether initial returns and market adjusted excess returns have changed significantly during COVID-19 times using the Student's t -test for difference in means.

Multivariate Analyses

We also undertook multivariate analyses (Narain et al., 2016; Nigam & Gupta, 2020) of IRs and MAERs (for underpricing) with the regression equation:

$$\text{UNDERPRICING}_i = \beta_0 + \beta_1 \text{Market return}_i + \beta_2 \text{Issue size}_i + \beta_3 \text{Type of sale}_i + \beta_4 \text{Retail Subscription}_i + \beta_5 \text{Institutional Subscription}_i + \beta_6 \text{Lead Manager's reputation} + \beta_7 \text{RNOW} + \beta_8 \text{Log Age} + \varepsilon_i$$

Results and Analysis

Table 2 and Figure 1 represent the number of firms going public year wise.

Out of a total of 163 IPO's during the study period, 32 firms got listed during COVID-19 times and 131 firms got listed during pre-COVID-19 times as per our sample period. Table 2 shows that it is the second-highest listing in any financial year on the main board. For further analysis, the descriptive statistics of various variables is given in Table 3.

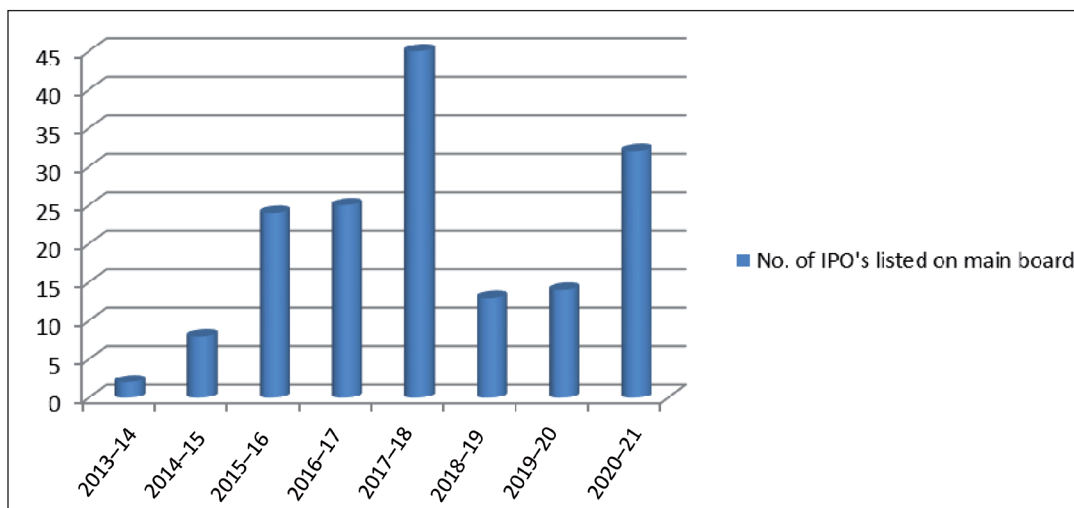
Panel A of the descriptive statistics (Table 3) clearly indicates that there has been on average 16.23% positive initial returns during 2013–2021. The average issue size is ₹12,547 million with an average retail subscription being almost ten times and the average institutional subscription nearly 36 times.

Panel-B of Table 3 shows means of various variables in pre COVID-19 and post COVID-19 times separately. Listing gains increased from 12.74% to 31.24%, that is, almost 2.5 times in pre- and post-COVID-19 times. Issue size on an average increased to ₹15,307 million from ₹11,899 million, thereby increasing almost 30%. The retail subscription levels increased four-fold and the institutional subscription level got doubled in COVID-19 times. Means of RNOW depict that the firms coming with an IPO in post-COVID-19 times have negative returns.

Table 2. Sample Statistic

Number of IPOs in India by Year									
Year	2013–2014	2014–2015	2015–2016	2016–2017	2017–2018	2018–2019	2019–2020	2020–2021	Total
No. of IPOs	2	8	24	25	45	13	14	32	163

Source: The authors.

**Figure 1.** Number of IPOs Listed Year Wise

Source: The authors.

