IPOs in India: Sector-wise Performance Analysis

(FY15-FY19)

UNDER THE AEGIS OF : ***Dr. Parthajit Kayal***

BY :

TANYA RAJ

NIMISHA SHARAFF

CHIRAG SHARMA

ABSTRACT

The objective of this paper is to analyse the underpricing, returns and risks of investing in initial public offerings and the causes of IPO underpricing and listing gains associated with IPOs in 13 different sectors. We have taken the sector wise data of mainline IPOs for the last 5 years (2015-2019). We have also shown the effects of issue size on listing gains via regression and checked whether this effect is significant or not. We have followed the same process to show the effects of issue size on total subscription.

CONTRIBTION

Our purpose through this paper is to analyze the sector-wise performance of mainline IPOs offered from FY15 to FY19 in the Indian Stock Market. This analysis will also be help to predict the performance of IPOs under different sectors in future. Many past researches have been done on the performance of IPOs yearly but through this research we are tracking the sector wise performance of IPOs using the data from last five years.

INTRODUCTION

An initial public offering (IPO) refers to the process of offering shares of a private corporation to the public in a new stock issuance. Initial public offerings can be used to raise new equity capital for companies, to monetize the investments of private shareholders such as company founders or private equity investors, and to enable easy trading of existing holdings or future capital raising by becoming publicly traded. There are two common types of IPOs: a fixed price and a book building offering.

Fixed Price: Under fixed price, the company going public determines a fixed price at which its shares are offered to investors.

Book Building Offering: Under book building, the company going public offers a 20% price band on shares to investors. Investors then bid on the shares before the final price is settled once the bidding has closed.

Prior to an IPO, a company's business grows with a relatively small number of shareholders including early investors like the founders, family, and friends along with professional investors such as venture capitalists or angel investors. When a company believes it is mature enough for the rigors of SEC regulations along with the benefits and responsibilities to public shareholders, it will begin to advertise its interest in going public.

A company planning an IPO will typically select an underwriter or underwriters. The underwriters are involved in every aspect of the IPO due diligence, document preparation, filing, marketing, and issuance. They will also choose an exchange in which the shares will be issued and subsequently traded publicly. Most of the trading in the Indian stock market takes place on its two stock exchanges: the **Bombay Stock Exchange (BSE**) and the **National Stock**

Exchange (NSE). An IPO mainly consists of two parts. The first is the pre-marketing phase of the offering, while the second is the initial public offering itself.
Many a times IPOs are underpriced. Underpricing is the practice of listing an initial public offering (IPO) at a price below its real value in the stock market. When a new stock closes its first day of trading above the set IPO price, the stock is considered to have been underpriced. Underpricing can occur due to many reasons which we will talk about as we move forward in this paper
Investing in IPO can be a risky business for investors. Some of the risk factors can be recognized as:
Unpredictability: Shares can be initially offered at a low price but they might see some huge changes in their respective prices as the day progresses.
Potential of the stock market: The volatile nature of the stock market not only affects the individuals and households, but, the economy too. This instability makes the prediction of performance of IPO difficult as the profit of IPO depends upon the state of the stock market at the exact time.
No past track record of the company: Since the past records of the company are not available it adds to the dilemma of the investors to whether it is safe to invest in the company's IPO or not as there is no basis to decide whether it'll be profitable or not.

DATA AND METHODOLOGY

This section includes:

- Factors included in the model
- Data used for analysis
- Sampling of the data
- Procedure

Factors included in the model

1. Listing Open Price: The opening price of the share on the day of listing.
2. Listing Close Price: The closing price of the share on the day of listing.
3. Issue Price: The price at which the company sells its shares.
4. Listing Gains: The difference between the Listing Open Price and the Issue Price is known as the Listing Gain for the share. If the difference is positive, it implies a gain in investment in the share and if it is negative then it implies a loss in investment in the share.
5. Issue Size: The minimum size of an NCD issued by the issuer.
6. Total Subscription: The total number of times a public issue is subscribed at BSE and NSE.

DATA USED FOR ANALYSIS

Our analysis uses secondary data collected from Mainline IPO Historic Table (Money Control) and Mainboard IPO list year-wise (Chittogarh).

