



A Study on Indian IPOs Performance & Multiple Regression Analysis of IPOs Listing Day Gains with QIB Subscription Multiple & Retail Investor Subscription Multiple during the period 2018-19 to 2022-23

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Abstract

IPOs have attracted almost every new and old share market investor with the lucrative returns they have accrued to the investor public. There are multitude of factors which decide the fate of an IPOs Listing Day Gains. Thus, this study aims to understand the performance of Indian IPOs in the 5 financial year period ranging from 2018-19 to 2022-23 and also aims to develop a model with the help of Multiple Regression Analysis which could help the investors to take informed decisions. The study analyses a total 157 IPOs made to the public during the period of study and gives an overall picture of the returns an investor can earn by investing in IPOs.

Keywords: IPO, QIB, Retail Investors, Subscription, Multiple Regression, Listing Day Gains

1. Introduction:

IPO stands for Initial Public Offer and refers to a company getting listed on the stock exchange for the first time and selling its shares to the general public in the primary market.

In India the number of IPO offerings have been on a rise in the recent past specially during the last 2 financial years. The increased number of IPO Offerings and the stories about lucky investors earning handsome returns through IPO investments has increased the general public's interest in IPO's which is evident from the large number of new entrants in the Primary Market segment of the Share Market in the last few years.

Investment in share market whether in the primary segment or secondary segment is risky and requires careful and in depth analysis of the stock before putting in one's hard earned money.

2. Theoretical Framework:

IPO: Initial Public Offer is the term used to refer to a company getting listed on the bourses for the first time by selling its equity shares.

Issue Price: It is the price at which a company finally sells its shares to the investor public.

Types of investors in IPO: Basically, there are four types of investors in the Indian IPO Markets namely QIB's (Qualified Institutional Buyers like Mutual Funds), High Net Worth Individuals (HNIs), Retail Individual Investor's & Anchor Investors. Apart from these 4 categories at times company keeps special categories like employees of the company, customers of the company etc.

Listing Day Gains: In context of IPOs Listing Day Gains are calculated using the formula:

$$(\text{IPO Listing Price} - \text{IPO Issue Price}) / \text{IPO Issue Price} \times 100$$

It tells us the absolute gains expressed in percentage, earned by the investors who got an allotment in an IPO on the day of Listing of the share.

Subscription Multiple: It tells us about the number of applications received per share that was on offer for sale in an IPO. For example: 1 crore shares were offered to QIBs and the actual applications received were for 3 crore shares, so the QIB Subscription Multiple will be 3 times. The same will be called Retail Investor Subscription Multiple in case of Retail Investors Category. A subscription multiple of more than 1 means that the IPO has been Oversubscribed and a subscription multiple of less than 1 means that the IPO has been undersubscribed. The Subscription multiple is seen and followed by the investor public as an indicator of the popularity of the IPO and the possible Listing Gains it is expected to accrue to them.

Multiple Regression: It is a technique in statistics used to study and analyse the relationship between a dependent variable and two or more independent variables. In the current study multiple regression analysis has been done using MS Excel.

3. Objectives of the Study:

1. To analyse the performance of IPOs in terms of Listing Day Gains given by them during the period 2018-19 to 2022-23 (5 Financial Years)
2. To study the relationship between IPOs Listing Day Gains & the combination of QIB Subscription Multiple & Retail Investor Subscription Multiple.

3. Research Methodology:

For the purpose of this study a period of 5 Financial Years from 2018-19 to 2022-23 has been taken. A total number of 157 companies who came up with an IPO during this period have been included. Listing Day Gains of all the 157 IPOs have been calculated and then analysed using statistical tools like mean and median.

Multiple Regression Analysis has been used to study the relationship between Listing Day Gains (dependent variable) & the combination of QIB Subscription Multiple & Retail Investor Subscription Multiple (both independent variables).

