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Does IPO grading convey future performance? Evidence from Indian IPOs

B Ashish
Asst. Professor and corresponding author, ICBM School of Business Excellence, Email: ashish@icbm.ac.in

Syed Azhar
Asst. Professor and corresponding author, ICBM School of Business Excellence, Hyderabad.

Abstract
Purpose: This paper tests whether the IPO grading mechanism captures the fundamentals of the firm by examining the long-run operating performance of IPOs.

Design/methodology/approach: To measure the operating performance of the IPO industry, the industry-adjusted PBDITA scaled by total assets was used as a proxy. The multivariate analysis was employed to find the impact of grading on operating performance

Findings: The findings reveal that the grading has a significant and positive impact on the operating performance than that of the non-graded IPOs. As IPO grading is based on the fundamentals of the firm, we assume that the high-grade IPOs' operating performance would be better than that of low-grade IPOs, but the high-grade IPOs' operating performance doesn't significantly differ from that of low-grade IPOs.

Originality/value: Since IPO grading became mandatory, most of the research was focused on the pricing and stock performance. This study contributes to the literature by studying the IPO grading impacts on the long-run operating performance of IPOs, which was ignored by previous studies.

Keywords:
Grading, operating performance, IPO…

Introduction
Does graded IPOs operating performance is better than that of non-graded IPOs? In the year 2007, the Indian capital market regulator Securities and Exchange Board of India (SEBI) came up for the first time in the world with the grading of IPOs. It is one of its kind. After the liberalisation of the Indian economy in 1990, capital markets have witnessed many capital frauds, which resulted in the evaporation of the wealth of the investors. Institutional voids coupled with naïve retail investors, Indian capital markets became highly vulnerable for such frauds. To safeguard investors' wealth from the fly by night entrepreneurs SEBI mandated the IPO grading from May 2007.

Grading of IPOs is one of the certification mechanisms to convey the quality of the firm. IPO grading is based on the fundamentals of the firm, which takes into account Business Prospects and Competitive Position, Financial Position, Management Quality, Corporate Governance Practices, Compliance and Litigation History and New Projects. Based on the fundamentals rating agencies gives grading from 1 to 5, grade 1 represents the worst and 5 for the best. Issuing firms cannot opt-out the grade given by rating agencies, they have mentioned the

grade in the prospectus however they choose if there are multiple grades, but they have to reveal all grades given by different rating agencies in the prospectus.

IPO grading influence on the pricing of the IPOs is inconsistent in the literature. Deb and Marisetty (2010) in their study reported that the underpricing of graded IPOs was less than that of ungraded IPOs. IPO grading didn't improve the pricing efficiency of the IPOs (Banerjee and Rangamani, 2014, Jacob and Agarwalla, 2015). Poudyal (2008) reported that high grades reduces the underpricing and also reported that the subscription improved across all classes of investors. The long-run performance of IPOs doesn't improve for the graded IPOs(Deb and Marisetty, 2010).

The present study tries investigate two objectives, first to examine the long-run operating performance of IPOs before IPO grading and during IPO grading, as we hypothesise that the issuing firms during the period of IPO grading would be of higher quality because low grades badly hurt issuing firms subscription and offer prize. Second as the IPO grading is based on the fundamentals of the firms whether the grading truly reflects the fundamental by long-run operating performance of firms with grades 1 to 3 as low-grade firms and 4 to 5 as high grades firms.

The rest of the paper is organised into four parts. Section 2 deals with the literature review. This followed by data and methodology in section 3. Section 4 describes the results and findings. Followed by a conclusion in section 5.

Literature review

Since the documentation of long-run underperformance of the IPOs by (Ritter, 1991, Loughran and Ritter, 1995) generated interest among the researchers to further explore the determinants impacting the performance. Many studies investigated the certification hypothesis impact in reducing the underperformance of IPOs. IPOs backed by strong venture capitalist reduces the IPO underpricing(Megginson and Weiss, 1991, Brav and Gompers, 1997, Krishnan et al., 2011). Many studies have reported that the reputed underwriter reduces the underpricing (Beatty and Ritter, 1986, Carter and Manaster, 1990). Group affiliation is another popular certification mechanism to convey the quality of issuing firm (Marisetty and Subrahmanyam, 2010). Deb and Marisetty (2010) in their study reported that the grading significantly influences the underpricing of IPOs.

