Analysis of long-run grade wise performanceof IPOs with CARS and BHARS

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ABSTRACT *This study of long run analyzed grade wise IPOs performanceof long run during the study period between the three years of 2010 to 2014, observed the effects ofgrade price performance throughsecondary data of IPOs and the data was collected from NSE. In that grade wise IPOs performanceare evaluated by Cumulative abnormal returns (CARS) and buy and hold abnormal returns (BHARS) with statisticsthese are Cumulative Raw Return , Cumulative Market Return , Cumulative Abnormal Return (CAR),Wealth Relativewas measured and observed by Poor , Below Average , Average , Above Average , Good , All with minimum and maximum and mean,t-value,p-value statistics parameter Inthat the comparative studies of grade wise IPOs performancewasobserved from 2010 to 2014 in NSE.*

Keywords: *long term IPOs, Cumulative abnormal returns,buy and hold abnormal returnsgrade wise IPOs performance, Wealth Relative*

Introduction:

IPO grading is the grade assigned by a Credit Rating Agency registered with SEBI, to the initial public offering (IPO) of equity shares or any other security which may be converted into exchanged with equity shares at a later date. The grade represents a relative assessment of the fundamentals of that issue in relation to the other listed equity securities in India. Such grading is generally assigned on a five-point scale with a higher score indicating stronger fundamentals are grade 1-Poor ,grade 2- Below Average , grade 3-Average , grade 4-Above Average , grade 5-Good , All these IPO grading has been introduced as an endeavor to make an additional information available for the investors in order to facilitate their assessment of equity issues offered through an IPO.IPOs Grading Process are should be done either before filing the draft offer documents with SEBI or thereafter. However, the Prospectus/Red Herring Prospectus, as the case may be, must contain the grades given to the IPO by all CARS approached by the company for grading by IPO. Here IPO Grading given by Cumulative abnormal returns (CARS) and buy and hold abnormal returns (BHARS) with statisticsparameter for SEBI to issue its observations The grading is intended to be an independent and unbiased opinion of a rating agency. SEBI does not pass any judgment on the quality of the issuer company. SEBI's observations on the IPO document are entirely independent of the IPO grading process or the grades received by the company.IPO Grading is intended to provide the investor with an informed and objective opinion expressed by an professional rating agency after analyzing factors like business and financial prospects, the management quality and corporate governance practices, etc. However, irrespective of the grade obtained by the issuer, the investor needs to make his/her own independent decision regarding investing on any issue after studying the contents of the prospectus including risk factors carefully.

Review of Literature

Saikat Sovan et al(2008) In this paper we argue that such objective, independent and exogenous certifying mechanism provides a better opportunity to test the well established certification hypothesis, especially in the context of emerging markets with institutional voids. Using a sample of 163 Indian IPOs we test the efficacy of IPO grading mechanism. hey find, grading decreases IPO under pricing and positively influences demand of retail investors. Grading reduces secondary market risk and improves liquidity. However, grading does not affect long run performance of the IPOs. IPO grading successfully capture firm size, business group affiliation and firm's quality of corporate governance. Findings imply that, in emerging markets, regulator's role to signal the quality of an IPO contributes towards the market welfare.

Joshy Jacob et al (2012) This paper examines the market impact of a unique IPO certification recently introduced in India mandatory grading of IPOs by a credit rating agency. The grading was expected to improve the IPO pricing efficiency by providing comprehensive issue-related information to the market,

especially to the retail investors. The results indicate that grading has only a limited influence on the IPO demand of retail and institutional investors. The low grade issues appear to have weaker demand from investors relative to the ungraded IPOs. But there is no evidence to support IPO pricing improvement due to the introduction of IPO grading. This is contrary to the evidence reported by some earlier studies. This suggests the failure of grading as an IPO certification.

Yogesh Maheshwari, Khushbu Agrawal (2015) In This paper aims to examine the impact of initial public offering (IPO) grading on earnings management by Indian companies in their IPOs. Specifically, it investigates whether earnings management significantly differs in the pre-IPO grading regime and post-IPO grading regime. Further, it examines whether earnings management significantly differs between high-graded and low-graded IPOs.