Table 3. Descriptive Statistics

Panel A. Descriptive Statistics of All Variables					
Variable	Observations	Mean	Std Deviation	Min.	Max.
Listing Day gains	158	16.23215	28.29039	-21.58	130.67
MAER ₀₁	158	0.1624588	0.2777112	-0.23301	1.284103
Market return	158	-0.0137274	3.229631	-18.3832	18.21497
Type of sale	158	1.405063	0.723033	0	2
COVID-19 Era	158	0.1898734	0.3934479	0	1
Issue size	158	12546.94	18950.87	230.04	112568.3
Retail subscription	158	9.637025	18.29053	0.03	166.65
Institutional subscription	158	35.59646	47.02507	0.5	192.96
Total subscription	158	36.3607	52.12419	0.32	248.51
Promoter holding	158	75.57117	24.99474	0	100
Lead manager reputation	158	18.10397	12.12963	0	62.61
RNOW	158	18.11032	86.32678	-556.59	868.85
Log age	158	2.896443	0.7053932	0.693147	4.9558

Panel B. Means of all Variables of Subsamples Based on the variable—COVID-19 Times			
COVID-19 Era	Pre COVID-19 Times (0)	Post COVID-19 Times (1)	Total
Listing gain	12.71	31.24	16.23215
MAER ₀₁	0.127406	0.3120	0.16246
Market return	-0.0263	0.0398	-0.0137
Type of sale	1.359375	1.6	1.405063
Issue size	11899.85	15307.84	12546.94
Retail subscription	6.232422	24.16333	9.637025
Institutional subscription	30.04297	59.29133	35.59646
Lead manager reputation	18.33519	17.11745	18.10397
RNOW	23.22047	-3.693	18.11032
Log age	2.86552	3.028383	2.896443

Source: The authors.

Univariate Analyses

Table 4 compares the mean of the different underpricing variables between the two sub-samples—firms with IPO's in pre- and post-COVID-19 times. The test of the mean was performed using Student's *t*-test, while the variance was tested using Levene's test, which showed unequal variance of the two groups.

With the *p*-value of the *t*-test lower than 0.05 for listing day raw returns as well as Market Adjusted Abnormal Returns, we conclude that the difference in means is statistically significantly different from 0. The results indicate that there is a significant increase in mean underpricing subsequent to COVID-19.

Multivariate Analyses

Multiple regression analysis was undertaken, with listing day Raw Returns and Market Adjusted Excess Returns of day 1, as the dependent variable. The models were tested to assure that they were free from multicollinearity, heteroscedasticity and autocorrelation problems amongst the residuals.

Table 5 reports the results of multiple regressions on these variables with the earlier stated independent variables.

Results clearly indicate that Issue size, market return, retail and institutional subscription levels are the variables positively and significantly determining the day 1 returns and lead manager's reputation negatively and significantly impact the underpricing levels.

Listing Day Raw Returns and Market Adjusted Excess Returns are significantly and positively related to Issue size. The larger the issue size, higher is the underpricing. This relationship exists for both the variables measuring underpricing—Raw Returns and MAER₀₁ on listing day, indicating that the large issue size does not help in mitigating information asymmetry level leading to an increased level of underpricing contrary to the findings of Beatty & Ritter (1986) and Ritter (1991). Some earlier studies in the Indian context (Sahoo & Rajib, 2010) have also reported a negative relationship; however, Shah (1995) reported higher underpricing for large-sized issues. Our results for this variable are in line with Shah, (1995)

Table 4. Univariate Tests for Changes in Mean IPO Underpricing

Variable	Pre COVID Times	Post COVID Times	t-Stats (P-value)
Listing day raw returns	12.71	31.24	-2.374 (0.023)**
MAER ₀₁	12.74	31.20	-2.408 (0.022)**

Source: The authors.

Note: P-values have been shown in parenthesis. ** show significant P-values at 5% respectively.

