Tuijin Jishu/Journal of Propulsion Technology
ISSN: 1001-4055
Vol. 44 No. 4 (2023)

An Empirical Study on the performance of Short-Run and Long-Run returns of IPOs in India for the Period 2018-2020

[1]Rachana Singh, [2]Vinayak Bhavsar, [3]Dr Shubhra Aanand, [4]Dr Mahima Singh, [5]Dr. Madhu Arora, [6]Dr. Sumit Roy

[1][2][5] Senior Assistant Professor, Balaji Institute of Modern Management, Sri Balaji University Pune, rachana.singh@bimmpune.edu.in
[3]Professor, Balaji Institute of Modern Management, Sri Balaji University Pune
[4]Assistant Professor, Pratibha Institute of Business Management Pune
[6]Associate Professor, Balaji Institute of Modern Management, Sri Balaji University Pune

Abstract: In this paper, researchers have analysed the short-run and Long - Run Performance of the firms that issued shares to the public for the first time and which are listed in BSE and /or NSE from 2018 - 2020. For analysing short-run performance, the weighted average returns of First Day Return, First Week Return and First Month Return are considered. Research is done for the First and Third Year returns for long-run performance. It was found that IPO Underpricing has a great impact on short as well as long-run performance. Through analysis, the researcher found that the contribution of underpricing is significant on the first day, and then it declines for about 1 month and gets normalised thereafter. Here we find that the Contribution of underpricing goes up for 1 year and 3 years. It rejects many researchers' strong hypothesis that Underpricing contributes more to short-term performance than long-term performance. It is found that the 1st Day average return on is 15.63% ranging from -54.46% to 130.67 with a standard deviation of 36.2 %. The study has observed that the 3rd year average return of 123.52 % is the highest among all the 5 periods considered.

Key Words: IPO, Underpricing, Initial Public Offering, Short-term Performance, Long Term Performance, ANOVA, LEVENE

1. Introduction

IPO means the Initial Public offering when the Company goes first time to the general public for capital by issuing shares.

India is the fastest-growing economy and capital market performance is the key indicator of growth. Although India is the hub of medium and small enterprises, the total number of companies listed on the stock exchange is very low if matched to the total number of firms in the economy. The most popular source of funding in Indian companies is lending from the banking and non-banking sectors. The majority of the firm rely more on the debt component rather than the equity component of funding The importance and the pivotal role that the capital market environment plays, needs no emphasis. But the fact is that in India Capital Market is growing through a very submissive phase.

The IPO helps companies generate capital for growth and expansions and provides an easy departure route for the Investors as they can sell their shares anytime in the market and get their money back. For an IPO to be successful the companies need to have strong fundamentals and the potential to earn profit to create interest amongst investors.

2. Review of Literature

Ritter, J. R., & Welch, I. (2002). A review of IPO activity, pricing, and allocations. The Journal of Finance, 57(4), 1795-1828. analyse 6249 IPOs issued by the companies from the United States during the period from 1980 to 2001. They analyzed the IPO activity, pricing and allocation and IPO underpricing and underperformance. They used the technique of money left on the table and found the 18.8% average initial return. They again stated that 70% of IPOs were underpriced on the listing day whereas the 16% IPOs yield zero return on the first trading day. Researchers also analysed long-run performance for three years on the basis of buy-and-hold returns. 3-year average returns came out to be negative i.e. -23.4%.

(Schuster, 2003)" An empirical analysis of European IPO markets". PQDT-UK & Ireland. They analysed 973 IPOs from six Continental European Countries and Sweden during the period 1988 and 1998 and found that there is a significant underpricing and autocorrelation in IPO underpricing and activities. While analysing the short-run performance of IPOs for 11 years they found that it has outperformed the market but they could not find the long-run performance of the IPO in this study.

(Sehgal & Singh, n.d.) examined the causes of short-run underpricing and the effect of IPO mispricing on an investment bank for 432 IPO issues from April 2001 to Dec. 2011. They have found 5 variables positively and 4 variables negatively affected an IPO's initial return he has also found that underpricing of IPO negatively impacted the reputation of investment bankers in the next report.

(Jampala et al., 2016) IPO study on the BSE, India during the year 2007 to 2013. It was observed that there was an existence of underpricing on the first trading day. Nevertheless, the study has noted that Compared to earlier research, the listing gain has dramatically decreased. It was discovered that the issue factors affect first public offerings. It has been noted that the share's face value and the degree of over-subscription significantly impact how IPOs perform on the listing day. After three years from listing, IPOs are still common.