Selvamathi and Ananth(2018) This study analyzed the engineering sector IPO price performance of short and long run during the study period of 2010 to 2014, observed the effects of IPO priceperformance through secondary dataof IPOs and the data was collected from NSE. In that the energy and common engineering sectors of IPOs are evaluated listing and short run, medium and long run performance of IPOs with quantitative analysis by raw returns, market adjusted excess returns, annualized raw returns and annualized market adjusted excess returns ,this is are measured the under and over price performance of IPOs observed that the comparative studies of energy engineering and common engineering sector IPOs In that energy engineering more value and efficient than the common engineering sector with short and long term with under and over pricing performance

Objectives

1. To Study the performance of the IPO's listed on NSE for the three years of 2010 to 2014
2. To know the listing gains and performance of the IPOs subsequently in the secondary market
3. To compare the performance of IPOs based on the IPO grades given at the time of issue.
4. To suggest to the investors strategies to invest in IPOs based on IPO grades.

Research Methodology

The sample of the study consists of grade wise IPOs performanceof long run in market between 2010-2014 in India. Totally 93 IPO's was issued and listed during the period between the three years 2010 to 2014 were considered for the study.

All the 93 IPO's were considered for analysis. IPO'S were rated based on their strengths in fundamentals and usually a rating of 1 to 5 is given indicating poor fundamentals (1), Below Average Fundamentals (2), Average Fundamentals (3) Above Average fundamentals (4) and good fundamentals (5) with Cumulative abnormal returns (CARS) and buy and hold abnormal returns (BHARS)with statisticsAllThe behavior of IPOs in the long-run is evaluated to know whether Cumulative Abnormal Returns (CARs) and the Buy and Hold Abnormal Returns (BHARs) methodology as in Ritter (1991) and in Mitchell and Stafford (2000) for three long-run time intervals of one year, two years and three years. Before calculating CAR, the abnormal returns (ARs) are calculated using the following formula.

Then CAR is calculated as per the formulae defined below.

$$CAR_{iT} = \sum_{t=1}^{T} AR_{it}, CAR_T = \frac{1}{n}\sum_{i=1}^{n} CAR_{iT}$$

Where T is month, n is number of IPOs in T month. The statistical significance of the CAR is tested by calculating t-statistics using the formula given hereunder.$t = \frac{CAR_T}{\sigma(CAR_{iT})/\sqrt{n_T}}$

Where $\sigma(CAR_{iT})$ is the standard deviation of CAR for month 'T' and 'n' is the number of IPOs in the 'T' month. The second long-run performance measure is BHAR (Buy and Hold Abnormal Return). First BHR (Buy and Hold Return) is calculated for IPO and Market and then BHAR is calculated. The formula for BHR and BHAR is defined as

$BHR_{iT} = \prod_{i=1}^{T}(1 + r_{it}) - 1, BHAR_{iT} = \prod_{i=1}^{T}(1 + r_{it}) - \prod_{i=1}^{T}(1 + r_{mt})$

The BHAR of selected IPOs is averaged over a time period T following formula mentioned

$$BHAR_T = \frac{1}{n}\sum_{i=1}^{n} BHAR_{iT}$$

The statistical significance of the BHAR is ascertained by t-statistic calculated as per the formula defined as:

$$t = \frac{BHAR_T}{\sigma(BHAR_{iT})/\sqrt{n_T}}$$

Where $\sigma(BHAR_{iT})$ is the standard deviation of CAR for month 'T' and 'n' is the number of IPOs in the 'T' monthwithscale limits Poor,Below Average , average and Above Average Good, All and parameter minimum and maximum and mean t-value and p-value statistics