Table 5. Regression of Listing Day Raw Returns and MAER

Variables	Listing Day Raw Returns	t-Statistics (P-value)	MAER ₀₁	t-Statistics (P-value)
(Constant)	10.482	1.609 (0.110)	0.105	1.609 (0.110)
Market return	1.382	3.164 (0.002)***	0.004	0.874 (0.383)
Issue size	1.426E-05	1.734 (0.085)*	1.426E-007	1734 (0.085)*
Type of sale	-0.481	-0.250 (0.803)	-0.005	-0.250 (0.803)
Retail subscription	0.381	4.663 (0.000)***	0.004	4.663 (0.000)***
Institutional subscription	0.414	13.005 (0.000)***	0.004	13.005 (0.000)***
Lead manager reputation	-0.295	-2.311 (.022)**	0.003	-2.311 (.022)**
RNOW	-016	-1.000 (.319)	0.00	-1.000 (0.319)
Log age	-2.800	-1.403 (0.163)	-0.028	-1.403 (0.163)
R ²	0.660		0.647	
Adj. R ²	0.641		0.628	
Number of observations	158		158	
F-statistic	36.077	(0.000)	34.088	(.000)

Source: The authors.

Notes: P-values have been shown in parenthesis.

*, ** and *** show significant p-values at 10%, 5% and 1%, respectively.

The variable—market return also shows a positive and significant relationship with listing day raw returns, in line with the findings of Lee et al. (2020), indicating that the listing day stock price moves in tandem with the market.

The coefficient for institutional subscription as well as retail subscription is positive as expected and significant too and in line with Lee et al. (2006). Retail and Institutional subscription are a positive and significant variable determining listing day gains. This implies that during the study period the market sentiment was positive.

The coefficient for lead managers' reputation is negative and significantly associated. This clearly indicates that reputed lead managers reward their client firms (IPO listing firms) with more appropriate valuation, without leaving any money or less money on the table. This is in line with the results of prior studies Carter and Manaster (1990); and Dorsman et al. (2011).

The coefficient for type of sale (fresh capital or offer for sale or both) is negative and insignificant; indicating that underpricing is less for offer for sale cum fresh capital issues. The coefficient for long age is negative and insignificant for listing day returns (both raw and market adjusted) indicating that IPOs of firms with shorter operating history are associated with higher levels of underpricing. The relationship is as expected and is supported with

prior studies (Benveniste et al., 2003; Megginson & Weiss, 1991; Ritter, 1984).

The variable used for valuation uncertainty (RNOW) is negative though insignificant indicating that firms with higher profitability have lower valuation uncertainty and are therefore less underpriced. This finds support from Lee et al. (2020).

When analysing adjusted R^2 —the explanatory power of the model, we find that it is 0.641 for listing day raw returns and 0.628 for MAER₀₁ indicating that the model explains 64.1% and 62.8% variation in the respective underpricing variables.

While analysing the various variables and their impact, the change in subscription levels during COVID-19 times deserves serious attention. There has been four-fold increase in retail subscription levels from pre-COVID-19 times and institutional subscription levels got doubled post-COVID-19. This can be attributed to over-optimism of the investors during the pandemic. Thus, the variable—retail subscription—becomes a variable of interest.

On further analysing the variable retail subscription levels with Student's t -test, it shows a statistically significant increase during the post-COVID-19 times. The p -value of .007 shows that the difference is statistically significant at 1%. Table 6 shows the results of univariate

Table 6. Test Results

Panel A: Univariate Tests for Changes in Retail Subscription Levels			
Variable	Pre COVID-19 Times	Post COVID-19 Times	t-Stats (P-value)
Retail subscription level	6.2324	24.1633	-2.869 (0.007)***
Panel B. Multivariate Regression with Retail Subscription as Dependent Variable			
Variables	Retail Subscription Level	t-Stat (P-value)	
(Constant)	21.897	3.790 (0.000)	
COVID-19 era	17.116	-2.802 (0.000)***	
Market return	0.028	0.070 (0.944)	
Issue size	9.948E-006	-1.297 (0.197)	
Type of sale	-4.973	-2.802 (0.006)***	
Institutional subscription	0.097	3.382 (0.001)***	
Lead manager reputation	-0.213	-1.817 (0.071)*	
RNOW	0.013	0.867 (0.387)	
Log age	-2.449	-1.333 (0.185)	
R^2	0.303		
Adj. R^2	0.266		
Number of observations	158		
F-statistic	8.094	(0.000)	

Source: The authors.