(Ganesamoorthy et al., 2014) during 2001 to 2010 for the first-day return of the IPO. They used Average Abnormal Return (AAR) and Cumulative Average Abnormal Return (CAAR) to analyse the IPO performance. They concluded that 109 IPOs had given negative returns. And also stated that the set of companies that had negative returns on the Opening Day severely underperformed than number of IPOs that had Positive returns on the Listing Day.

(Krigman et al., 1999) found that the initial day's performance offers short-term period returns. For example, companies that did better in the first few days would have higher returns in the first three months, whereas stocks that underperformed in the first three days would have lower returns. However, long-term results for the equities that offered extraordinary profits on the first day would be disastrous. According to him, the organization's fair worth often decreases as a result of the flipping activity. Any organization that engaged in flipping activity has underperformed the firm with less flipping activity in terms of return.

(K.C. John , 2010) has examined the performance of IPOs issued from 2004 to 2008 for both short & long-term returns. They concluded that excluding the fall of 2008 in the stock market the average return was 30% in long-run analysis. The short-term performance of the IPO was 24.41% on the Listing Day. They also examined that on the 2nd day of listing, returns were more than the first day. The average return for 2nd day is 32.67.

(Bhatia & Singh, 2012) evaluated 648 IPOs issued on the BSE in the course of the year 1992 to March 2002 over 60 months after listing for performance analysis they used CAR and BHAR. The result indicated CAR of 116.87 Percent and BHAR of 109.83%. They also state that Indian IPO proves very high abnormal raw return in the Long -Term. They also examined the aftermarket performance based on initial return, size, issue price, age, year of issue, industry and subscription. They used multiple regression analysis for determinants that can impact the returns of IPO and it was observed that the First Day return, Market index return and Issue Price influence the performance of IPO.

(HarshinyS & Pusa, n.d.) (2022). In this work, they examined the first-day performance of 121 IPOs that issued shares to the general people from 2018-2021 and were listed on NSE. They analysed the average market returns and the Market-adjusted Abnormal returns. The findings of the Market Adjusted Abnormal Return for the years 2018-2021 are not zero. A maximum number of initial offerings of shares (IPOs) were issued in the chemicals petrochemicals and financial sectors. This work is limited only for short term

(Malhotra & Nair, 2015) In the study on Initial public offerings' underpricing: the researcher analysed the short-term returns of IPOs issued through the Book Built Process. They analysed 288 book-build IPOs issued in India from 2004 to 2010. They used a model for the analysis of all short-term performance of IPOs. The results show 22.44% of issues were underpriced during the study 81 period. They also concluded that in India underpricing might be because of the ownership structure of the firm which leads to large block holding or because of investors' reactions.

(Mishra, 2010) attempts to examine the underpricing of all the IPOs which was NSE/BSE listed from April 1997 to March 2008. They try to examine the impact of (BB)Book building and (FP) fixed price approach on the IPO underpricing. Their empirical findings show that 14.45% underpricing is seen on the Listing gain. The

IPO Listing Gain under the Book-Built and fixed price methods are 14.79% and 15.82% respectively based on their empirical findings it is found that there is no major impact on the pricing under both the above price method.

(Madhusoodanan & Thiripalraju, 1997) stated that IPO underpricing in India is more than in other countries. They analysed from 1992-1995 all the companies that came for the First time public issue and were BSE listed. The investor can get excellent returns over a short period. They found an overall raw return of 75.21% on the listing day. They also analyse such IPOs based on premium, size, merchant bankers, listing delay and allotment procedure. They state that listing delay has no relation with the Underpricing of the IPO but the general market condition has an affirmative relationship with the Underpricing.

(Bansal & Khanna, n.d.) (2012) have analysed 550 Indian IPOs that are BSE listed from 2000- 2011. The study suggests the empirical model for underpricing. They measured the Underpricing and the impact of different factors on underpricing. They had taken ownership structure, several shares offered pricing mechanism, age of firm and offer timing as an independent variable and asses under multiple regression model. They found 50% average underpricing in this study. They also stated that there is a +ve impact of ex-ante and IPO underpricing, whereas firm age and year of IPOs have no statistically significant relationship over a level of underpricing. They also claim that their results are very much consistent with the developed and emerging markets. They also suggest to the investors that they should buy the securities on First Day and sell it on the same day so that they can earn handsome returns over a short period.