4. Limitations of the Study:

1. The study is limited to the period of analysis i.e., Financial Year 2018-19 to 2022-23.
2. The period of study includes COVID-19 lockdown period. The lockdown might have led to a higher number of people entering share market and consequently more funds flowing into the IPO market as well impacting the returns given by them temporarily.
3. Apart from QIB Subscription Multiple & Retail Investor Subscription Multiple there are other factors also which act as an indicator of probable Listing Day Gains of an IPO. This study limits itself to the study of these two factors only.
4. In the current study only Listing Day Gains have been considered. Post listing performance of the IPO has not been considered. This, remains an area of further study in the topic.

5. Findings & Conclusions:

1. In the Financial Year 2018-19 a total number of 18 IPOs were made to the public. 7 IPOs gave Positive Listing Day Gains, 10 IPOs gave Negative Listing Day Gains & 1 IPO gave Listing Day Gain. The average Listing Day Gain of all the 18 IPOs was 2.06% and the median Listing Day Gain was -1.57%. (Table 1 & 2)

2. In the Financial Year 2019-20 a total number of 15 IPOs were made to the public. 11 IPOs gave Positive Listing Day Gains & 04 IPOs gave Negative Listing Day Gains. The average Listing Day Gain of all the 15 IPOs was 21.27% and the median Listing Day Gain was 9.04%. (Table 1 & 2)
3. In the Financial Year 2020-21 a total number of 32 IPOs were made to the public. 23 IPOs gave Positive Listing Day Gains & 09 IPOs gave Negative Listing Day Gains. The average Listing Day Gain of all the 32 IPOs was 33.23% and the median Listing Day Gain was 17.57%. (Table 1 & 2)
4. In the Financial Year 2021-22 a total number of 52 IPOs were made to the public. 38 IPOs gave Positive Listing Day Gains & 14 IPOs gave Negative Listing Day Gains. The average Listing Day Gain of all the 52 IPOs was 31.94% and the median Listing Day Gain was 16.28%. (Table 1 & 2)
5. In the Financial Year 2022-23 a total number of 15 IPOs were made to the public. 27 IPOs gave Positive Listing Day Gains & 13 IPOs gave Negative Listing Day Gains. The average Listing Day Gain of all the 40 IPOs was 12.01% and the median Listing Day Gain was 9.11%. (Table 1 & 2)
6. During the overall 5 financial year period of 2018-19 to 2022-23 a total number of 157 IPOs were made to the public. A Positive Listing Day Gain was observed in case of 106 companies (i.e., 67.52% of total IPOs) & a Negative Listing Day Gain was Observed in case of 50 companies (i.e., 31.85% of total IPOs). The average Listing Day Gain of all the 157 IPOs was 22.68% and the median Listing Day Gain was 10.32% (Table 1 & 2). Thus, overall IPO investment looks to be a profitable proposition provided one is lucky to get an allotment in the profitable IPOs, which is difficult to get due to high level of oversubscription in them.
7. Multiple Regression Analysis Interpretation & Inferences:
 - a. Multiple R (Multiple Correlation Coefficient): The multiple R is 0.758149181, indicating a moderately strong positive linear relationship between Listing Day Gains and the combination of QIB Subscription Multiple & Retail Investor Subscription Multiple.
 - b. R Square (Coefficient of Determination): The R-squared value is 0.57479018. This means that approximately 57.48% of the variation in Listing Day Gains is explained by combination of QIB Subscription Multiple & Retail Investor Subscription Multiple in the model. This is a good R-squared value, suggesting that the model explains a significant portion of the variation in the dependent variable.
 - c. Adjusted R Square: The adjusted R-squared value is 0.569267975. It's similar to R-squared but takes into account the number of independent variables in our model. A high adjusted R-squared indicates that our model is a good fit.
 - d. Standard Error: The standard error is 0.27185376. This represents the average amount by which the actual values differ from the predicted values in the model. A lower standard error suggests a better fit of the model.
 - e. ANOVA: Regression: In the model, the regression has 2 degrees of freedom (df), and it has an associated sum of squares (SS) of 15.38499867. The mean squares (MS) is 7.692499335. The F-statistic is 104.087069, and the p-value (Significance F) is very small (2.52611E-29). This suggests that the regression model as a whole is statistically significant. In other words, at least one of the independent variables is significant in predicting the dependent variable. Residual: The residual has 154 degrees of freedom, a sum of squares of 11.38128789, and a mean square of 0.073904467. This represents the unexplained variance in the model.
 - f. Coefficients: Intercept: The intercept is -0.037321137. It represents the estimated value of the dependent variable when all independent variables are zero. The t-statistic is -1.306520708, and the p-value is 0.193323385. The p-value suggests that the intercept is not statistically significant.
 - g. QIB Subscription Multiple: This independent variable has a coefficient of 0.003389546, a low standard error, a high t-statistic, and a very small p-value (4.60247E-14). This indicates that the "QIB Subscription Multiple" variable is highly significant in predicting the Listing Day Gains.
 - h. Retail Subscription Multiple: Similarly, the "Retail Subscription Multiple" independent variable has a coefficient of 0.007599278, a low standard error, a high t-statistic, and a very small p-value (3.52866E-13). This variable is also highly significant in predicting the Listing Day Gains.
 - i. In summary, the multiple regression model seems to be a good fit for the data. Both the "QIB Subscription Multiple" and "Retail Subscription Multiple" independent variables are statistically significant predictors of the dependent variable i.e., Listing Day Gains. The adjusted R-squared value indicates that the model explains a significant proportion of the variation in the dependent variable.
 - j. Thus, along with other factors which influence the Listing Day Gains an investor should religiously track the Subscription levels in QIB & Retail Investor Category of an IPO during the application period and decide to invest or not to invest in it accordingly. However, allotment of shares in good IPOs always remains a concern.