Analysis and Interpretation

Cumulative Abnormal Returns (CARs) from Selected IPOs for Long-Run by IPO Grade

Stat by IPO Grade		Cumulative Raw Return			Cumulative Market Return			Cumulative Abnormal Return (CAR		
		1 year	2 years	3 years	1 year	2 years	3 years	1 year	2 years	3 years
Poor (n=7)	Minimum	-1.351	-1.428	-1.7095	-0.054	-0.048	0.1593	-1.301	-1.380	-1.8688
	Maximum	2.935	2.517	2.6292	0.183	0.270	0.5660	2.752	2.2477	2.0633
	Mean	0.161	0.232	0.3107	0.045	0.112	0.3248	0.116	0.1197	-0.0140
	t-Value	0.26	0.40	0.53	1.26	2.62**	4.92**	0.19	0.21	-0.02
	p-Value	0.799	0.692	0.6012	0.214	0.011	0.0000	0.850	0.8313	0.9806
Below Average (n=32)	Minimum	-1.547	-1.786	-2.1070	-0.206	-0.071	-0.0336	-1.597	-1.8873	-2.2446
	Maximum	2.855	2.835	2.8788	0.190	0.438	0.5630	2.665	2.5164	2.3158
	Mean	-0.304	-0.457	-0.3616	0.002	0.092	0.2355	-0.306	-0.5502	-0.5971
	t-Value	-1.79#	-2.55**	-1.68#	0.10	4.54**	8.34**	-1.86#	-3.25**	-2.95**
	p-Value	0.079	0.013	0.0993	0.924	0.000	0.0000	0.068	0.0020	0.0047
Average (n=29)	Minimum	-2.125	-1.538	-2.4851	-0.226	-0.073	0.0035	-2.165	-1.5715	-2.5214
	Maximum	2.101	2.459	2.7774	0.300	0.421	0.5730	1.898	2.3911	2.5693
	Mean	-0.046	0.078	0.0205	0.032	0.106	0.2157	-0.079	-0.0275	-0.1952
	t-Value	-0.26	0.42	0.09	1.28	4.31**	7.72**	-0.46	-0.15	-0.94
	p-Value	0.793	0.676	0.9264	0.204	0.000	0.0000	0.647	0.8808	0.3536
Above Average (n=20)	Minimum	-1.286	-1.028	-2.4724	-0.244	-0.057	-0.0304	-1.116	-1.0113	-2.4859
	Maximum	1.144	1.409	1.3865	0.247	0.372	0.5581	1.132	1.2279	0.9865
	Mean	-0.149	-0.105	-0.1560	-0.031	0.063	0.1740	-0.118	-0.1692	-0.3299
	t-Value	-1.05	-0.77	-0.82	-0.93	2.37*	4.43**	-0.93	-1.38	-1.96#
	p-Value	0.297	0.447	0.4187	0.354	0.021	0.0000	0.356	0.1728	0.0553
Good (n=5)	Minimum	-1.043	-0.881	-0.9546	-0.229	-0.048	0.0388	-0.813	-0.8969	-1.0075
	Maximum	1.276	1.162	0.7433	0.274	0.386	0.5480	1.001	0.7765	0.3832
	Mean	0.099	0.124	0.1784	-0.001	0.125	0.2815	0.101	-0.0005	-0.1030
	t-Value	0.27	0.35	0.60	-0.02	1.61	2.79**	0.33	0.00	-0.42
	p-Value	0.791	0.724	0.5487	0.983	0.112	0.0074	0.741	0.9987	0.6788
All (n=93)	Minimum	-2.125	-1.786	-2.4851	-0.244	-0.073	-0.0336	-2.165	-1.8873	-2.5214
	Maximum	2.935	2.835	2.8788	0.300	0.438	0.5730	2.752	2.5164	2.5693
	Mean	-0.133	-0.131	-0.1186	0.007	0.093	0.2253	-0.141	-0.2253	-0.3439
	t-Value	-1.36	-1.28	-1.00	0.54	7.32**	13.07**	-1.49	-2.30*	-3.10**
	p-Value	0.180	0.206	0.3217	0.592	0.000	0.0000	0.141	0.0253	0.0031

Source: Secondary Data ,*Significant @5% level; **Significant @1% level

Interpretation:

This study analyzed the CAR from selected IPOs across five IPOs grades, viz., poor, below average, average, above average and good in three long run periods of 1 year, 2 years and 3 years. The IPOs issued by poorly graded companies have generated abnormal loss to the extent of 130.17 per cent, 138.0 per cent and 186.88 per cent, and abnormal gain to the maximum of 275.22 per cent, 224.77 per cent and 206.33 per cent in 1, 2 and 3 year timeframes respectively. On the average, there has been insignificant abnormal gain to the investors from IPOs of poorly graded companies to the extent of 11.63 per cent in 1 year and 11.97 per cent in 2 years. But the in the long-run period of 3 years, there has been an insignificant abnormal loss to the extent of 1.40 per cent.