(Kumar, 2007) measured 156 IPOs for short and long-run performance under book building method. For that purpose, they had taken the book building IPOs from NSE which is listed from 1999 to 2007 in India. The study reveals a 26.35% average listing day return generated by the Indian book-building IPOs. They also measured long-run performance based on offer price as well as after-market performance for different intervals of 60 months. The study shows an 18.4% average first-day return. Based on the empirical study, they concluded short-run underpricing is decreased as compared to the earlier studies because of the introduction of the book-built method by SEBI.

(Murthy & Singh, 2014) studied the sample of 89 IPOs which are floated under NSE from 2006 to 2009 in India. They measured short-run 83 performances for 30 days. They used a logistic regression Model. They conclude and remark that the Indian IPOs that performed well on the first day are not able to maintain such performance in a short period of 30 days after listing.

(Ramesh & Dhume, 2015) evaluated the sample of 150 IPOs, NSE Listed from 2007-2011. In this study, they have measured the short-term and long-term performance of Indian IPOs. They have taken 1st day return, 1, 3, and 6 months returns as short-run performance measured. Whereas for long-run performance analysis 1, 2 and 3 years after listing day are considered. They found 240.96% raw return on listing day and -36.81% negative returns over 3 years after listing. At last, they concluded that the overpricing existed. And the extent of overpricing in the long run is more preventable in India.

(Sahoo & Rajib, 2010) are motivated by the underpricing phenomenon internationally and analyse a total of 92 companies that came up with IPOs over the period 2002 to 2006. They measure the IPO performance for the Short and Long run. For the long run, 36 months was considered. Underpricing of the IPO is 46.55% on the Listing Day. By using the wealth relative and BHAR method for the performance of IPOs, their study indicates that in the initial year of trading, the IPOs were underperformed whereas after the 12 months of listing day, IPOs over-performing. The evaluation also explains the underpricing and underperformance. They suggest that Average, Activity Period, Issue Size and Ex Ante Uncertainty are reasons for the Long run underperformance.

We analyse the long-run performance of 254 Greek IPOs that were listed during the period 1994–2002, computing buy-and-hold abnormal returns (BHAR) and cumulative abnormal returns (CAR) over 36 months of secondary market performance. The empirical results differ from international evidence and reveal long-term overperformance that continues for a substantial interval after listing. Measuring these returns in calendar time, we find statistical significance with several of the benchmarks employed. We also find that long-term overperformance is a feature of the mass of IPOs conducted during a pronounced IPO wave. Results associated with pricing during the ‘hot IPO period’ indicate positive short- (1-year), medium- (2-year) and negative long-term (3-year) performance.

3. Problem Statement

There is a large gamut of literature highlighting the short-term performances of the phenomenon of IPOs. There is enough research focused on price discovery in the IPO market. In India, many researchers have studied the pricing and underwriter role in IPO Issues.

This research is an effort to study the Short and Long-term IPO performances and the impact of underpricing on the performances.

The Literature Review proves that in comparison to other countries, the study on IPO has not been done enough on the Indian Market underpricing, although underpricing has a great impact on IPO Performance.

The present study is basically to fill this gap where we are doing empirical analysis of IPO data for the period 2018-2020 for 3 years on the IPO, short- term and *long-term performances*.

4. Objectives of the Study

1. To evaluate the Short Run Performance of IPOs listed in BSE/NSE for the specified Period.
2. To evaluate the Long Run Performance of IPOs listed in BSE/NSE for the specified Period.
3. To assess the underpricing and its impact on the short-run and long-run performance of IPO for the specified period.

5. Research Methodology

Data Collection

The market data is the foundation of our investigation. The list of IPOs, the daily share price, and information on the BSE Sensex market index are sourced from the websites of BSE and NSE India.

Sample Selection

The census provides the basis for this analysis. IPO population refers to all companies that have been taken into account that meet the criteria below and have issued initial public offerings (IPOs) between January 1, 2018, and December 31, 2020, and are listed on BSE and/or the National Stock Exchange (NSE): -

The below conditions have been considered: -

- Mainboard (excluding SME)
- Issue size 25 crores and above
- FPO /SEO are not considered
- Delisted IPO before 31 May 2023 not considered
- IPO withdrawn by the company not Considered

The below table shows the number of companies going for IPO from 2018 to 2020 and are NSE/BSE listed:

Table 1: Number of IPOs

Year	No. of IPOs
2018	23
2019	17
2020	15
Total	55

6. Data Analysis & Interpretation

Short Run Performance

For analysing short-term performance, the weighted average First Day Return, First Week Return and First Month Returns were considered similar to (Pasupuleti, 2012). The following abbreviations were used during the analysis.

