

LISTING DAY RETURNS OF SELECT NSE-LISTED IPOs IN INDIA WITH RESPECT TO DIFFERENT LISTING DELAYS: AN EMPIRICAL ANALYSIS

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ABSTRACT

Capital formation through the primary capital market is indispensable for the economic development of a nation. New securities in the form of Initial Public Offerings (IPOs) are issued in the primary capital market. Securities issued through IPOs get listed on a recognised stock exchange mandatorily within a stipulated time from the date of issuance. The IPOs are subscribed by the interested investors at the offer price or issue price decided by the merchant bankers as book runner lead managers (BRLMs). After the listing of IPOs, they may display under-pricing or over-pricing on the listing day. Many factors govern the market performance of IPOs. In this context, the current study analyses the first day price performance of IPOs based on the listing delays incorporated in the issue process. The paper also studies the various measures of first day returns, like the average initial return, average MAAR, average annualised initial return, and average annualised MAAR on the basis of the different groups formed on the basis of difference in listing delays for the sample IPOs companies. Such measures of average returns are observed for statistical significance with the application of one-sample t-test. The study ultimately finds the sample IPOs are underpriced when studied on the basis of different categories of listing delays. Listing delays between 8 days to 12 days repeatedly shows higher under-pricing, which is significant. However, IPOs belonging to the group where listing delays are less than 8 days do not show significant under-pricing.

Keywords: Capital Formation, Initial Public Offerings (IPOs), Initial Returns, Market Adjusted Abnormal Returns (MAARs), Under-Pricing, Listingdelay, One-sample t-test.

Introduction

The importance of the IPO market lies in its role in mobilisation of funds, which is essential for capital formation within an economy. Funds move from the surplus units to the deficit units on a constant basis. The surplus income of people can be invested and returns can be earned due to the money mobilisation (Tadesse, 2004). One of the most vital instruments of money mobilisation and corporate expansion is Initial Public Offerings (IPOs) issued by the companies. Only once in the entire life-time of a company, it gets the chance to issue IPOs, when it wishes to become publicly listed (Saha, 2021). The pricing phenomenon of IPOs has become the area of interest for many researchers. Based on the issue price, eventually returns are earned by the investors. Often, it is found that the first day returns, or the initial returns are positive. In such cases, it is said that the IPOs are under-priced. On the contrary, if the opposite happens, when the IPOs generate negative returns on the first day after getting listed, they are called over-priced IPOs. It is difficult to ascertain a single cause for the under-pricing of the IPOs.

Over the years, many factors have been identified by the researchers, which seem to be associated with the issue process and in turn affect the pricing of the IPOs. The changes in the market are depended on many variables. One such variable is the listing delay of the IPOs while getting listed. Usually, there is a considerably big gap between the offer date or the closing date of the offer period of

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the IPOs and the listing day, which influences under-pricing (Shah, 1995). It is possible to determine only through analysis of such IPOs as to whether the IPOs generate positive or negative returns. Listing delay is a pertinent issue having an impact on the positive or negative returns generated by the IPOs. The length of the IPO waiting period depicts the quality of the IPOs on an average. Investors face problems of uncertainty if the waiting period for listing is long (Zanib and Mumtaz, 2022). It is possible to explore only through detailed analysis as to whether such influence is significant or not. In this backdrop, the paper seeks to analyse the different measurements of the first day returns of the sample IPOs considered for the study with respect to the listing delays of the sample IPOs. It is also significant to analyse the average returns considering the varying listing delays of the IPOs companies.

Past Studies and Research Gap

A thorough study of the literature in the area of IPO price performance is done to identify the research gap. Madhusoodanan and Thiripalraju (1997) conducted regression analysis and found that listing delay had no significant impact on the initial performance of the IPOs. Pande and Vaidyanathan (2007) concluded that under-pricing was impacted positively by listing delay. Hedau (2016) studied that quantitative information is extremely useful to a retail individual investor. It helps the retail investor to take a decision regarding subscribing to the IPO. Singh and Shrivastav (2017) studied under-pricing of 152 IPOs in NSE and found that there was a clear occurrence of listing day gain. Gupta and Suresha (2018) studied the relationship between listing delay and under-pricing and found that the relationship was not significant. The market did not take into consideration the listing delay of the IPOs companies. Middi (2018) studied and found that factors such as beta, firm's age, firm's size, IPO process, etc. have proved to be insignificant in affecting under-pricing. Singh and Kalra (2019) explored role of offer size on the stock performance during normal conditions. Shenoy et. al. (2019) concluded that mean age of firms having under-priced IPOs have been found to be more than the mean age of firms having over-priced IPOs. Rahmawati et. al. (2022) found that listing delay had a negative and significant impact on under-pricing. They concluded that a long listing delay has the ability to affect the under-pricing level of an IPO.