Notes: P-values have been shown in parenthesis.

* and *** show significant p -values at 10% and 1%, respectively.

analysis (Student's *t*-test) and multivariate regression with retail subscription as a dependent variable. Panel A clearly show the significant difference in means of retail subscription levels between pre-COVID-19 and post-COVID-19 era. This implies that retail investors got highly interested and invested in the Indian primary equity market. Panel B of Table 6 shows the COVID-19 era to be its significant determinant during the study period, alongside the type of sale, institutional subscription levels and lead managers' reputation as significant variables impacting retail subscription.

Events like the global pandemic should have made investors apprehensive rather than enthusiastic, especially the likes of retail investors. But the results of the study suggest otherwise. During the lockdown, people began looking for alternative sources of income as businesses were closed and layoffs were abundant, they had more availability of time at their disposal and therefore large chunk of people contemplated trading in stocks and commodities. This is further supported by the fact that India's unemployment rate reached 23.5% in April 2020, the highest ever recorded (CMIE, 2020).

The year 2020–2021 witnessed the second highest number of IPOs in India. The average issue size increased by almost 30% from pre-COVID-19 times to post-COVID-19 times, indicating that businesses perceived the pandemic and the euphoria for equity as an opportunity to raise money, when investors were overconfident and they milked the market. This is unprecedented given that the economy was weakening and the average amount of capital raised by firms was increasing. Role of the country's monetary policy also needs to be taken into account. RBI announced a cut in repo and reverse repo rates by 40 bps in May 2020 bringing it to 4% and 3.35% respectively. This

action of RBI was to boost the money flow and economic activity in the country (Reserve Bank of India, 2020). Savings account interest rates were reduced by banks to 2.7–3% and similarly the fixed deposit rates were in the range of 5–7%. Thus, anything above this was worth pursuing by a rational investor. With unemployment on increase and low interest rates in the banking system, retail investors started venturing out looking for short-term, money-making propositions and hence targeted new listings on the stock exchanges for abnormal listing gains.

Similarly, the 'Atma Nirbhar Bharat Abhiyan' announced by the Prime minister on 12 May 2020 along with a stimulus package of ₹200 billion gave an impetus to companies to expand their operations and scales. This motivated many companies to tap the market to raise capital during 2020–2021. This demonstrates that companies were recognising investor enthusiasm particularly among retail investors and were much more intentionally and methodically targeting 2021 as the year of IPO in the Indian markets history. This can be further substantiated by comparing the average yearly listing day gains of IPOs with yearly index returns (Figure 2).

The graph in Figure 2 shows that in financial years: 2013–2014, 2014–2015, 2018–2019 and especially 2020–2021, the average listing day gains are lower than the returns Nifty-50 has given to the investors. During the financial year 2020–2021, the period post-COVID-19 emergence, the Index far outperformed the average listing day gains. This proves that an investor would have been better off, had he invested in the index only as compared to his listing day returns from all the IPOs as most of the firms were timing the issue to milk the market. However, during the financial years: 2015–2016, 2016–2017, 2017–2018 and 2019–2020 listing gains far out performed the