FDR – First Day Return

FWR- First Week Return

FMR-First Month Return

Long Term Performance

For long-term performance, 1st-year return and 3rd-year return (were considered (Ramesh & Dhume, 2015) (Thomadakis et al., 2012). The following abbreviations were used during the analysis

FYR-First Year Return

TYR- Third Year Return or Return till 30th Sep 23 whichever is earlier.

Level of Underpricing

Researcher has categorised Underpriced stock into the below-mentioned table: -

Table 2: Level of Underpricing

IPO categories based on the Level of Under-pricing	Code	Yield	Number Of IPOs
Overpricing	OP	<0	22
Normal Underpricing	UP1	0 to 25%	20
Abnormal Underpricing	UP2	Above 25 to 100%	10
Very high Underpricing	UP3	Above 100%	3

Based on the underpricing of 55 IPOs from 2018-2020 it was observed that 22 IPOs were overpriced which means returns were negative and 33 IPOs were underpriced with positive returns for investors.

Returns of stocks and the market returns on the nth day are calculated based on the below formulas.

Stock Return = (Closing $Price_n$ –Issue Price)/Issue Price x100

Market Returns to be calculated as below: - Market Return = (Closing Index $Price_n$ –Issue date Index price)/ Issue date Index price x100

In the following matrix, all values mentioned are that of Weighted Average Return in percentage based on the gross proceed of IPOs

Table 3: Average Returns on a Different Level of Underpricing

Level of Underpricing	FDR	FWR	FMR	FYR	TYR
OP	-9.7	-15.9	-17.7	16.3	26.2
UP1	11.3	13.8	16.3	43.7	63.2
UP2	45.8	42.9	38.4	68.2	68.0
UP3	121.9	123.4	97.7	103.8	264.6

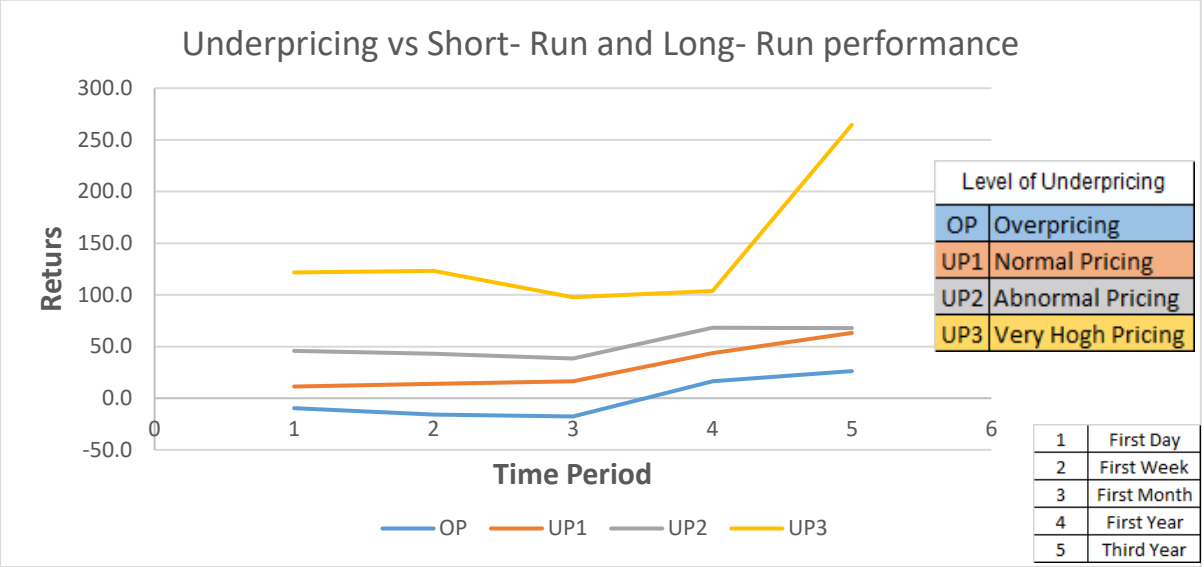

Fig 1: Underpricing Vs performance

Interpretations: -

Data (Table 3) and graph (fig 1) indicate that: -

All IPOs have shown a downward turn after the first day's return.