The IPOs issued by the companies graded as below average have left with significant abnormal loss to the investors. The investors of below average graded companies' IPOs have faced with remarkable loss of 30.61 per cent in their investments in 1 year (CAR = -0.3061, t = -1.86, p < 0.10), 55.02 per cent in 2 years (CAR = -

0.5502, t = -3.25, p < 0.01) and 59.71 per cent in 3 years (CAR = -0.5971, t = -2.95, p < 0.01).The IPOs of 'average' graded companies have also generated insignificant abnormal loss to the investors in all three long-run (CAR = -7.91% in 1 year, -2.75% in 2 years and -19.52% in 3 years) periods. The scenario does not change with increase in grading of IPO issuing companies. The IPOs of companies which are graded as average have generated insignificant abnormal loss in 1 year (CAR = -11.87%) and 2 years (CAR = -16.92%) gap and significant abnormal loss in 3 years gap (CAR = -32.99%, t value = -1.96, p < 0.10) from listing day. On the other hand, the IPOs issued by the companies graded as 'good' have given abnormal but insignificant gain to the extent of 10.14 per cent to the investors in 1 year timeframe. The abnormal returns have been almost zero in 2 years period and negative at 10.30 in 3 years period. On the whole, it is found that the underperformance and overpricing of IPOs in the long-run in respect of abnormal ordinary returns is not constrained with grading of issuing companies between poor and good.

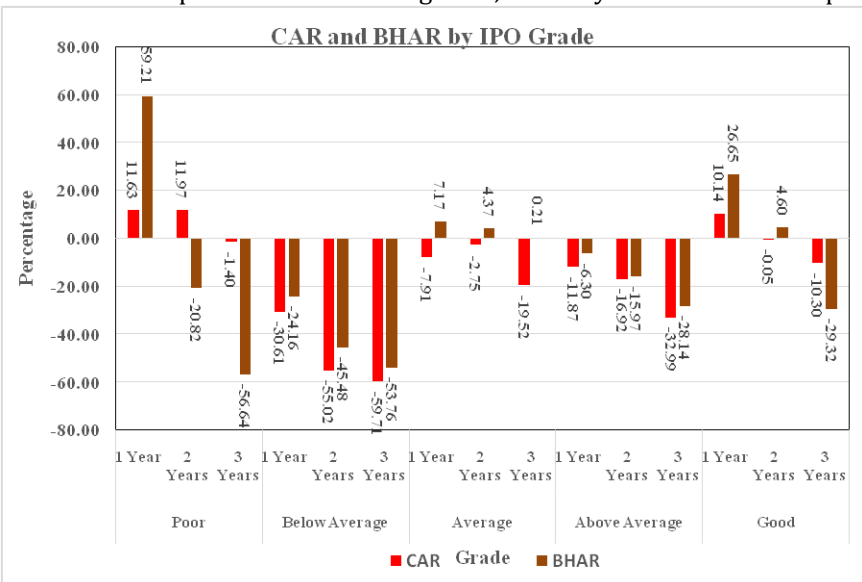
Buy and Hold Abnormal Returns (BHARs) from Selected IPOs for Long-Run by IPO Grade