Jain and Kini (1994a) in their study found that the operating performance is negative while the sales and capital expenditure are on par with the industry. They find that the M/B, P/E and EPS declines after the issue. Managerial ownership retention has a significant impact on the post-issue operating performance. Certification mechanisms impact on the operating performance studies is scant. Jain and Kini (1995) in their study found that the firms backed by the venture capitalist reported superior performance than the peer firms.

Stock performance and operating performance are interdependent; operating performance many times translates into stock performance. Operating performance depends on the fundamentals of the firm when firms fundamentals are strong; it translates into operating performance. IPO grading mechanism is based on the fundamentals of the firm. But the past literature hasn't focussed on the operating performance of the firm. Previous studies mostly

focused on the stock performance but haven't tested whether IPO grading truly captured the prospective quality firm.

Data and Methodology

The study includes IPOs which were listed in the BSE. IPO data was collected Prime database which is one of the specialised sources for primary market in India and financial data of these was collected from the CMIE Prowess IQ. There are total 607 firms listed from the year 2000 to 2017 which was retrieved from the Prime database. Financial data of these IPOs was collected from Prowess IQ. IPOs whose financial data was missing were removed the sample; further the sample size came down to 580 firms.

For measuring the operating performance (OP_s) of firms, we used profit before interest, depreciation, tax and amortisation(PBDITA) scaled by total assets of firms (OP_S). We have collected first two digits NIC codes of IPO firms from CMIE, which are similar to SIC codes in US for industry proxy. From collected NIC codes of firms, we have retrieved all firms with that NIC codes and downloaded profit before interest, depreciation, tax and amortisation scaled by total assets (OP) for each firm. Then we have calculated OP median of that firms in each NIC codes, we referred it as industry median Operating performance (OP_{Ind}). Lastly to calculate the abnormal operating performance we subtracted sample firms operating performance (OP_s) from industry median operating performance (OP_{Ind}).

$$OP_{Ab} = OP_S - OP_{Ind}$$

IPO grading is independent variable used as dummy variable "0" for the firms which are not graded and "1" for the firms which are graded, we represent it as "Graddummy". With in grading for measuring the high grade and low grade impact on operating profit we use dummy variable, where high grade is which is grade which is greater than 3 coded to be "1" , low grade is grade less than or equal to 3 coded to be "0", we represent it as "highlowgraddummy". Age, return on networth (RNOW), issue size, issue expense, total subscription, institutional subscription times and retail investor subscription times are used as control variables.

Table 1 gives the year-wise listing of IPOs with a break-up of graded and ungraded IPO. Year-wise number of IPOs is inconsistent, with the highest number of IPOs in the year 2007 and the lowest number of IPOs in 2013. A total of 580 IPOs were listed during 2000-2017 are 580, of which 196 IPOs were graded and 381 IPOs were non-graded. As IPO grading was introduced in May 2007, there were no graded IPOs, and in the first quarter of 2014, the mandatory clause of grading was converted to an optional one. A rise in graded IPOs was reported in 2010, soon after the recession. Later years saw a rapid decline, which may be due to the high rating fee, or apprehension of getting lower grades, might have restrained entrepreneurs from going public. Table 2 gives the year-wise breakup of graded IPOs, we divided the sample into high and low grade IPOs. High-grade IPOs, which received grades 4 and 5, and low-grade IPOs, which received grades from 1 to 3 by rating agencies. Low-grade IPOs are 152, and high-grade IPOs are 47.

Table 1 Year-wise frequency distribution of sample firms from 2000 to 2017. This sample includes graded and non IPO firms. The firms which are available in Prime database and CMIE prowess IQ are reported in the table.