Normal IPO (UP1) At the end of the first week moved toward stabilisation and started moving upward.
Abnormal IPO(UP2) and very high underpricing IPOs(UP3) showed down downward turn till the end of the month as the initial yield was not normal and was very high.

All IPOs performed very well in the long run i.e., 1st year and the 3rd year.
Overpriced IPO (OP) and normal IPO (UP1) had improved their performance in the long run for the first year as well as the third year.
Abnormal IPO (UP2) improved performance for the first year but then stabilised for three years.
Very High Underpricing (UP3) IPO performed very well even in the long run in an accelerated way. This is in contrast to earlier research papers (Ramesh & Dhume, 2015; Ritter, 1991; Sahoo & Rajib, 2010, Marisetty & Subrahmanyam, 2010). (Loughran & Ritter, 2004)

Table 4: Mean Stock Returns (Descriptive Statistics in %)

	No of IPO's	Range (Max-Min)	Minimum Return	Maximum Return	Mean	Standard Deviation
FDR	55	185.13	-54.46	130.67	15.6293	36.19821
FWR	55	255.24	-91.57	163.67	9.3075	46.80023
FMR	55	234.08	-92.66	141.42	7.2729	42.05009
FYR	55	549.59	-92.10	457.49	38.6869	94.14774
TYR	55	1264.94	-90.49	1174.45	123.5229	214.78393

Interpretation: -

As per Table 4 above, First Day returns ranged from -54.46 % to 130.67% an average of 15.623% and a Standard Deviation is 36.19. Thereafter downward trend continued for the first-week average return and first-month average return with an average value of 9.305% and 7.27%, however, performance was improved in 1st year and also in 3rd year with values of 38.68% and 123.52% respectively This indicates that performance improves in the long run based on average for every year IPO s on a weighted average basis on the gross proceeds.

Table 5: Anova test for underpriced categories (OP, UP1, UP2, UP3**)**

		‘Sum of Squares	‘Degree of freedom	‘Mean Square	“F”	Significance Level
FDR	Between Groups	62922.789	3	20974.263	136.544	.000
	Within Groups	7833.988	51	153.608		
	Total	70756.777	54			
FWR	Between Groups	68377.774	3	22792.591	19.088	.000
	Within Groups	60897.624	51	1194.071		
	Total	129275.398	54			
FMR	Between Groups	40851.360	3	13617.120	10.572	.000
	Within Groups	65690.120	51	1288.042		
	Total	106541.480	54			
FYR	Between Groups	43597.901	3	14532.634	1.674	.184
	Within Groups	442848.289	51	8683.300		
	Total	486446.190	54			
TYR	Between Groups	117096.116	3	39032.039	.834	.482
	Within Groups	2388191.238	51	46827.279		
	Total	2505287.354	54			

Interpretation:

The above Anova test (Table 5) shows that there is a substantial difference in variation of short-run returns for categories of IPOs like overpricing, normal pricing, Abnormal pricing and very high underpricing with a “P” value of .000.

Since the “P” value is less than .05 Null Hypothesis (i.e. Ho1: - There exists no substantial difference in short-run performance due to underpricing) is rejected.

As per Anova Table 5, the “P” value for the First year return is 0.184 and the “P-value” for the Third year return is 0.482. Since the “P” value is greater than 0.05, we failed to reject the Null Hypothesis (i.e. $H_0$2: - There exists no substantial difference in Long-run performance due to underpricing)

Hence there is no significant difference of Variation in long-term returns in the First year return and Three-year returns for all the categories of IPOs.

Table 6: Levene Test

Test of Homogeneity of Variances

	Statistics Levene	Degree of Freedom 1	Degree of Freedom 2	Significance Level.
FDR	4.883	3	51	.005
FWR	.631	3	51	.598
FMR	.609	3	51	.612
FYR	1.325	3	51	.276
TYR	.929	3	51	.433

Interpretation:

In the above table, 6 we have observed that on the First Day return significance level is .005 which is less than 0.05. This indicates that variance is ***significant*** on the First Day Return (FDR).

In all other cases i.e. on FWR, FMR, FYR and TYR Significance Values of the levene test are 0.598,0.612,0.276 and 0.433 which is above 0.05. It indicates that this variance is ***insignificant*** in all other short and Long Term Returns.