The following research gaps are identified based on the literature reviewed for the current study:

- Very few studies have considered procedure related variables for understanding the under-pricing of IPOs;
- None of the studies have done the analysis of average returns with reference to different categories of factors affecting the returns of the IPOs;
- Very few studies have shown the analysis of various measures of the first day returns taken together, on the basis of listing delay for getting the IPOs listed.

Objectives of the Study

The objectives of the current study are as follows:

- To analyse the distribution of the sample IPOs into the various categories of listing delays of the IPOs (*Refer to section 5.1*);
- To explore the average initial returns of the sample IPOs on the basis of listing delays of the IPOs (*Refer to section 5.2*);
- To investigate the average MAARs of the sample IPOs with respect to the listing delays of the IPOs (*Refer to section 5.3*);
- To examine the average annualised initial returns of the sample IPOs based on the listing delays of the IPOs (*Refer to section 5.4*);
- To study the average annualised MAARs of the sample IPOs considering the listing delays of the IPOs (*Refer to section 5.5*);
- To test the statistical significance of the average initial returns, average MAARs, average annualised initial returns, average annualised MAARs with respect to the listing delays of the IPOs (*Refer to section 5.6*).

Data and Research Methods

• Data

The study is exploratory in nature and is based on secondary data. The data is collected from the website of the National Stock Exchange, the SEBI website and some data is referred from the websites of the respective companies. For planning the research methodology, a detailed study of the existing literature on this area is done. Required statistical tools are applied to test the statistical significance of the results.

- **Sample design**

Total 224 IPOs are considered as the sample of the study. The IPOs, which got listed on the National Stock Exchange (NSE) in India, are considered for the current study during 1st April, 2000 to 31st March, 2017. However, only the listing-day based performance of the IPOs are explored here. The sample is selected based on judgment sampling considering following parameters:

- Companies, which issued Follow-on Public Offerings (FPOs) are not considered;
- Companies, which have entered the market only through offer-for-sale are not considered;
- Companies, which are no longer listed on NSE website are not considered;
- Companies, having insufficient data or non-availability of data are not considered;
- Companies, which do not have continuous trading data for 3 years from the date of listing are not considered.
- **Listing Delay**

The study is based on the distinctive measures of returns earned by the sample IPOs, grouped adopting the listing delay. The listing delay is the gap between the last day of the offer period of issues and the day of listing. During this period, a lot of changes may take place in the market, which is influential to the performance of the IPOs. Over time, the regulations relating to the listing delay has changed. Therefore, the gap also is varying among the various IPOs. Five groups have been made in the current study. As per the SEBI (ICDR) Regulations, 2018, listing of securities needs to be done within 6 working days from the closure of the bidding period.

- **Statistical Tools and Package used**

Measures	Computation
Initial return	$(P_1 - P_0) \div P_0 \times 100$; where P_1 represents the closing price of the IPO as on listing day and P_0 denotes the offer price
Market Adjusted Abnormal Return (MAAR)	$[(P_1 - P_0) \div P_0 - (M_1 - M_0) \div M_0] \times 100$; where M_1 represents the closing NIFTY 50 as on listing day and M_0 signifies the closing NIFTY 50 on the last day of the offer period
Annualised return	$(\text{Initial Return} \times 365) \div \text{Number of days it took for listing}$
Annualised MAAR	$(\text{MAAR} \times 365) \div \text{Number of days it took for listing}$
One-sample t-test	One-sample t-test is adopted to test the statistical significance of the average returns under every category under each parameter considering a 5% level of significance.
Package used	MS Excel 2016 and SPSS 21 are applied.

Results and Analysis

This section aims to see whether the different listing delays have an impact on the average returns earned by the IPOs.

- **Analysing the distribution of the sample IPOs into the various categories of listing delays of IPOs**

The sample companies are divided into five groups. These groups are mentioned in the table as under:

Table 1: Sample size of companies segregated based on the listing delays of the IPOs companies

No.	Categories	Sample Size
1.	No. of companies having listing delays less than or equal to 8 days	10
2.	No. of companies having listing delays greater than 8 and less than or equal to 12 days	18
3.	No. of companies having listing delays greater than 12 and less than or equal to 16 days	46
4.	No. of companies having listing delays greater than 16 and less than or equal to 20 days	71
5.	No. of companies having listing delays greater than 20 days	79
	Total	224