We have tabulated the data for 5 years i.e. 2015-2019 along with their issue size, issue price, listing prices (opening and closing), total subscription, listing gains, current market price, current gains and their respective sectors.

Sampling of the data

We have taken mainline IPO's of last five years ranging from 2015-2019. We have segregated the IPO's into 13 main sectors of stock market namely Chemicals; Construction and Engineering; Financial Services; HealthCare and Education, Hospitality; IT, Communication and Automative; Industrial ,Manufacturing and Metals; Infrastructure; Logistics; Media and Entertainment; Oil and Energy; Personal and Household Good & Transport and Trade. Further we have compared and analysed the performance of these sectors via regression analysis.

PROCEDURE

We have generated two new columns using STATA, namely Underpricing and Underpricing_ratio where:

Underpricing = Listing Close Price – Issue Price

Underpricing ratio = Underpricing / Issue Price

We have generated a table and graph using STATA to get mean, min, max and standard deviation of underpricing and underpricing ratio for the 13 sectors. Followed by this we have generated a table and graph using STATA to get mean, min, max and standard deviation of listing gains for all the sectors. Next we have also shown a table (created using STATA) to find the number of positively underpriced, negatively underpriced and appropriately priced IPOs (sector wise). We have done two regression analyses. In our first analysis, we have taken issue size as the independent variable with the total subscription as the dependent variable where as in our second analysis we have again taken issue size as the independent variable but now with listing gains as the dependent variable. Lastly, we have performed Correlation using STATA and depicted a graph for the correlation between issue size and subscription.

EMPIRICAL RESULTS AND INTERPRETATION

TABLE 1 : Data For IPOs Issued Over FY2015-19

YEAR	*NUMBER OF IPO's*	*ISSUE SUCCESSFUL*	*ISSUE FAILED*
2015	21	21	0
2016	27	26	1
2017	38	38	0
2018	25	24	1
2019	16	16	0

Source: https://www.chittorgarh.com

Source : MS Excel

Over the course of last five years a total of 127 mainline IPOs have been offered in 13 different sectors with 125 IPOs getting issued successfully and 2 IPOs failing to get issued. The above table and graph depict the statistics.

TABLE : Number of IPO's that are positively, negatively and appropriately priced(Sector wise)

Sector	***Negatively Underpriced***	***Appropriately Priced***	***Positively Underpricing***	***Total***	
Chemicals	1	0	2	3	
Construction and Engineering	5	0	10	15	
Financial Services	7	0	17	24	
HealthCare and Education	6	0	7	13	
Hospitality	2	0	2	4	
IT , Communication and Automotive	6	0	7	13	
Industrial, Manufacturing and metals	5	0	4	9	
Infrastructure	1	0	4	5	
Logistics	0	0	4	4	
Media and Entertainment	1	0	1	2	
Oil and Energy	2	0	1	3	
Personal and Household	4	0	10	14	
Transport and Trade	1	0	1	2	
Total	41	0	70	111	

Source : STATA

As the table shows, 63.06% of IPOs issued were underpriced during the last five years and 36.93% of IPOs were overpriced. So, more than half of the issued IPOs saw a significant rise in their price after the close of first trading day. We will understand the various reasons for this further.

Analysis of sector-wise underpricing

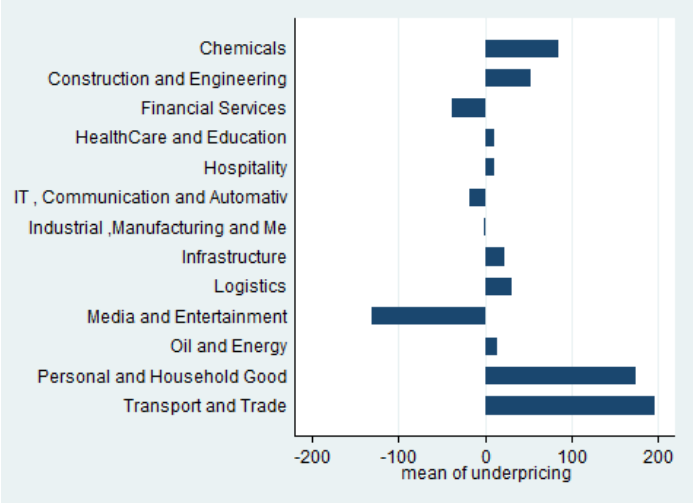
TABLE : Sectorwise Mean, Max, Min and Standard Deviation.