Table 1: Financial Year Wise No. of IPOs with Company Names, Listing Date & Listing Day Gains in %

Financial Year	No. of IPO's	Company Name	Listing Date	Listing Day Gain
2018-19	18	Karda Construction Ltd	Apr 2, 2018	-20.67%
		Sandhar Technologies Limited	Apr 2, 2018	-2.85%
		ICICI Securities Ltd	Apr 4, 2018	-14.41%
		Mishra Dhatu Nigam Limited	Apr 4, 2018	0%
		Lemon Tree Hotels Limited	Apr 9, 2018	27.86%
		IndoStar Capital Finance Limited	May 21, 2018	2.36%
		RITES Limited	Jul 2, 2018	14.97%
		Fine Organic Industries Limited	Jul 2, 2018	5.08%
		Varroc Engineering Limited	Jul 6, 2018	7.61%
		TCNS Clothing Co. Limited	Jul 30, 2018	-8.13%
		HDFC Asset Management Company Limited	Aug 6, 2018	65.01%
		CreditAccess Grameen Limited	Aug 23, 2018	-0.28%
		IRCON International Limited	Sep 28, 2018	-12.28%
		Aavas Financiers Limited	Oct 8, 2018	-5.83%
		Garden Reach Shipbuilders & Engineers Limited	Oct 10, 2018	-10.93%
		Xelpmoc Design and Tech Limited	Feb 4, 2019	-9.32%
		Chalet Hotels Limited	Feb 7, 2019	3.71%
		MSTC Limited	Mar 29, 2019	-4.83%
2019-20	15	Embassy Office Parks	Apr 1, 2019	4.70%
		Rail Vikas Nigam Limited	Apr 11, 2019	0.26%
		Metropolis Healthcare Limited	Apr 15, 2019	9.04%
		Polycab India Limited	Apr 16, 2019	21.75%
		Neogen Chemicals Limited	May 8, 2019	22.58%
		IndiaMART InterMESH Limited	Jul 4, 2019	33.87%
		Affle (India) Limited	Aug 8, 2019	17.46%
		Spandana Sphoorty Financial Ltd	Aug 19, 2019	-0.89%
		Sterling and Wilson Solar Ltd	Aug 20, 2019	-7.01%
		IRCTC Limited	Oct 14, 2019	127.69%
		Vishwaraj Sugar Industries Ltd	Oct 15, 2019	0.58%
		CSB Bank Limited	Dec 4, 2019	53.90%
		Ujjivan Small Finance Bank Ltd	Dec 12, 2019	51.08%
		Prince Pipes and Fittings Ltd	Dec 30, 2019	-6.40%
		SBI Cards and Payment Services Ltd	Mar 16, 2020	-9.51%
2020-21	32	Rossari Biotech Ltd	Jul 23, 2020	74.67%
		Yes Bank Ltd	Jul 27, 2020	2.50%
		Mindspace Business Parks	Aug 7, 2020	10.50%
		Happiest Minds Technologies Ltd	Sep 17, 2020	123.49%
		Route Mobile Ltd	Sep 21, 2020	86.03%
		Chemcon Speciality Chemicals Limited	Oct 1, 2020	72%
		Computer Age Management Services Ltd	Oct 1, 2020	13.95%
		Angel One Ltd	Oct 5, 2020	-9.85%
		UTI Asset Management Company Ltd	Oct 12, 2020	-13.97%
		Mazagon Dock Shipbuilders Limited	Oct 12, 2020	19.31%
		Likhitha Infrastructure Ltd	Oct 15, 2020	13.83%
		Equitas Small Finance Bank Ltd	Nov 2, 2020	-0.76%
		Gland Pharma Limited	Nov 20, 2020	21.36%
		Burger King India Limited	Dec 14, 2020	130.67%