Source: Compilation of secondary data using MS Excel 2016

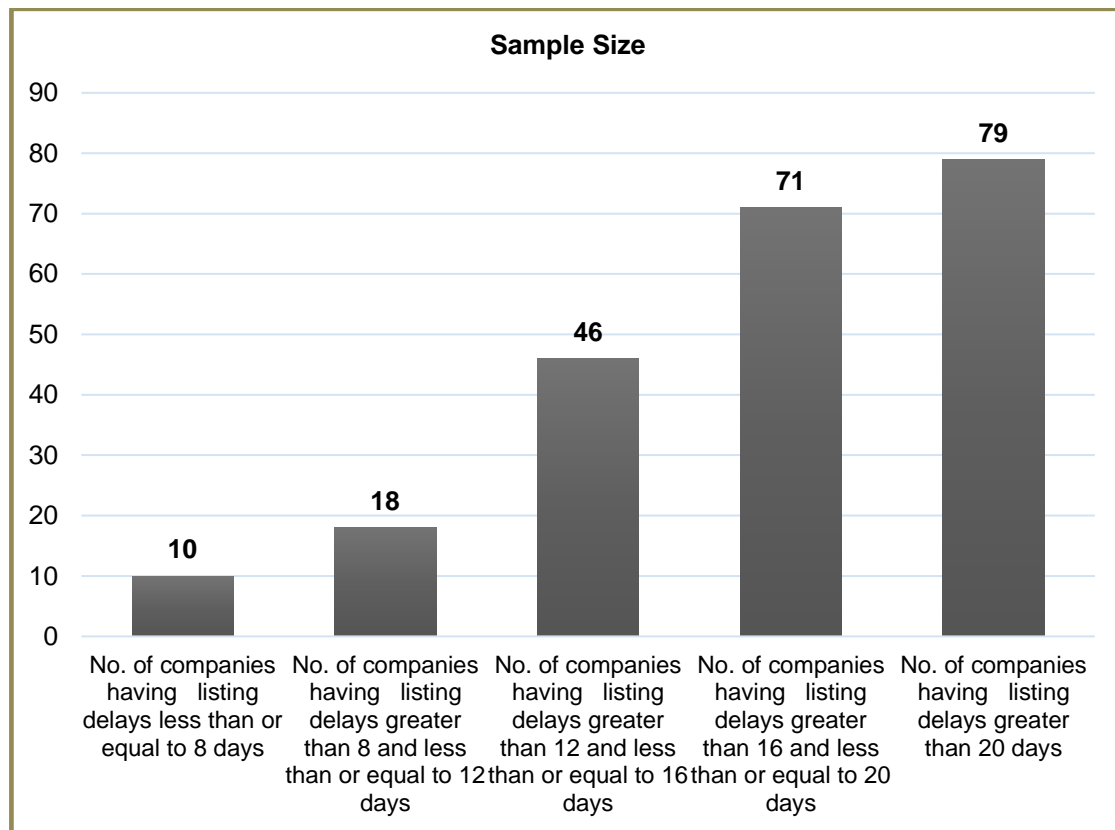


Figure 1

Source: Based on Table 1

Findings

Table 1 and Figure 1 portray that a number of companies have more listing delays. The highest number of companies has listing delays greater than 20 days, followed by listing delays between 16 days and 20 days. The least number of companies are in the bracket where listing delays is less than or equal to 8 days.

- **Exploring the average initial returns of the sample IPOs from each of the categories of the listing delays of the IPOs companies**

In this segment, the average initial returns are computed for each of the sub-divisions of the listing delays-based group, from which the sample IPOs belong.

Table 2: Average initial returns on the basis of listing delays of the IPOs companies

No.	Categories	Sample Size	Average Initial Returns
1.	Initial returns for companies having listing delays less than or equal to 8 days	10	9.78%
2.	Initial returns for companies having listing delays greater than 8 and less than or equal to 12 days	18	18.02%
3.	Initial returns for companies having listing delays greater than 12 and less than or equal to 16 days	46	14.45%
4.	Initial returns for companies having listing delays greater than 16 and less than or equal to 20 days	71	17.20%
5.	Initial returns for companies having listing delays greater than 20 days	79	28.41%