sector	IssuePrice	Listing open Price	Listing close Price	underpricing	Underpricing_ratio
Chemicals	776	800.0167	861.3	85.3	0.055809
	1480	1525	1698.1	218.1	0.147365
	65	60.05	63	-2	-0.03077
	707.526	732.5899	818.2296	116.8918	0.089171
Construction and Engineering	281.4667	347.2267	334.6967	53.23	0.201009
	640	600	632.8	263.55	1.519444
	0	177.95	72.04	-305.96	-0.80942
	154.3428	139.1048	167.6137	137.7205	0.521795
Financial Services	485.2917	518.0271	447.9521	-37.3396	0.117468
	1650	1500	1069.2	263.2	0.755705
	37	58.75	55.9	-1487.35	-0.90142
	361.7771	339.8589	261.7587	336.2882	0.346526
HealthCare and Education	535.4615	623.8269	546.5546	11.09308	0.030482
	1050	1380	1381.45	331.45	0.498455
	190	182	155.2	-660.34	-0.73699
	277.2005	373.5053	355.1006	238.333	0.334975
Hospitality	610.75	612.25	620.925	10.175	-0.0055
	985	985	1021.95	171.95	0.202294
	280	291	270.15	-83.8	-0.17637
	359.0017	361.9736	396.5119	114.9346	0.163836

IT , Communication and Automotive	438	458.4385	420.9731	-17.0269	-0.01849
	860	900	878.45	175.7	0.372246
	66	56	58.8	-436.65	-0.53577
	281.4498	300.3106	279.7682	140.4959	0.208312
Industrial ,Manufacturing and Metals	300.2222	296.15	298.85	-1.37222	-0.00905
	1215	1159	1128.35	90	0.151667
	0	47.25	45.4	-86.65	-0.08715
	364.2701	336.4602	327.3169	48.51706	0.089189
Infrastructure	143	159.6	166.46	23.46	0.072747
	325	400	438	113	0.347692
	19	19	19.05	-2.05	-0.03254
	122.8251	151.092	167.3106	50.10287	0.155456
Logistics	363.25	384.75	393.6625	30.4125	0.134365
	664	674	685.8	88.3	0.430732
	155	152	166.4	0.15	0.00035
	233.2272	222.7246	222.3545	39.59138	0.199834
Media and Entertainment	256.5	290.475	125.475	-131.025	-0.37911
	333	413	191.25	11.25	0.0625
	180	167.95	59.7	-273.3	-0.82072
	108.1873	173.2765	93.0199	201.2072	0.624531
Oil and Energy	433.6667	446.5667	447.9	14.23333	0.049784
	780	700	725.35	98.9	0.234917
	100	99.7	98.45	-54.65	-0.07006
	340.1769	310.8655	319.5918	77.98228	0.162634
Personal and Household	596.5	758.7679	771.0721	174.5721	0.287628
	1768	2725	2892.8	1126.8	1.394
	50	113	116.35	-156.57	-0.48928
	463.4565	692.5845	749.2319	330.2752	0.515497
Transport and Trade	224	377.5	421.4	197.4	0.584531

	320	644	728.6	408.6	1.276875
	128	111	114.2	-13.8	-0.10781
	135.7645	376.8879	434.4464	298.6819	0.979122
Total	439.4414	494.2369	466.1786	26.73712	0.104133
	1766	2725	2892.8	1126.8	1.519444
	0	19	19.05	-1487.35	-0.90142
	344.929	402.9874	407.3379	233.8566	0.377247

Source : STATA



The above table and graph depict that IPOs in transport and trade sector saw the highest mean underpricing with the value 197.4 followed by IPOs in personal and household sector with the mean underpricing value 174.57. This means that the many IPOs in these sectors were offered at a significantly lower price than the price at which they closed on the first trading day. The table and graph also show that there exists some amount of overpricing in the IPOs of sectors like media and entertainment with the mean overpricing value 131.025 followed by IPOs from the sector financial services with the mean overpricing value 37.3396. This means that the many IPOs in these sectors were offered at a significantly higher rate than the rate at which they closed on the first trading day. There could be many determinants of the underpricing and overpricing in IPOs. Some of them are:-

1. Age of the firm: Age of the firm is measured by the difference between year of incorporation of the firm and year of going public. If the age is less then the past records of the firm won't be sufficient enough to depict the potential of the firm which leads to uncertainty in the minds of investors which will fluctuate the closing price from the offer price.