		Mrs. Bectors Food Specialities Limited	Dec 24, 2020	106.79%
		Antony Waste Handling Cell Limited	Jan 1, 2021	29.29%
		Indian Railway Finance Corporation Limited	Jan 29, 2021	-4.42%
		Indigo Paints Limited	Feb 2, 2021	109.31%
		Home First Finance Company India Ltd.	Feb 3, 2021	1.81%
		Stove Kraft Limited	Feb 5, 2021	15.83%
		Brookfield India Real Estate Trust	Feb 16, 2021	-1.83%
		Nureca Limited	Feb 25, 2021	66.66%
		RailTel Corporation of India Limited	Feb 26, 2021	29.15%
		Heranba Industries Limited	Mar 5, 2021	29.55%
		MTAR Technologies Limited	Mar 15, 2021	88.22%
		Easy Trip Planners Limited	Mar 19, 2021	11.39%
		Anupam Rasayan India Limited	Mar 24, 2021	-5.24%
		Craftsman Automation Limited	Mar 25, 2021	-3.83%
		Laxmi Organic Industries Limited	Mar 25, 2021	26.62%
		Kalyan Jewellers India Limited	Mar 26, 2021	-13.45%
		Suryoday Small Finance Bank Ltd	Mar 26, 2021	-9.44%
		Nazara Technologies Limited	Mar 30, 2021	43.22%
2021-22	52	Barbeque Nation Hospitality Limited	Apr 7, 2021	18.08%
		Macrotech Developers Limited	Apr 19, 2021	-4.70%
		POWERGRID Infrastructure Investment Trust	May 14, 2021	2.98%
		Sona BLW Precision Forgings Limited	Jun 24, 2021	24.69%
		Shyam Metalics and Energy Limited	Jun 24, 2021	22.83%
		Dodla Dairy Limited	Jun 28, 2021	42.31%
		Krishna Institute of Medical Sciences Limited	Jun 28, 2021	20.72%
		India Pesticides Limited	Jul 5, 2021	15.93%
		G R Infraprojects Limited	Jul 19, 2021	108.70%
		Clean Science and Technology Ltd	Jul 19, 2021	76.13%
		Zomato Limited	Jul 23, 2021	65.59%
		Tatva Chintan Pharma Chem Ltd	Jul 29, 2021	113.32%
		Glenmark Life Sciences Limited	Aug 6, 2021	3.92%
		Rolex Rings Limited	Aug 9, 2021	29.62%
		Devyani International Limited	Aug 16, 2021	37.06%
		Krsnaa Diagnostics Limited	Aug 16, 2021	3.85%
		Exxaro Tiles Limited	Aug 16, 2021	10.21%
		Windlas Biotech Limited	Aug 16, 2021	-11.59%
		CarTrade Tech Limited	Aug 20, 2021	-7.29%
		Nuvoco Vistas Corporation Ltd	Aug 23, 2021	-6.79%
		Chemplast Sanmar Limited	Aug 24, 2021	-1.13%
		Aptus Value Housing Finance India Ltd	Aug 24, 2021	-1.84%
		Vijaya Diagnostic Centre Limited	Sep 14, 2021	16.63%
		Ami Organics Limited	Sep 14, 2021	53.20%
		Sansera Engineering Limited	Sep 24, 2021	10.04%
		Paras Defence And Space Technologies Limited	Oct 1, 2021	185%
		Aditya Birla Sun Life AMC Ltd	Oct 11, 2021	-1.73%
		FSN E-Commerce Ventures Limited	Nov 10, 2021	96.15%
		Fino Payments Bank Limited	Nov 12, 2021	-5.50%
		Sigachi Industries Limited	Nov 15, 2021	270.40%
		PB Fintech Limited	Nov 15, 2021	22.74%
		S.J.S. Enterprises Limited	Nov 15, 2021	-5.93%