Source: Compilation of secondary data using MS Excel 2016

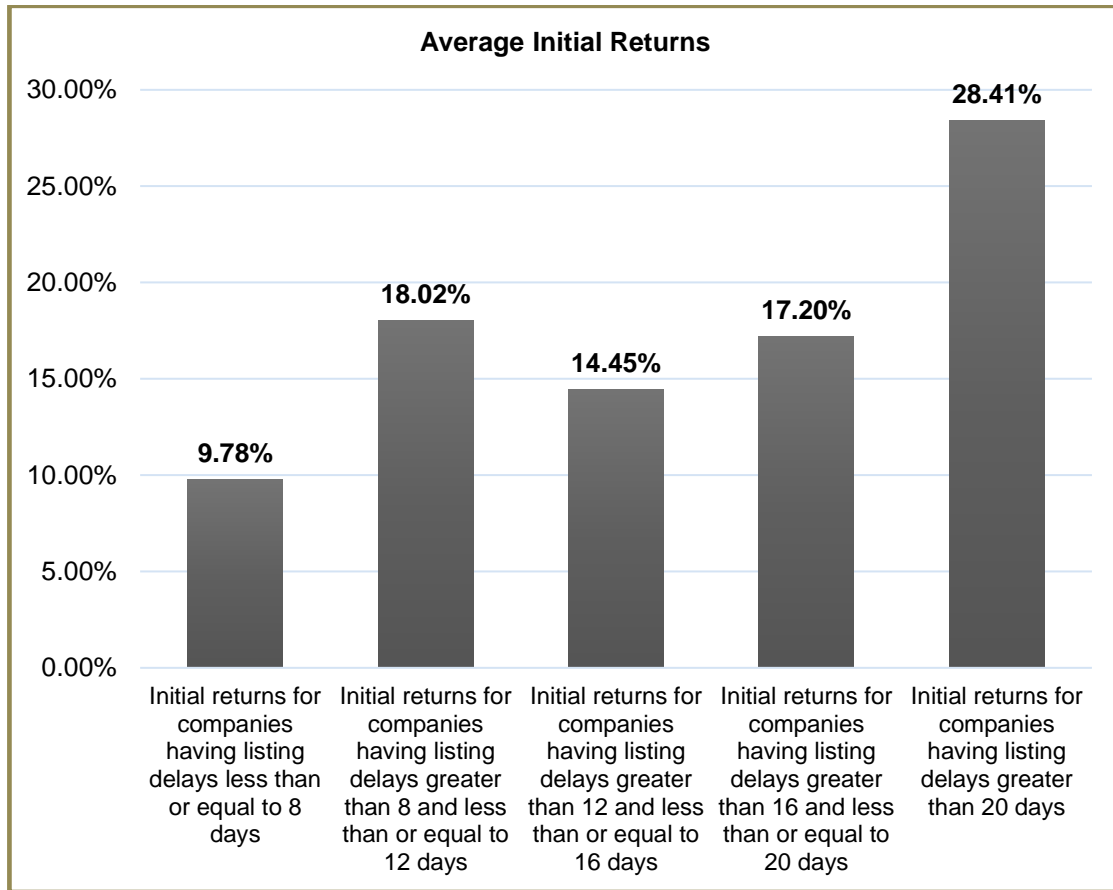


Figure 2

Findings

It is clear that the average initial returns are maximum for the companies having listing delays of more than 20 days. The second highest average initial returns are for those companies, which have listing delays between 8 days and 12 days. However, the average initial returns are within the range of 9% and 29%.

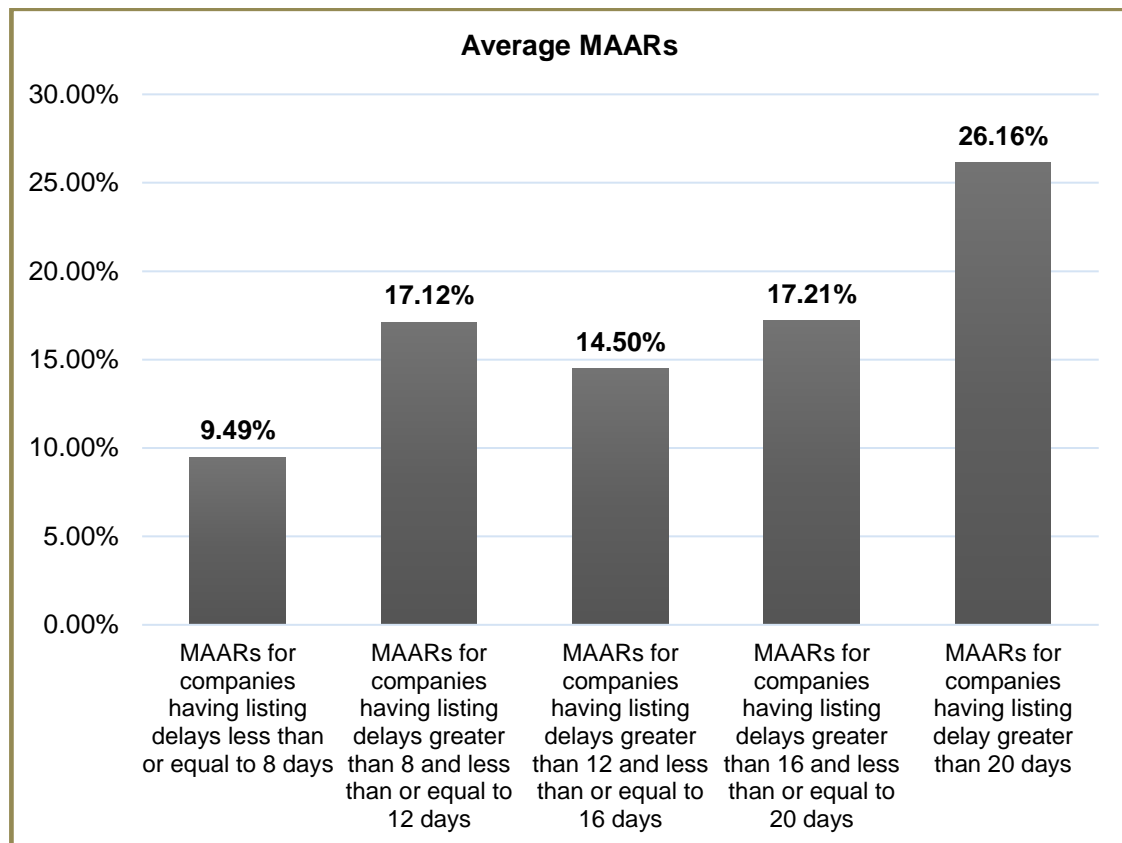
- **Investigating the average Market Adjusted Abnormal Returns (MAARs) of the sample IPOs from each of the categories of the listing delays of the IPOs companies**