2. Issue size: It is measured as the gross proceeds from an issue. If the issue size is large, it depicts that the firm is developed and will make the investors think that the firm has the potential to do better in future which will increase the closing price significantly from the offer price and it'll lead to under pricing of IPO. So, a positive relation between issue size and level of underpricing.

3. Subscription Ratio: It is measured by number of times an issue is subscribed.

4. Inverse of an offer price: Initial price of an IPO offering may carry value as an indicator of underpricing. It is expected that higher offer prices are associated with offerings of firms having good track record, and thus a positive relationship is hypothesized between inverse of an offer price and underpricing.

5. Reputation of lead manager: It is generally expected that reputed lead managers will make quality offerings, thereby negative impact of reputation of lead managers on underpricing is expected. If the reputation is positive then the closing price will be significantly larger than the offer price thereby leading to more underpricing.

6. Market return: It is measured as a return on market index for example, Sensex in Bombay Stock Exchange. Underpricing might occur due to the rising stock market returns between the fixing of offer price and closing price on first trading day.

7. Industry: Industries with higher market capitalization and greater weight in overall market performance may have lower levels of underpricing in IPOs. This is majorly because investors in such industries have access to more information and reference data to assess the pricing of newly issued IPOPs.

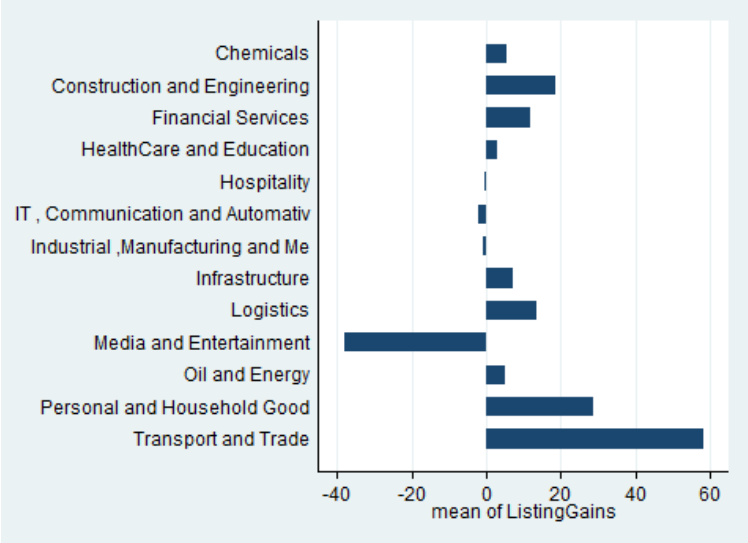
The sectors that experienced positive mean underpricing are chemicals, construction and engineering, healthcare and education, hospitality, industrial manufacturing, infrastructure, logistics, oil and energy, personal household good, and trade. Sectors that showed positive mean overpricing are financial services, IT communication and automotive, and media and entertainment.

Analysis of sector-wise listing gains

TABLE : Sector-wise Average of listing gains

sector	mean	max	min	sd
Chemicals	5.58	14.74	-3.08	8.920516
Construction and Engineering	18.76133	151.94	-80.94	50.54822
Financial Services	11.7475	75.57	-90.14	34.65195
HealthCare and Education	3.049231	49.85	-73.7	33.49882
Hospitality	-0.5525	20.23	-17.64	16.38481
IT , Communication and Automotive	-1.84923	37.22	-53.58	20.83122
Industrial ,Manufacturing and Metals	-0.80222	15.17	-8.71	8.346953
Infrastructure	7.276	34.77	-3.25	15.54523
Logistics	13.4325	43.07	0.03	19.98398
Media and Entertainment	-37.91	6.25	-82.07	62.45167
Oil and Energy	4.976667	23.49	-7.01	16.26378
Personal and Household	28.76286	139.4	-48.93	51.55041
Transport and Trade	58.455	127.69	-10.78	97.91308
Total	10.22595	151.94	-90.14	37.40609