Year			**Total**
	Ungraded IPO	Graded IPO	

2000	52	0	52
2001	14	0	14
2002	8	0	8
2003	5	0	5
2004	22	0	22
2005	47	0	47
2006	76	0	76
2007	76	23	99
2008	3	38	41
2009	1	16	17
2010	0	65	65
2011	0	39	39
2012	1	10	11
2013	0	3	3
2014	3	2	5
2015	19	2	21
2016	25	1	26
2017	29	0	29
Total	381	199	580

Table 2 Reports graded IPOs sample breakup low-grade IPOs and high-grade IPOs. Low-grade IPOs are those IPOs which received a grade from 1 to 3 by rating agencies, and high-grade IPOs are those which received a grade of 4 or 5.

Year	**IPO grading**		**Total**
	Low grade IPOs (1-3)	**High grade IPOs (4-5)**	
2007	**19**	**4**	**23**
2008	**33**	**5**	**38**
2009	**13**	**3**	**16**
2010	**44**	**21**	**65**
2011	**35**	**4**	**39**
2012	**5**	**5**	**10**
2013	**2**	**1**	**3**
2014	**0**	**2**	**2**
2015	**1**	**1**	**2**
2016	**0**	**1**	**1**
Total	**152**	**47**	**199**

Results and findings

Descriptives of the IPOs are reported in Table 3. The age of the IPO firms of both graded and ungraded doesn't have much in the mean and median values. Issue size of graded IPOs means and medians are quite higher than those of the ungraded IPOs. The graded IPOs' issue size is

high, which may be due to the high rating fee that can be afforded by large firms. Institutional subscription, total subscription and underpricing are quite low for the graded IPOs, which suggests that the information asymmetry has been reduced quite significantly by the grading process of the IPOs. Return on networth and post-IPO promoter holding are almost the same for the graded and non-graded IPOs.

Table 3 Descriptives of sample IPO firm are reported. Data of the IPO firms was extracted from Prime database and CMIE prowess. QIB refers to the number of times qualified institutional buyers subscribed the issue. Similarly RII and Total subscription number of times subscribed by Retail individual Investors and total investors respectively. Underpricing has been calculated initial day closing price minus offer price whole divided by offer price.

	Non-graded IPOs		Graded IPOs	
	Mean	Median	Mean	Median
Age (years)	15.2992	12.0000	15.5829	12.0000
Issue size (Rs in crores)	342.0959	92.8800	466.5559	107.9000
QIB (times)	17.2690	3.9180	13.7481	1.8225
RII (times)	9.6286	3.9700	7.2792	2.9400
Total subscription (times)	22.3856	7.6695	13.4135	3.4200
Underpricing (proportion)	.3960	.1804	.1394	.0588
RNOW (times)	22.5833	19.6600	21.8313	20.6200
Post-IPO Promoter Holding (%)	59.1331	61.1600	58.8452	59.0300
Operating performance($0P_{Ab}$) 1 year	.9878	.9900	.9719	.9600
Operating performance($0P_{Ab}$) 2 year	.8737	.9500	.9416	.9400

Descriptives of graded IPOs are reported in table 4. The median operating performance of low and high-grade IPOs are similar in first year but differ slightly in second year. Age of high-grade IPOs quite more for high-grade IPOs, as better experienced IPOs receive high grading of IPOs. Issue size and subscription of QIB are better for high-grade public offers, which is not surprising institutional investors have better resources and time to analyse the offering. Underpricing almost same in the case of both low and high graded IPOs, post-IPO promoter holding differs, high graded IPOs holds better holding than low-grade IPOs.

Table 4 Descriptives of graded IPO firm are reported. Data of the IPO firms was extracted from Prime database and CMIE prowess. QIB refers to number of times qualified institutional buyers subscribed the issue. Similarly RII and Total subscription number of times subscribed by Retail individual Investors and total investors respectively. Underpricing has been calculated initial day closing price minus offer price whole divided by offer price.