The average MAARs are determined for the sample IPOs based on the categorical division of the IPOs depending on listing delays while issuing IPOs.

Table 3: Average MAARs on the basis of listing delays of the IPOs companies

No.	Categories	Sample Size	Average MAARs
1.	MAARs for companies having listing delays less than or equal to 8 days	10	9.49%
2.	MAARs for companies having listing delays greater than 8 and less than or equal to 12 days	18	17.12%
3.	MAARs for companies having listing delays greater than 12 and less than or equal to 16 days	46	14.50 %
4.	MAARs for companies having listing delays greater than 16 and less than or equal to 20 days	71	17.21%
5.	MAARs for companies having listing delay greater than 20 days	79	26.16%

Source: Compilation of secondary data using MS Excel 2016

**Figure 3**

Source: Based on Table 3

Findings

Similar to the average initial returns, it is observed that the average MAARs are highest for the fifth category, when the listing delays is more than 20 days followed by the listing delays between 8 days and 12 days. The average MAARs represent the initial returns adjusted for the market changes. The lowest average MAAR is for listing delays less than or equal to 8 days at almost 9.5%.

- **Examining the average annualised initial returns of the sample IPOs from each of the categories of listing delays of the IPOs companies**

The average annualised initial returns are explored for each of the categories of listing delays of the IPOs companies at the time of issuing IPOs, from which the sample IPOs belong.

Table 4 : Average annualised initial returns on the basis of listing delays of the IPOs companies

No.	Categories	Sample Size	Average Annualised Initial Returns
1.	Annualised initial returns for companies with listing delays less than or equal to 8 days	10	506.34%
2.	Annualised initial returns for companies with listing delays greater than 8 and less than or equal to 12 days	18	622.41%
3.	Annualised initial returns for companies with listing delays greater than 12 and less than or equal to 16 days	46	378.63%
4.	Annualised initial returns for companies with listing delays greater than 16 and less than or equal to 20 days	71	327.40%
5.	Annualised initial returns for companies with listing delays greater than 20 days	79	423.42%