Source: STATA



Listing gains = [Closing price – Issue price/(Issue price)]*100

It is the percentage gain for an investor who invests in an IPO or return that an investor gets. The above table and graph depict that the average listing gains were the maximum for the IPOs from the transport and trade sector while the average listing gains were negative for the IPOs from the sector media and entertainment to a large extent. The reason behind high listing gains can be the high demand associated with the IPO. High demand for an IPO pushes the price of the IPO upwards during the trading day and increases the difference between offer price and closing price at the end of the trading day. All the sectors showed the positive mean listing gains except for media and entertainment.

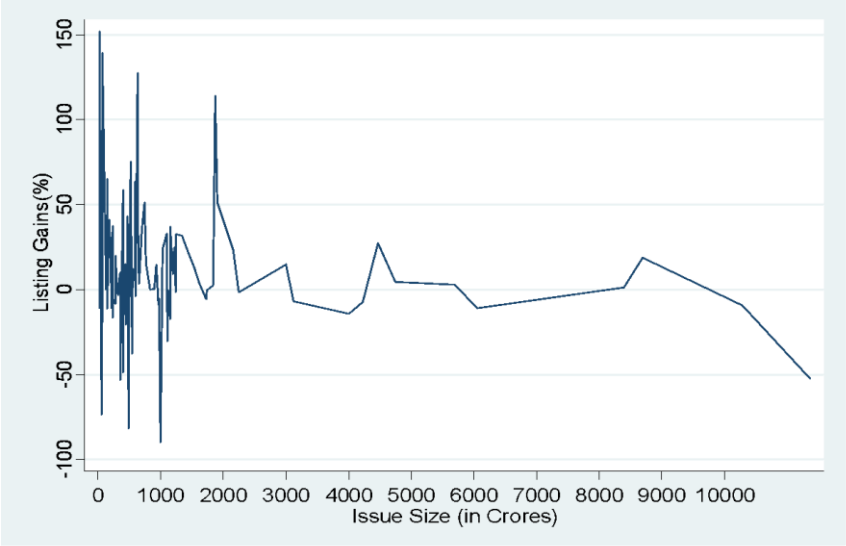
<u>Regression analysis of Issue Size and Listing Gains</u>

Source	SS	df	MS	Number of obs	=	111
				F(1, 109)	=	1.81
Model	2513.09678	1	2513.09678	Prob > F	=	0.1814
Residual	151400.609	109	1388.99642	R-squared	=	0.0163
				Adj R-squared	=	0.0073
Total	153913.706	110	1399.21551	Root MSE	=	37.269

ListingGains	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
IssueSizeinCrores	-.0023902	.001777	-1.35	0.181	-.0059121	.0011317
_cons	13.30762	4.21454	3.16	0.002	4.954539	21.6607

We've taken listing gains as the dependent variable and issue size as the independent variable. The co-efficient of issue size(in crores) is -0.00239. It means that if issue size increases 1 crore then predicted value of listing gains decreases by 0.0023, ceteris paribus. It's t-value is -1.35. At 5% level of significance our critical value is 1.96. We don't reject our null hypothesis that the effect of issue size on listing gains is insignificant.

GRAPH: depicting the relation between listing gains and issue size



Source : STATA

The above graph shows the correlation between issue size and listing gains of all IPOs. Since no particular trend can be seen in the graph we can thus conclude that the effect of issue size on listing gains is very less significant. However it can be seen that as the value of issue size increases a lot then we see a downward trend in listing gains of IPOs.