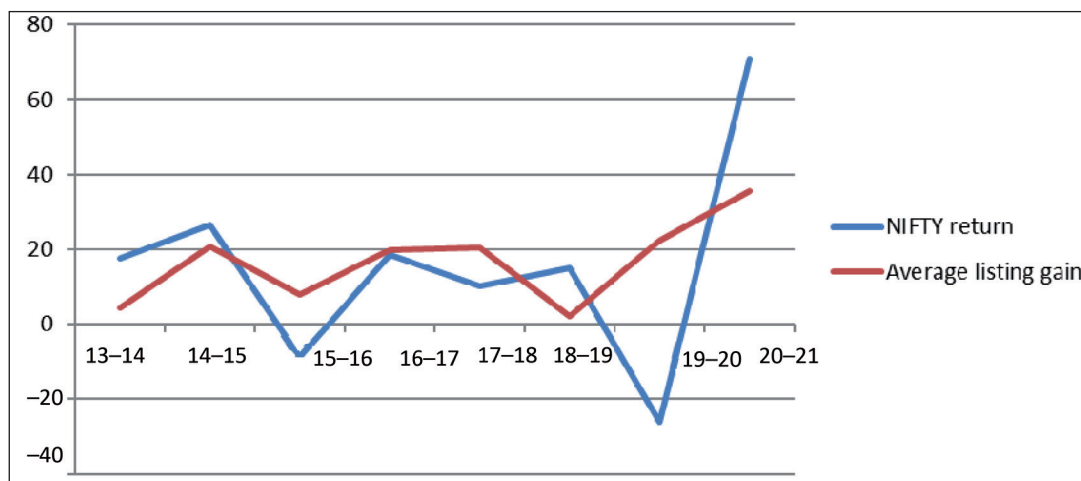


Figure 2. Performance of Nifty Index with Average Listing Day Gains

Source: The authors.

performance of the index itself. Only when this IPO frenzy subsides, can the position of the index with respect to listing gains be properly analysed.

Conclusion

This article is a first-of-its-kind study to examine the impact of the pandemic on equity market practices in India, specifically, the anomaly of underpricing of IPOs. The study of 158 IPO firms getting listed on the main board segment of stock exchanges in India from April 2013 to March 2021 was conducted and analysed using the Student *t*-test and multivariate regression.

The study indicates potent evidence that the pandemic contributed towards an increase in the number of firms getting listed and higher levels of underpricing. The findings suggest that the impact of the pandemic was particularly on the investors' sentiment with a four-fold increase in retail subscription. We opine that in the post-pandemic era, higher than usual listing day gains and larger than usual issue sizes were affected by a radical shift in Indian retail investors' behaviour. At the same time many new companies without strong fundamentals tapped the market amidst the pandemic taking advantage of the market rally and optimistic sentiments. Oversubscription in any category is considered as informed demand expansion and, in this scenario, where young firms with weak fundamentals are getting listed with huge listing gains; it becomes clear that increasing proportion of retail investors are overlooking fundamentals in favour of grey market premium and the short-term urge to earn easy money.

This study serves as baseline research in Indian equity market, which may be evaluated in the future. As the year 2021 closes, the IPO listing data will provide additional evidence for the findings of the study. The analyses offered contains an inherent limit—on an average, the funds applied in IPO remain blocked for almost 6–7 days and meanwhile, if another IPO opens up, many retail investors face a financial crunch and are not able to apply for the other IPOs. However, owing to the non-availability of data, the research does not capture the over-optimism of retail investors in totality.

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ORCID iDs

Madhu Maheshwari (Totla)  <https://orcid.org/0000-0001-9665-097X>

Anil Kumar  <https://orcid.org/0000-0003-3574-3050>

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About the Authors

Madhu Maheshwari (Totla) (madhumaheshwari@sscbsdu.ac.in) is a Research Scholar at Department of

Commerce, Delhi School of Economics, University of Delhi. She is also an Assistant Professor in the Department of Management Studies, Shaheed Sukhdev College of Business Studies, University of Delhi. She has been awarded with 'Best lady candidate of the year 2000' by the Institute of Chartered Accountants of India. She is an associate member of the Institute of Chartered Accountants of India (ICAI) and also of Institute of Company Secretaries of India (ICSI). She has published numerous research papers on contemporary issues in various journals and her area of specialization in research is Performance of IPOs in India.

Anil Kumar (anilkumarsrcc@gmail.com) is a Professor of Corporate Governance at the prestigious Shri Ram College of Commerce, University of Delhi. He is an alumnus of SRCC and Harvard Business School. Dr Kumar has contributed a number of research articles in national and international journals. He has presented his research work at international conferences in India and abroad and has conducted several executive development and training programmes for government officers, corporate executives and directors. He is a leading consultant for higher education and corporate social responsibility (CSR). He founded Vittshalla, launched by the then Union Finance Minister, Mr Arun Jaitley, to spread financial education across every nook and corner of the country. He has over 30 years of experience in teaching, research, training and consultancy.