Source: Compilation of secondary data using MS Excel 2016

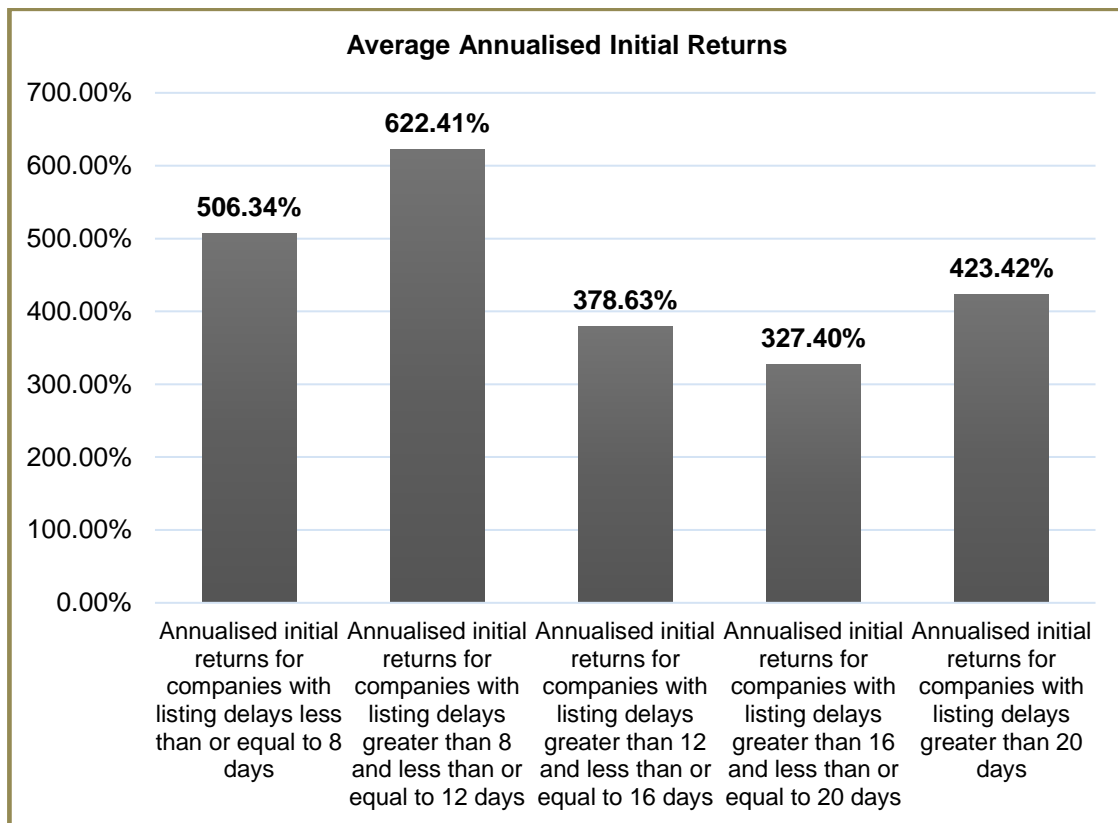


Figure 4

Source: Based on Table 4

Findings

The average annualised initial returns stand for the initial returns adjusted for listing delays. The average annualised initial returns earned are analysed based on listing delays. The maximum average annualised initial returns are for listing delays between 8 days and 16 days, followed by the listing delays less than or equal to 8 days. This result is not similar to the previous two results of average initial returns and average MAARs.

- **Studying the average annualised MAARs of the sample IPOs from each of the categories of listing delays of the IPOs companies**

Lastly, the average annualised MAARs are examined for the sample IPOs, from each of the listing delays-based categories.

Table 5: Average annualised initial returns on the basis of listing delays of the IPOs companies

No.	Categories	Sample Size	Average Annualised MAARs
1.	Annualised MAARs for companies with listing delays less than or equal to 8 days	10	489.19%
2.	Annualised MAARs for companies with listing delays greater than 8 and less than or equal to 12 days	18	593.16%
3.	Annualised MAARs for companies with listing delays greater than 12 and less than or equal to 16 days	46	379.16%
4.	Annualised MAARs for companies with listing delays greater than 16 and less than or equal to 20 days	71	329.82%
5.	Annualised MAARs for companies with listing delays greater than 20 days	79	414.09%