		One 97 Communications Limited	Nov 18, 2021	-27.25%
		Sapphire Foods India Limited	Nov 18, 2021	3.06%
		Latent View Analytics Limited	Nov 23, 2021	148.02%
		Tarsons Products Limited	Nov 26, 2021	26.89%
		Go Fashion (India) Limited	Nov 30, 2021	81.54%
		Star Health and Allied Insurance Company Ltd	Dec 10, 2021	0.76%
		Tega Industries Limited	Dec 13, 2021	60.15%
		Anand Rathi Wealth Limited	Dec 14, 2021	6.09%
		Rategain Travel Technologies Limited	Dec 17, 2021	-19.88%
		Shriram Properties Limited	Dec 20, 2021	-15.76%
		C.E. Info systems limited	Dec 21, 2021	35%
		Metro Brands Limited	Dec 22, 2021	-1.29%
		Medplus Health Services Limited	Dec 23, 2021	40.81%
		Data Patterns (India) Limited	Dec 24, 2021	29.03%
		HP Adhesives Limited	Dec 27, 2021	22.24%
		Supriya Lifescience Limited	Dec 28, 2021	42.46%
		CMS Info Systems Limited	Dec 31, 2021	9.91%
		AGS Transact Technologies Ltd	Jan 31, 2022	-7.83%
		Adani Wilmar Limited	Feb 8, 2022	15.30%
		Vedant Fashions Limited	Feb 16, 2022	7.95%
2022-23	40	Uma Exports Limited	Apr 7, 2022	23.53%
		Ruchi Soya Industries Ltd	Apr 8, 2022	42.28%
		Veranda Learning Solutions Limited	Apr 11, 2022	17.08%
		Hariom Pipe Industries Limited	Apr 13, 2022	46.86%
		Campus Activewear Limited	May 9, 2022	29.66%
		Rainbow Children's Medicare Limited	May 10, 2022	-16.96%
		Life Insurance Corporation of India (LIC)	May 17, 2022	-7.75%
		Prudent Corporate Advisory Services Limited	May 20, 2022	-10.68%
		Venus Pipes & Tubes Limited	May 24, 2022	7.90%
		Delhivery Limited	May 24, 2022	10.32%
		Paradeep Phosphates Limited	May 27, 2022	4.64%
		Ethos Limited	May 30, 2022	-8.59%
		eMudhra Limited	Jun 1, 2022	1.11%
		Aether Industries Limited	Jun 3, 2022	20.99%
		Syrma SGS Technology Ltd	Aug 26, 2022	42.30%
		Dreamfolks Services Limited	Sep 6, 2022	41.92%
		Tamilnad Mercantile Bank Limited	Sep 15, 2022	-0.30%
		Harsha Engineers International Ltd	Sep 26, 2022	47.24%
		Electronics Mart India Limited	Oct 17, 2022	43.14%
		Tracxn Technologies Limited	Oct 20, 2022	16.69%
		DCX Systems Limited	Nov 11, 2022	49.18%
		Fusion Micro Finance Limited	Nov 15, 2022	-11.71%
		Global Health Limited	Nov 16, 2022	23.71%
		Bikaji Foods International Limited	Nov 16, 2022	5.82%
		Five Star Business Finance Ltd	Nov 21, 2022	3.27%
		Archean Chemical Industries Limited	Nov 21, 2022	12.52%
		Kaynes Technology India Ltd	Nov 22, 2022	17.56%
		Inox Green Energy Services Limited	Nov 23, 2022	-9.08%
Keystone Realtors Limited	Nov 24, 2022	3.11%		
Dharmaj Crop Guard Limited	Dec 8, 2022	12.41%		