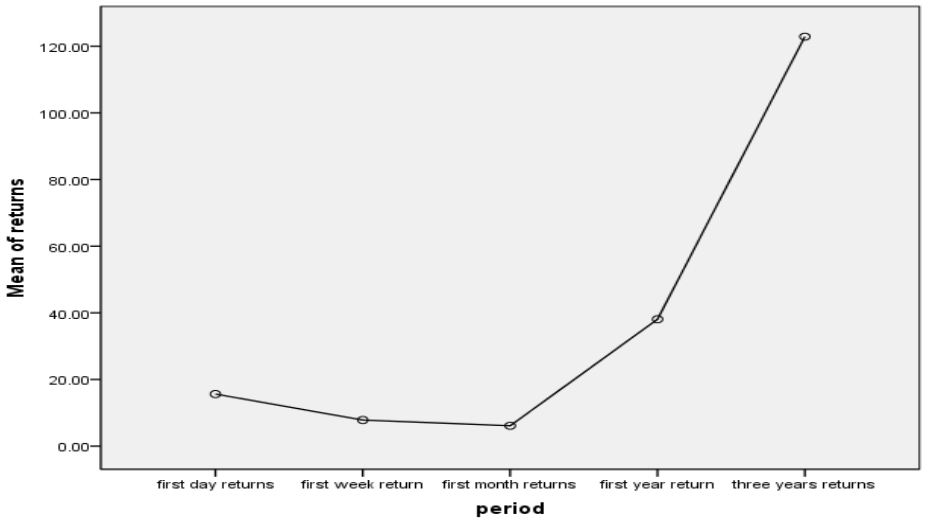

Figure 2: Mean of Returns vs. Period

Interpretation

The above graph (Figure 2) indicates that mean average returns have shown a decline for the first week as well as for the first month. Thereafter returns are improved rapidly for the first year and further accelerated for the Third year.

The study was conducted on year-wise IPO returns for the year 2018,2019,2020 as per Table 3 and Fig 2

Table 7: Yearly Analysis (Return %)

Year	No of IPO	1st Day Return (%)	7 Day return (%)	FMR(%)	FYR(%)	TYR(%)
2018	23	8.19	3.12	1.62	-0.80	22.52
2019	17	5.35	-15.55	-18.87	-8.14	50.27
2020	15	14.71	15.38	15.66	87.12	69.65

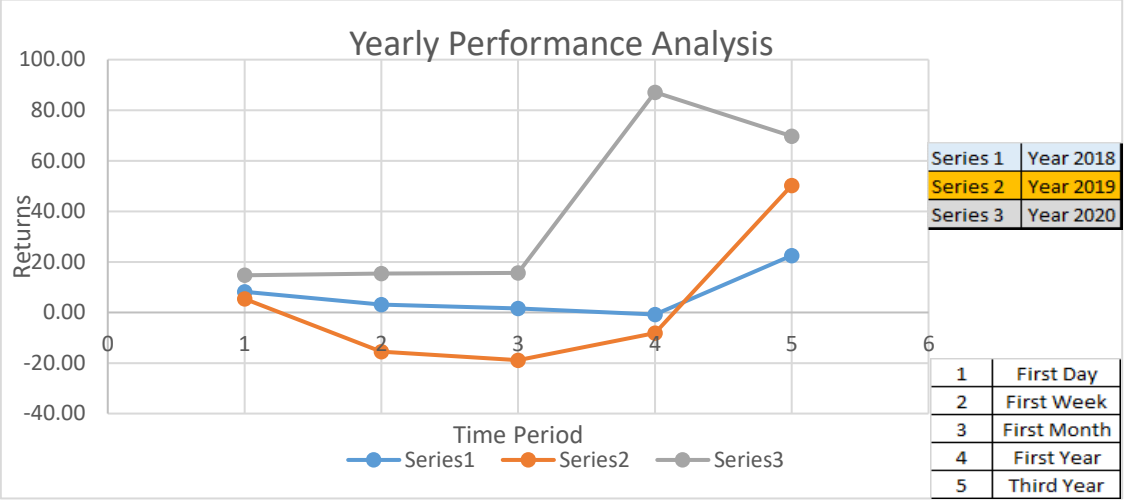

Fig 3: Yearly Performance Analysis

Interpretation

Based on the yearly performance analysis as per table 7 and Figure 3, during the year (2019) performance was not so good at the beginning but improved in the long run. In 2018, first-day performance was medium showing a downturn for the first year and it improved thereafter up to the third year.