	High-grade IPOs		Low-grade IPOs	
	Mean	Median	Mean	Median
Operating performance($0P_{Ab}$) 1 year	.9932	.9600	0.9654	0.96

Operating performance($0P_{Ab}$) 2 year	.9709	.9600	0.9326	0.93
Age (years)	23.0213	14.0000	13.2829	11.5
Issue size (Rs in crores)	1218.2867	472.5931	234.1128	74.4108
QIB (times)	27.5290	12.2307	9.4869	1.1477
RII (times)	9.1332	3.3900	6.7059	2.77
Total subscription (times)	24.0768	14.6400	10.1163	2.005
Underpricing (proportion)	.1266	.0883	0.1434	0.0254
RNOW (times)	23.7600	21.4600	21.2278	20.61
Post-IPO Promoter Holding (%)	66.6740	74.4000	56.4244	57.23

To test whether there is a difference between the graded and non-graded IPO operating performance, we run an independent sample t-test along with control variables. As reported in table 5 graded IPO's operating performance abnormal returns are significantly different from the non-graded both in the first year and second year after going public. It shows that the grading is significantly impacting the operating performance of a firm; thus the grading captures the fundamentals of the firms which is reflected in their operating performance. Total subscription and underpricing are significant; grading significantly reduces the information asymmetry as reported (Deb and Marisetty, 2010).

Table 5 reports the independent sample t-test, where the group variable is used is grading, which is coded to the dummy variable where 1 is for graded IPOs, and 0 is for non-graded IPOs.

		Levene's Test for Equality of Variances						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Operating performance($0P_{Ab}$) 1 year	Equal variances assumed	29.258	.000	2.638	622	**.009***	.06298	.02388
	Equal variances not assumed			3.417	616.648	**.001***	.06298	.01843

Operating performance($0P_{Ab}$) 2 year	Equal variances assumed	91.303	.000	4.772	622	**.000***	.13560	.02841
	Equal variances not assumed			6.476	569.826	**.000***	.13560	.02094
Age	Equal variances assumed	2.418	.120	-.698	622	.485	-.97003	1.38988
	Equal variances not assumed			-.731	435.009	.465	-.97003	1.32775
Issue size(Rs in crores)	Equal variances assumed	1.840	.175	.777	622	.437	71.16143	91.56275
	Equal variances not assumed			.651	264.300	.516	71.16143	109.37730
QIB	Equal variances assumed	.589	.443	-1.099	622	.272	-2.70062	2.45774
	Equal variances not assumed			-1.056	351.685	.292	-2.70062	2.55712
RII	Equal variances assumed	5.454	.020	-1.400	622	.162	-1.63584	1.16884
	Equal variances not assumed			-1.507	468.118	.132	-1.63584	1.08533
Total subscription	Equal variances assumed	12.140	.001	-3.075	622	**.002***	-8.24633	2.68194
	Equal variances not assumed			-3.478	528.847	**.001***	-8.24633	2.37113

Underpricing	Equal variances assumed	8.647	.003	-3.470	622	**.001***	-.24075	.06939
	Equal variances not assumed			-4.400	621.993	**.000***	-.24075	.05471
RNOW	Equal variances assumed	.978	.323	-.030	588	.976	-.13681	4.52736
	Equal variances not assumed			-.040	553.082	.968	-.13681	3.44170
Post-IPO promoter holding	Equal variances assumed	2.584	.108	-.498	622	.619	-.71706	1.44009
	Equal variances not assumed			-.525	442.320	.600	-.71706	1.36687

***- 1% level of significance; **- 5% level of significance; *- 10% level of significance

An independent t-test was performed to find the difference between high graded IPOs and low graded IPOs table 6. Operating Performance of high graded and low graded did not differ significantly in first year, and in second year it is weakly significant. It depicts during the mandatory grading period the firms which went public were mostly of high quality as from the table 5 we see that the graded and ungraded differ significantly, but when we check the difference between the high and low graded IPOs, same results are not emulated, it shows both high and low graded IPOs were of high quality. Institutional investor subscription is significant between the groups. Post-IPO promoter holding is significant which is in line with the previous studies(Jain and Kini, 1994b)

Table 6 Reports the independent sample t-test, where the group variable used is grading, which is coded as a dummy variable where 1 is for high-grade IPOs and 0 is for low-grade IPOs.