Regression analysis of Issue Size and Subscription

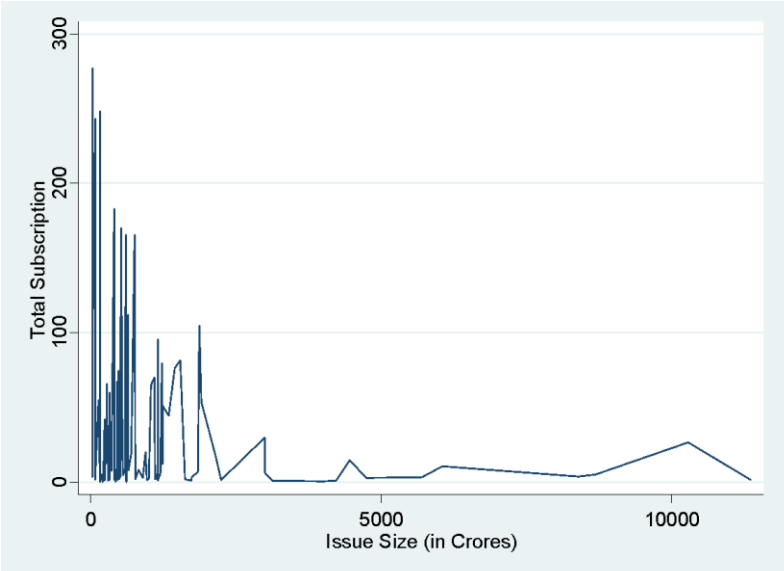
Source	SS	df	MS	Number of obs	=	111
				F(1, 109)	=	3.22
Model	9953.45653	1	9953.45653	Prob > F	=	0.0755
Residual	336919.158	109	3091.00145	R-squared	=	0.0287
				Adj R-squared	=	0.0198
Total	346872.614	110	3153.3874	Root MSE	=	55.597

TotalSubscription	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
IssueSizeinCrores	-.0047568	.0026508	-1.79	0.076	-.0100107	.000497
_cons	40.27835	6.287083	6.41	0.000	27.81756	52.73915

Source : STATA

We've taken total subscriptions as the dependent variable and issue size as the independent variable. The co-efficient of issue size(in crores) is -0.00475. It means that if issue size increases 1 crore then total subscriptions decrease by 0.00475, ceteris paribus. It's t-value is -1.75. At 5% level of significance our critical value is 1.96. We don't reject our null hypothesis that the effect of issue size on total subscriptions is insignificant.

GRAPH: Depicting the relation between issue size and total subscription.



Source : STATA

The above graph shows the correlation between issue size and subscriptions of all IPOs. Since no particular trend can be seen in the graph we can thus conclude that the effect of issue size on subscriptions is very less significant.

CONCLUSION

- This Paper mainly focuses on the underpricing of the Indian mainboard IPOs of 13 different sectors of stock market for the period of 2015-2019. Our main objective was to to find out the **trend of underpricing of IPOs among the different sectors, trend of listing gains and regression analysis of issue size on listing gains and subscriptions.**
- From the table (Number of IPOs that are positively, negatively and appropriately priced), we can conclude that among all the sectors, IPOs under the sector of **Transport and Trade are most underpriced i.e. by Rs197** and the IPOs under the sector of **Media and Entertainment are most overpriced i.e. by Rs131.02.**
- Although IPOs were underpriced in transport and trade sector ,listing gains on average was highest for this sector i.e 58.455 . While in Media and entertainment sector listing gain was lowest i.e -37.91 where it is the most overpriced sector. Therefore, we can conclude that **lisiting Gains and underpricing are positively related to each other.**
- Our results conclude that **63.06% IPO's** of all sectors were **underpriced** while **36.93% IPO's** were **overpriced**. We have also stated the possible reasons for the same.
- We also generated the result that **coefficient of regression of issue size (in Crores) on total subscription is insignificant** which tells us that issue size (inCrores) is not an important factor in the determination of total subscription .
- Lastly, we have generated the result that **the coefficient of regression for issue size (in Crores) on listing gains is also insignificant** which tells us that issue size (inCrores) is not an important factor that affects the listing gains.

BIBLIOGRAPHY

- Pacific Business Review International Volume 11 Issue 1, July 2018
- https://assets.kpmg/content/dam/kpmg/in/pdf/2019/10/ipos-in-india-report.pdf
- https://www.investopedia.com/terms/i/ipo.asp
- https://www.moneycontrol.com/ipo/ipo-historic-table?classic=true
- https://www.chittorgarh.com/report/ipo-listing-date-check-status-price-bse-nse/25/?year=2020
- https://shodhganga.inflibnet.ac.in/bitstream/10603/23440/11/11_chapter%206.pdf