In the year 2020, there was high underpricing ompared to 2018 and 2019. This may be because of less Number of IPOs (15) compared to others. This resulted in a very good First Day performance was very good, they remained steady for the first month and the performance improved drastically by the end of the year however they could not maintain high performance at the end of 3 years, (in the long- run) as the returns were too high for the first year to maintain the same level of stability in the long- run.

Table 8: Year-wise group Analysis for Different Periods

Correlations

		IPO	FDR	FWR	FMR	FYR	TYR
IPO	Pearson Correlation	1	-.449	-.123	-.135	-.642	-.984
	Sig. (2-tailed)		.703	.921	.914	.556	.114
	N	3	3	3	3	3	3
FDR	Pearson Correlation	-.449	1	.942	.946	.973	.601
	Sig. (2-tailed)	.703		.218	.210	.147	.590
	N	3	3	3	3	3	3
FWR	Pearson Correlation	-.123	.942	1	1.000**	.840	.298
	Sig. (2-tailed)	.921	.218		.007	.365	.808
	N	3	3	3	3	3	3
FMR	Pearson Correlation	-.135	.946	1.000**	1	.846	.309
	Sig. (2-tailed)	.914	.210	.007		.358	.800
	N	3	3	3	3	3	3
FYR	Pearson Correlation	-.642	.973	.840	.846	1	.768
	Sig. (2-tailed)	.556	.147	.365	.358		.442
	N	3	3	3	3	3	3
TYR	Pearson Correlation	-.984	.601	.298	.309	.768	1
	Sig. (2-tailed)	.114	.590	.808	.800	.442	
	N	3	3	3	3	3	3

**. Correlation is significant at the 0.01 level (2-tailed).

Table 9: Correlation between the Number of IPOs and Returns

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
FDR	Between Groups	15088.572	2	7544.286	7.047	.002
	Within Groups	55668.205	52	1070.542		
	Total	70756.777	54			
FWR	Between Groups	24136.571	2	12068.286	5.969	.005
	Within Groups	105138.827	52	2021.901		
	Total	129275.398	54			
FMR	Between Groups	19719.598	2	9859.799	5.905	.005
	Within Groups	86821.882	52	1669.652		
	Total	106541.480	54			
FYR	Between Groups	177308.248	2	88654.124	14.912	.000
	Within Groups	309137.942	52	5944.960		
	Total	486446.190	54			
TYR	Between Groups	296219.999	2	148110.000	3.486	.038
	Within Groups	2209067.355	52	42482.065		
	Total	2505287.354	54			

Interpretation

ANOVA test was conducted to find out the significant difference between all the 3 years i.e. 2018, 2019 and 2020. The test results show the P values for FDR .002, FWR .005, FMR .005, FYR .000 and TYR .038 respectively. Values are significantly less than .05 which proves that there is a significant difference in all three years as per as the returns are concerned.

Interpretation

The relationship between IPOs and short-term returns as well as long-term returns was explored. Table 9 indicates that there is no relationship between the number of IPOs and the short-term returns (FDR, FWR, FMR,) This relationship gradually improves over a year and The relationship between the IPO and long-term returns (FYR and TYR) is observed to be strong in a negative direction. It means that the number of IPOs increases, long-term returns decline and vice versa

7. Conclusion

The research conducted on the Underpricing of IPO during the period 2018-2020 for short and long-run returns explores various patterns and behaviours of underpricing for different categories First-Day Return, First-Week Return, First-Month Return, First-Year Return and Third-Year Return

This study reveals that the underpricing shows a downturn for about one month similar to the findings of (Murthy & Singh, 2014) and then stabilises. By the end of one year, returns are improved, similar to the findings of (Sahoo & Rajib, 2010). This study also reveals that the highly underpriced IPOs have shown accelerated improvement after one year which was contrary to the earlier research.

The Study shows that the number of IPOs in a year has no relationship with short-term returns however there is an inverse relationship with long-term returns.

This Study shows that the overpriced IPOs, normally underpriced and abnormally underpriced are getting stabilised after one month. These IPOs show medium improvement for one year and 3 years in the long run.

It rejects many researchers' strong hypothesis that Underpricing contributes more to short-term performance than long-term performance.(Ljungqvist, 2007; Marisetty & Subrahmanyam, 2010; Ramesh & Dhume, 2015; Ritter, 1991).