		Uniparts India Limited	Dec 12, 2022	-6.49%
		Sula Vineyards Limited	Dec 22, 2022	-7.24%
		Abans Holdings Limited	Dec 23, 2022	-19.98%
		Landmark Cars Limited	Dec 23, 2022	-9.08%
		KFin Technologies Limited	Dec 29, 2022	-0.55%
		Elin Electronics Limited	Dec 30, 2022	-7.77%
		Radiant Cash Management Services Limited	Jan 4, 2023	11.38%
		Sah Polymers Limited	Jan 12, 2023	37.31%
		Divgi TorqTransfer Systems Limited	Mar 14, 2023	2.57%
		Global Surfaces Limited	Mar 23, 2023	22.07%

Table 2: Summary of IPOs Performance

Financial Year	Total IPO's	IPOs having Positive Listing Day Gains	IPOs having Negative Listing Day Gains	IPOs having Zero Listing Day Gains	Average Listing Day Gains	Median Listing Day Gains
2018-19	18	7	10	1	2.06%	-1.57%
2019-20	15	11	4	0	21.27%	9.04%
2020-21	32	23	9	0	33.23%	17.57%
2021-22	52	38	14	0	31.94%	16.28%
2022-23	40	27	13	0	12.01%	9.11%
Overall	157	106	50	0	22.68%	10.32%

Multiple Regression Analysis

Summary Output

Regression Statistics

Multiple R	0.758149181
R Square	0.57479018
Adjusted R Square	0.569267975
Standard Error	0.27185376
Observations	157

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	2	15.38499867	7.692499335	104.087069	2.52611E-29
Residual	154	11.38128789	0.073904467		
Total	156	26.76628656			

	Coefficient <i>s</i>	Standard Error	<i>t</i> Stat	<i>P</i> -value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.0373211 37	0.02856528 6	1.3065207 08	0.1933233 85	0.09375151 8	0.0191092 43	0.0937515 18	0.0191092 43
QIB Subscription Multiple	0.0033895 46	0.00040780 4	8.3117004 29	4.60247E- 14	0.00258393 4	0.0041951 58	0.0025839 34	0.0041951 58
Retail Subscription Multiple	0.0075992 78	0.00095482 6	7.9588080 45	3.52866E- 13	0.00571303	0.0094855 26	0.0057130 3	0.0094855 26

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