Source: Compilation of secondary data using MS Excel 2016

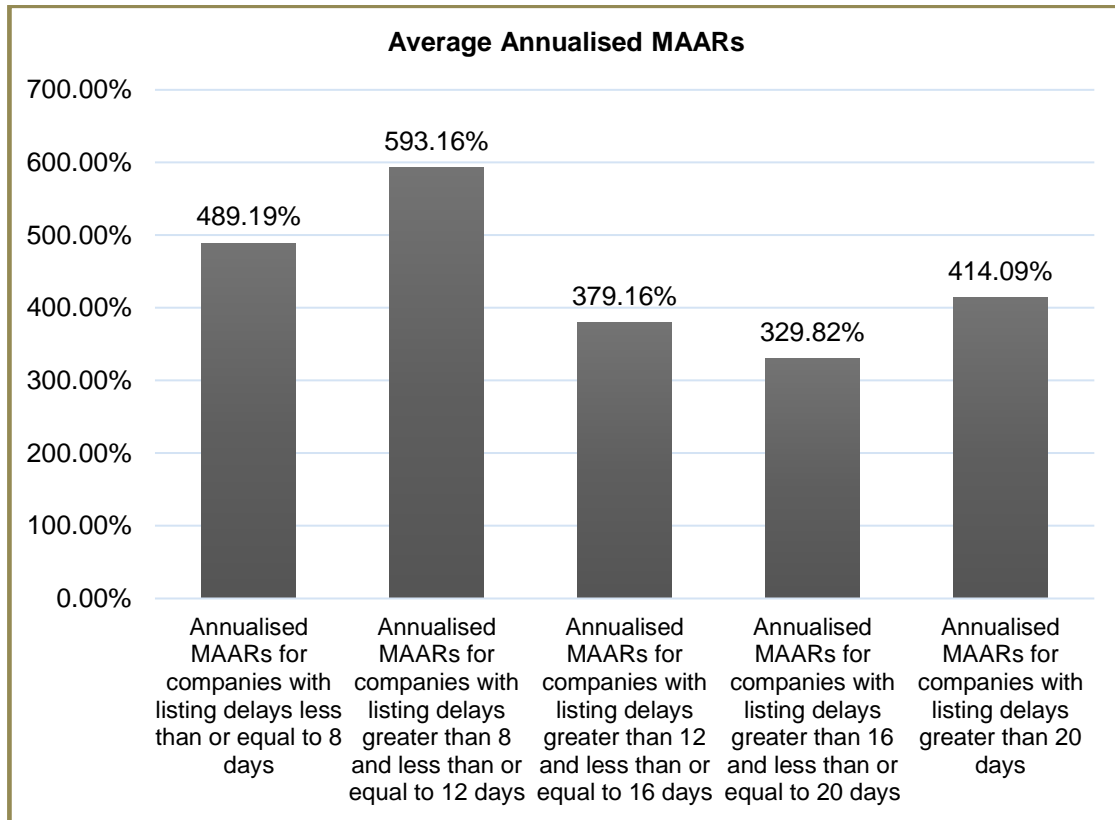


Figure 5

Source: Based on Table 5

Findings

The average annualised MAARs portray similar results as the average annualised initial returns. The topmost average MAARs are for the companies having listing delays between 8 days and 12 days, followed by the companies having listing delays less than or equal to 8 days. Only by application of one-sample t-test, the statistical significance of the average annualised MAARs will be deduced.

- **Testing the statistical significance of the average initial returns, average MAARs, average annualised initial returns, average annualised MAARs of each category of the listingdelays- based IPO groups**

Under this section, the four measures of average returns considered are tested for statistical significance using one-sample t-test.

Table 6: Results of One-Sample t-test of average initial returns

Categories	Average Initial Returns for 1 st Day (in %)	Statistic	P-Value	Decision Rule (At 5% level of significance)	Decision on H ₀ (H ₀ : The average initial returns as on 1 st Day after listing is equal to 0)
Initial returns for companies having listing delays less than or equal to 8 days	9.78%	1.576	0.149	P-Value > 0.05	Accepted
Initial returns for companies having listing delays greater than 8 and less than or equal to 12 days	18.02%	2.497	0.023	P-Value < 0.05	Rejected

Initial returns for companies having listing delays greater than 12 and less than or equal to 16 days	14.45%	3.133	0.003	P-Value < 0.05	Rejected
Initial returns for companies having listing delays greater than 16 and less than or equal to 20 days	17.20%	4.827	0.000	P-Value < 0.05	Rejected
Initial returns for companies having listing delays greater than 20 days	28.41%	4.828	0.000	P-Value < 0.05	Rejected

Source: Compilation of secondary data using SPSS 21.0

Findings

Table 6 shows that the null hypothesis cannot be accepted at 5% level of significance for all the categories except the first category. This means that the average initial returns as on 1st Day after listing of IPOs are significantly different from 0 for all the categories except first category. It is observed that the average initial returns were highest for companies with a listing delays greater than 20 days. The one-sample t-test shows the result that the average initial returns of 28.41% is statistically significant implying that there is proof of under-pricing for all the average initial returns under all the categories apart from the first category.

Table 7: Results of One-Sample t-test of average MAARs

Categories	Average MAARs for 1 st Day (in %)	Statistic	P-Value	Decision Rule (At 5% level of significance)	Decision on H ₀ (H ₀ : <i>The average MAARs as on 1st Day after listing is equal to 0</i>)
MAARs for companies having listing delays less than or equal to 8 days	9.49%	1.529	0.161	P-Value > 0.05	Accepted
MAARs for companies having listing delays greater than 8 and less than or equal to 12 days	17.12%	2.371	0.030	P-Value < 0.05	Rejected
MAARs for companies having listing delays greater than 12 and less than or equal to 16 days	14.50 %	3.173	0.003	P-Value < 0.05	Rejected
MAARs for companies having listing delays greater than 16 and less than or equal to 20 days	17.21%	4.589	0.000	P-Value < 0.05	Rejected
MAARs for companies having listing delays greater than 20 days	26.16%	4.655	0.000	P-Value < 0.05	Rejected

Source: Compilation of secondary data using SPSS 21.0

Findings

It is evident (refer to Table 7) that the null hypothesis is rejected at 5% level of significance for all the categories except the first category. This means that the average MAARs as on 1st Day after listing of IPOs is significantly different from 0 for all the categories except first category. Apart from the first category, the average MAARs for all other category show under-pricing. The results are at par with the one-sample t-test for average initial returns.