8. Recommendations

Based on our findings it is recommended that investors should opt to invest for a long span of period i.e. for at least 1 year for all the categories of IPOs.

Generally, investors are interested in selling the shares on the first day itself to take advantage of underpricing but our study shows that highly underpriced shares give a maximum return in the long term i.e. when the Buy and hold period is 3 years, the return is maximum (see Fig 1)

9. The Scope for Further Research: -

1. The research can be done to analyse the IPOs on the factors affecting both short-run and long-run outcomes.
2. A study can be initiated to explore the determinants of customer investment in IPOs and the diverse criteria taken into account during the assessment of an IPO.
3. A Longitudinal study for 5-10 years can be done in the same area.

References

[1] Bansal, R., & Khanna, A. (n.d.). *IPO UNDERPRICING AND MONEY 'LEFT ON THE TABLE' IN INDIAN MARKET*. www.indusedu.orgwww.indusedu.org

[2] Bhatia, S., & Singh, B. (2012). Examining the performance of IPOs: An evidence from India. *Management and Labour Studies*, *37*(3), 219–251.

[3] Ganesamoorthy, L., Shankar, H., & Prof, A. (2014). PERFORMANCE OF INITIAL PUBLIC OFFERINGS IN INDIA DURING DIFFERENT MARKET CONDITIONS EVIDENCE. In *International Journal of Management Research & Review* (Vol. 4, Issue 6, pp. 2249–7196). www.ijmrr.com

[4] HarshinyS, S., & Pusa, D. (n.d.). A STUDY ON PERFORMANCE OF IPOs IN INDIA FOR THE PERIOD 2018-2021. *EPRA International Journal of Multidisciplinary Research (IJMR)-Peer Reviewed Journal*. https://doi.org/10.36713/epra2013

[5] Krigman, L., Shaw, W. H., & Womack, K. L. (1999). The persistence of IPO mispricing and the predictive power of flipping. *The Journal of Finance*, *54*(3), 1015–1044.

[6] Kumar, S. S. S. (2007). *Short and long-run performance of bookbuilt IPOs in India*.

[7] Ljungqvist, A. (2007). IPO underpricing. *Handbook of Empirical Corporate Finance*, 375–422.

[8] Loughran, T., & Ritter, J. (2004). Why has IPO underpricing changed over time? *Financial Management*, 5–37.
[9] Madhusoodanan, T. P., & Thiripalraju, M. (1997). Underpricing in initial public offerings: The Indian evidence. *Vikalpa*, *22*(4), 17–30.
[10] Malhotra, M., & Nair, M. (2015). Initial public offerings' underpricing: A study on the short run price performance of book-built IPOs in India. *Paripex-Indian Journal of Research*, *4*(2).
[11] Marisetty, V. B., & Subrahmanyam, M. G. (2010). Group affiliation and the performance of IPOs in the Indian stock market. *Journal of Financial Markets*, *13*(1), 196–223.
[12] Mishra, A. K. (2010). Underpricing of Initial Public Offerings in India: A Comparison of the Book-Building and Fixed-Price Offerings. *IMJ*, *2*(2), 37–54.
[13] Murthy, K. B., & Singh, A. K. (2014). Short run performance of the IPO market in India. *International Journal of Financial Management*, *4*(2), 11–22.
[14] Pasupuleti, V. V. K. (2012). A Study of Underpricing of Initial Public Offers (IPO) and its Impact on Performance of IPO Stocks in Indian Financial Markets. *Available at SSRN 1980093*.
[15] Ramesh, B., & Dhume, P. (2015). Performance analysis of initial public offering in Indian context. *Splint International Journal of Professionals*, *2*(9), 47–64.
[16] Ritter, J. R. (1991). The long-run performance of initial public offerings. *The Journal of Finance*, *46*(1), 3–27.
[17] Sahoo, S., & Rajib, P. (2010). Aftermarket pricing performance of initial public offerings (IPOs): Indian IPO market 2002–2006. *Vikalpa*, *35*(4), 27–44.
[18] Schuster, J. A. (2003). *An Empirical Analysis of European IPO Markets*.
[19] Sehgal, S., & Singh, B. (n.d.). Determinants of IPOs Initial and In Indian Long-Run Performance Stock Market. *We Shape Future Asia-Pacific Business Review*, *IV*(4), 24–37.
[20] Thomadakis, S., Nounis, C., & Gounopoulos, D. (2012). Long-term performance of Greek IPOs. *European Financial Management*, *18*(1), 117–141.