		Levene's Test for Equality of Variances						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Operating performance($0P_A$	Equal variance	3.956	.048	1.225	197	.222	.02783	.02272

$_b$) 1 year	s assumed							
	Equal variances not assumed			1.207	74.901	.231	.02783	.02306
Operating performance(0P_A $_b$) 2 year	Equal variances assumed	.362	.548	1.855	197	.065*	.03829	.02064
	Equal variances not assumed			1.929	81.668	.057*	.03829	.01985
Age	Equal variances assumed	40.840	.000	4.099	197	.000***	9.73838	2.37590
	Equal variances not assumed			2.671	49.938	.010***	9.73838	3.64552
Issue size(Rs in crores)	Equal variances assumed	23.989	.000	4.299	197	.000***	984.17392	228.95676
	Equal variances not assumed			2.563	47.593	.014**	984.17392	384.02195
QIB	Equal variances assumed	8.984	.003	3.621	197	.000***	18.04211	4.98224
	Equal variances not assumed			3.166	63.915	.002***	18.04211	5.69865
RII	Equal variances assumed	1.643	.201	1.243	197	.215	2.42727	1.95244
	Equal variances not assumed			1.198	72.482	.235	2.42727	2.02578
Total subscription	Equal variance	7.526	.007	3.592	197	.000***	13.96049	3.88664

	s assumed							
	Equal variances not assumed			3.266	67.019	.002***	13.96049	4.27390
Underpricing	Equal variances assumed	18.478	.000	-.231	197	.818	-.01675	.07267
	Equal variances not assumed			-.342	182.196	.733	-.01675	.04895
RNOW	Equal variances assumed	1.554	.214	.685	191	.494	2.53218	3.69536
	Equal variances not assumed			.548	57.057	.586	2.53218	4.61843
Post-IPO promoter holding	Equal variances assumed	16.134	.000	4.230	197	.000***	10.24963	2.42297
	Equal variances not assumed			3.512	60.418	.001***	10.24963	2.91885

***- 1% level of significance; **- 5% level of significance; *- 10% level of significance

Multivariate analysis

To investigate further multivariate regression analysis was performed in the presence of control variable which influences the performance. Table 7 reports that the grading of IPO significant at 1 % significance level. Grading variable is coded as dummy variable, and it is found to be highly significant and positive. Beta value of the grading variable is positive, and this reflects that the grading positively influences the industry adjusted operating performance. Other variables such as age were highly significant at 1 %, QIB, RII and underpricing were weakly significant in the first year and highly significant in the latter year. The total subscription was not significant in first year and turns significant later year.

$$OP_{Ab} = \beta_0 + \beta_1 \text{Graddummy} + \beta_X X$$

OP_{Ab}= industry adjusted operating performance.

Graddummy= grading dummy ‘0’ is non-graded IPO and ‘1’ is graded IPO.

X= control variables.

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Table 7 reports the multivariate regression analysis results. Grading dummy, which is an independent variable coded as 1 for graded IPOs and 0 for non-IPOs. Industry adjusted operating profit as dependent variable for 1 year and 2 year are calculated.