Table 8: Results of One-Sample t-test of average annualised initial returns

Categories	Average annualised initial returns for 1 st Day (in %)	Statistic	P-Value	Decision Rule (At 5% level of significance)	Decision on H ₀ (H ₀ : The average annualised initial returns as on 1 st Day after listing is equal to 0)
Annualised initial returns for companies with listing delays less than or equal to 8 days	506.34%	1.585	0.147	P-Value > 0.05	Accepted
Annualised initial returns for companies with listing delays greater than 8 days and less than or equal to 12 days	622.41%	2.594	0.019	P-Value < 0.05	Rejected
Annualised initial returns for companies with listing delays greater than 12 days and less than or equal to 16 days	378.63%	3.156	0.003	P-Value < 0.05	Rejected
Annualised initial returns for companies with listing delays greater than 16 days and less than or equal to 20 days	327.40%	4.779	0.000	P-Value < 0.05	Rejected
Annualised initial returns for companies with listing delays greater than 20 days	423.42%	5.643	0.000	P-Value < 0.05	Rejected

Source: Compilation of secondary data using SPSS 21.0

Findings

The results (refer to table 8) portray that the null hypothesis is not accepted at 5% level of significance for all the categories except the first category entailing that the average annualised initial returns as on 1st Day after listing of IPOs is significantly dissimilar from 0 for all the categories except first category. It is interesting to note that the average annualised initial returns of the first category are the second highest, and it is not statistically significant. However, the maximum average annualised initial return pertaining to the second category for companies having listing delays greater than 8 days and less than or equal to 12 days have statistically significant result.

Table 9: Results of One-Sample t-test of average annualised MAARs

Categories	Average annualised MAARs for 1 st Day (in %)	Statistic	P-Value	Decision Rule (At 5% level of significance)	Decision on H ₀ (H ₀ : The average annualised MAARs as on 1 st Day after listing is equal to 0)
Annualised MAARs for companies with listing delays less than or equal to 8 days	489.19%	1.555	0.154	P-Value > 0.05	Accepted
Annualised MAARs for companies with listing delays greater than 8 days and less than or equal to 12 days	593.16%	2.479	0.024	P-Value < 0.05	Rejected

Annualised MAARs for companies with listing delays greater than 12 days and less than or equal to 16 days	379.16%	3.181	0.003	P-Value < 0.05	Rejected
Annualised MAARs for companies with listing delays greater than 16 days and less than or equal to 20 days	329.82%	4.584	0.000	P-Value < 0.05	Rejected
Annualised MAARs for companies with listing delays greater than 20 days	414.09%	5.619	0.000	P-Value < 0.05	Rejected

Source: Compilation of secondary data using SPSS 21.0

Findings

It is seen that the null hypothesis is not accepted at 5% level of significance for all the categories except the first category, which exhibits that the mean MAARs as on 1st Day after listing of IPOs is significantly dissimilar from 0 for all the categories except first category. The results are at par with the previous analysis pertaining to average annualised initial returns. The highest average annualised MAARs are statistically significant when the listing delays are greater than 8 days and less than or equal to 12 days have statistically significant result.

Conclusion

It is apparent that the number of companies under each such group increases as the listing delay increases for the select IPOs. The maximum number of companies (i.e. 79 IPOs companies) has listing delay for more than 20 days. Companies having the highest average initial return of 28.41% belong to the category, where listing delay is more than 20 days. The second highest average return is of the group, where listing delay is between 8 days and 12 days. The average initial returns do not increase as the listing delay increases. Thus, it can be stated that the under-pricing exists for four groups of IPOs companies and they are statistically significant. Only the first group, where listing delay is less than 8 days, the under-pricing is not statistically significant. A similar result is also seen based on average MAARs, where the highest average return is 26.26% for the IPOs from the last category, where listing delay is more than 20 days. It is clear that all the average MAARs portray under-pricing. Ultimately, the average annualised MAARs are highest for the second category where listing delay is between 8 days and 12 days. The first category IPOs returns are not significant. All the other groups show under-pricing and such under-pricing is significant. The study concludes that there is in existence of significant under-pricing among the select IPOs based on listing delay. There might be positive or negative returns beyond the listing day, which may be confirmed based on further analysis. The sample IPOs having optimistic returns on the listing day, may continue or discontinue in making positive returns in the short-run or long-run period.

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