Stat by IPO Grade		Cumulative Raw Return			Cumulative Market Return			Cumulative Abnormal Return (CAR		
		1 year	2 years	3 years	1 year	2 years	3 years	1 year	2 years	3 years
Poor (n=7)	Minimum	-0.910	-0.903	-0.8773	-0.081	-0.076	0.1259	-0.841	-0.9979	-1.4570
	Maximum	6.260	1.600	1.2411	0.181	0.270	0.6856	6.078	1.3298	1.0338
	Mean	0.620	-0.121	-0.2308	0.028	0.087	0.3356	0.592	-0.2082	-0.5664
	t-Value	0.64	-0.31	-0.62	0.71	1.83#	3.57**	0.62	-0.56	-1.60
	p-Value	0.528	0.760	0.5382	0.481	0.073	0.0008	0.537	0.5781	0.1163
Below Average (n=32)	Minimum	-0.969	-0.979	-0.9625	-0.204	-0.091	-0.0642	-1.050	-1.0704	-1.4622
	Maximum	2.264	1.890	1.9655	0.185	0.501	0.6737	2.079	1.5661	1.5323
	Mean	-0.251	-0.390	-0.3166	-0.009	0.064	0.2210	-0.241	-0.4548	-0.5376
	t-Value	-1.79#	-2.69**	-1.88#	-0.46	2.72**	6.25**	-1.77#	-3.51**	-3.41**
	p-Value	0.079	0.009	0.0660	0.644	0.008	0.0000	0.083	0.0009	0.0012
Average (n=29)	Minimum	-0.941	-0.942	-0.9457	-0.217	-0.097	-0.0540	-1.032	-1.0734	-1.1811
	Maximum	4.061	5.516	7.6483	0.333	0.493	0.6944	3.859	5.5010	7.4878
	Mean	0.096	0.125	0.2001	0.024	0.082	0.1980	0.071	0.0437	0.0021
	t-Value	0.47	0.51	0.62	0.95	2.83**	5.37**	0.37	0.18	0.01
	p-Value	0.637	0.611	0.5411	0.345	0.006	0.0000	0.715	0.8574	0.9949
Above Average (n=20)	Minimum	-0.860	-0.816	-0.9518	-0.236	-0.082	-0.0672	-0.732	-0.7470	-0.9131
	Maximum	1.140	2.185	2.0596	0.265	0.411	0.6819	1.074	2.0180	1.6180
	Mean	-0.098	-0.121	-0.1262	-0.035	0.038	0.1552	-0.063	-0.1597	-0.2814
	t-Value	-0.77	-0.82	-0.83	-1.07	1.23	3.05**	-0.56	-1.19	-2.26*
	p-Value	0.443	0.417	0.4116	0.287	0.225	0.0036	0.580	0.2383	0.0278
Good (n=5)	Minimum	-0.698	-0.653	-0.6887	-0.219	-0.081	-0.0201	-0.478	-0.6992	-0.7239
	Maximum	1.883	1.360	0.3702	0.283	0.425	0.6742	1.599	0.9350	0.1771
	Mean	0.262	0.159	0.0007	-0.004	0.113	0.2939	0.266	0.0460	-0.2932
	t-Value	0.60	0.44	0.00	-0.04	1.24	2.21*	0.73	0.14	-1.64
	p-Value	0.550	0.661	0.9971	0.965	0.222	0.0312	0.471	0.8857	0.1066
All (n=93)	Minimum	-0.969	-0.979	-0.9625	-0.236	-0.097	-0.0672	-1.050	-1.0734	-1.4622
	Maximum	6.260	5.516	7.6483	0.333	0.501	0.6944	6.078	5.5010	7.4878
	Mean	-0.016	-0.121	-0.0910	-0.001	0.068	0.2122	-0.015	-0.1904	-0.3033
	t-Value	-0.15	-1.17	-0.73	-0.10	4.59**	9.50**	-0.14	-1.93#	-2.51*
	p-Value	0.882	0.245	0.4699	0.923	0.000	0.0000	0.887	0.0586	0.0153

Source: Secondary Data
#Significant @10% level; *Significant @5% level; **Significant @1% level

Interpretation

The performance of IPOs based on BHARs by grading of issuing companies is evaluated and the results of the analysis the abnormal return with buy and hold method (strategy) from IPOs of poorly graded companies has hovered between -84.14 per cent and 607.85 per cent in 1 year, -99.79 per cent and 132.98 per cent in 2 years and -145.70 per cent and 103.38 per cent in 3 years in turn resulting in the average buy and hold abnormal gain of 59.21 per cent in 1 year and average buy and hold abnormal loss (negative return) of 20.82 per cent and 56.64 per cent in 2 and 3 years respectively. The buy and hold abnormal return is also negative and significant from IPOs issued by 'below average' companies as that of cumulative abnormal return That is, buy and hold strategy does not change the behavior of IPOs of below average companies from underperforming the market. At the same time, the IPOs of companies graded as average have generated positive but insignificant abnormal returns with buy and hold method to the extent of 7.17 per cent, 4.37 per cent and 0.21 per cent on the average in 1, 2 and 3 year timeframes respectively.