	Operating performance($0P_{Ab}$) 1 year				Operating performance($0P_{Ab}$) 2 year			
Parameter	B	Std. Error	t	Sig.	B	Std. Error	t	Sig.
Intercept	0.986	0.044	22.173	0	0.864	0.053	16.188	.000***
Age(years)	-0.002	0.001	-3.548	.000***	-0.002	0.001	-2.82	.005***
Issue size(Rs in crore)	-2.79E-05	1.10E-05	-2.535	.012*	-4.27E-05	1.32E-05	-3.225	.001***
QIB(times)	0.001	0.001	1.899	.058*	0.003	0.001	3.934	.000***
RII(times)	0.002	0.001	1.883	.060*	0.003	0.001	2.646	.008***
Total subscription (times)	-0.001	0.001	-1.132	0.258	-0.004	0.001	-5.225	.000***
Underpricing (proportion)	0.008	0.015	0.553	0.581	0.056	0.018	3.034	.003***
RNOW	0	0	1.981	0.048	0	0	-0.624	0.533
Post-IPO promoter holding(%)	-0.001	0.001	-1.367	0.172	0	0.001	-0.234	0.815
Grading dummy	0.07	0.024	2.93	.004***	0.134	0.029	4.657	.000***

***- 1% level of significance; **- 5% level of significance; *- 10% level of significance

We run a multivariate regression analysis to find the influence of high and low grade on operating performance. In table 8, we report that the operating performance in both years wasn't influenced by the high and low grades assigned rating agencies. High grade doesn't translate into operating performance, and it depicts that the mandatory grading has led only to quality firms to go for public issue. Yet being received below-average grading still the operating performance was found to be on par with high-grade IPOs. Grading yet being based on the fundamentals of firm but it wasn't able capture truly the future performance.

$$OP_{Ab} = \beta_0 + \beta_1 \text{highlowdummy} + \beta_X X$$

OP_{Ab}= industry adjusted operating performance.
highlowdummy = grading dummy '0' is high graded IPO and '1' is low graded IPO.
X= control variables.

Table 8 reports the multivariate regression analysis results. High low dummy which is independent variable coded as 1 for high graded IPOs and 0 for low graded IPOs. Industry adjusted operating profit as dependent variable for 1 year and 2 year are calculated.

	Operating performance($0P_{Ab}$) 1 year				Operating performance($0P_{Ab}$) 2 year			
	B	Std. Error	t	Sig.	B	Std. Error	t	Sig.
Intercept	.912	.033	27.448	.000	.834	.037	22.437	.000
Age(years)	.000	.001	-.245	.807	-.001	.001	-1.106	.270
Issue size(Rs in crore)	########	5.892E-06	-1.567	.119	########	6.598E-06	-1.717	.088*
QIB(times)	-.001	.001	-1.230	.220	-.002	.001	-1.209	.228
RII(times)	-.003	.002	-1.682	.094*	-.004	.002	-2.136	.034**
Total subscription (times)	.003	.002	1.472	.143	.004	.002	1.733	.085*
Underpricing (proportion)	.012	.021	.592	.554	.029	.023	1.265	.208
RNOW	.002	.000	4.268	.000***	.001	.000	3.615	.000***
Post-IPO promoter holding(%)	.001	.001	1.158	.248	.001	.001	2.225	.027**
High low grading dummy	.008	.020	.372	.710	.022	.023	.941	.348

***- 1% level of significance; **- 5% level of significance; *- 10% level of significance

Conclusion

Jain and Kini (1994a) In their study, they reported that the long-run operating performance was negative for the IPOs soon after going public. In this study, we examined whether IPO grading impacts the operating performance in the long run. We use IPO grading as a certification mechanism because the grading of IPOs is based on the fundamentals of firms. We find that the IPO grading has a significant positive impact on the operating performance in the first two years after going public. These findings are in line with the venture capitalist backing as a certification mechanism on the operating performance, where venture capitalist backing significantly improved the operating performance than that of other IPOs without venture capitalist backing(Jain and Kini, 1995). We further delve into whether high-grade IPOs have a significant positive impact on the operating performance. Findings revealed that the high-grade IPOs do not show any significant difference in operating performance compared to the low-grade IPOs. It illustrates that the IPO grading doesn't really reflect the prospective operating performance of firms. It can be explained that during the mandatory

grading period, only good quality firms choose to go public, which may be the reason low-grade IPOs perform on par with high-grade IPO.

Future research can study the operating performance after the revocation of the mandatory grading rule by SEBI, and how the firm's performance and quality improved

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