It is interesting to note that the IPOs issued by companies graded as 'above average' has also generated abnormal loss to the investors even with buy and hold strategy. The abnormal loss has been even significant at 28.14 per cent in 3 year timeframe (Mean BHAR = 0.2814, t = -2.26, $p < 0.05$). However, the IPOs of 'good' graded companies, have given positive buy and hold abnormal return of 26.65 per cent in 1 year and 4.60 per cent in 2 years with outperforming the market in these two long-run timeframes. But these IPOs have generated insignificant buy and hold abnormal loss of 29.32 per cent in 3 years timeframe. In sum, it is found that grading of IPOs tends to play nominal role in underperformance and overpricing of the IPOs in Indian stock market between 2010 and 2014. The comparison of CAR and BHAR from IPOs across grading of issuing companies graphically as bar diagram.

Wealth Relative Index for Selected IPOs by IPO Grade in Long Run (in Ratio)

IPO Grade	CAR Based			BHAR Based		
	1 Year	2 Years	3 Years	1 Year	2 Years	3 Years
Poor	1.1113	1.1076	0.9894	1.5759	0.8084	0.5759
Below Average	0.6945	0.4966	0.5167	0.7560	0.5727	0.5597
Average	0.9234	0.9751	0.8394	1.0700	1.0404	1.0017
Above Average	0.8775	0.8410	0.7189	0.9347	0.8462	0.7564
Good	1.1016	0.9995	0.9196	1.2676	1.0413	0.7734
All	0.8598	0.7941	0.7193	0.9846	0.8218	0.7498

Source: Secondary data

Interpretation

From the observation of the Wealth relative it is evident that poorly graded companies' IPOs have outperformed the market in 1 year both in terms of CAR and BHAR. In respect of CAR, the poorly graded

IPOs have outperformed the market in 2 year timeframe also. But the same is not observable in terms BHAR from IPOs issued by poorly graded companies. In 2 and 3 year timeframes, these IPOs have underperformed the market in terms of yielding abnormal returns with buy and hold trading strategy. At the same time, the IPOs issued by companies which are graded as 'below average' and 'above average' have underperformed (overpricing) the market in all three long-run timeframe in terms of both CAR and BHAR. The IPOs companies which are graded as average have underperformed with CAR but outperformed with abnormal returns based on buy and hold trading method in all three long-run periods. The scenario is similar to the above in respect of IPOs of companies graded as good but with one exception that they have outperformed based on CAR in 1 year long-run period. Overall, it is found that the IPOs of companies graded as 'average' and 'good tend to perform somewhat better in terms of BHAR. It is however found that grading itself is not the factor for the performance of IPOs in the long-run.

Suggestions

The IPOs grade obtained by this research and the issuer, the investor needs to make their own independent decision regarding on investing in any issue after studying the contents of the prospectus including risk factors carefully.

Conclusion

The Car returns of IPOs of 'average' graded companies have also generated insignificant abnormal loss to the investors in all three long-run.The IPOs issued by the companies graded as 'good' have given abnormal but insignificant gain to the investors in 1 year timeframe. The buy and hold abnormal return is also negative and significant from IPOs issued by 'below average' companies as that of cumulative abnormal return. That is, buy and hold strategy does not change the behavior the IPOs of below average companies from underperforming the market. At the same time, the IPOs of companies graded as average have been generated positively but insignificant abnormal returns with buy and hold method on the average in 1, 2 and 3 year timeframes respectively.

Wealth relative it is an evident shows In respect of CAR, the poorly graded IPOs have outperformed the market in 2 year timeframe also. But the same is not observable in terms BHAR from IPOs issued by poorly graded companies. In 2 and 3 year timeframes, these IPOs have underperformed the market in terms of yielding abnormal returns with buy and hold trading strategy. At the same time, the IPOs issued by companies which are graded as 'below average' and 'above average' have underperformed (overpricing) the market in all these three long-run timeframe in terms of both CAR and BHAR.

The IPOs companies which are graded as average have underperformed with CAR but outperformed with an abnormal returns based on buy and hold trading method in all these three long-run periods. IPOs of companies graded as good but with one exception that they have outperformed based on CAR in 1 year long-run period. Overall, it is found that the IPOs of companies graded as 'average' and 'good' tend to perform in somewhat better in terms of BHAR.

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