Information Content of IPO Grading

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ABSTRACT

IPO grading is an assessment of the quality of initial equity offers. India is the only market in the world that introduced such grading process. We test the efficacy of this unique certification mechanism. Using data of 159 Indian IPOs, we find, grading decreases IPO underpricing and influences demand of retail investors. Post listing, highly graded IPOs attract greater liquidity and exhibit lower risk. IPO grading successfully capture firm size, business group affiliation and firm's quality of corporate governance. Our findings imply that in emerging markets regulator's role to signal the quality of an IPO contributes towards the market welfare.

JEL Classification: G14, G32.

Key Words: Initial Public Offering (IPO), Underpricing, IPO grading, Certification, Retail investors

1. Introduction

Entrepreneurs, while issuing Initial Public Offerings (IPOs), often use a certification mechanism to reduce the information asymmetry on firm value between them and public investors. IPO literature has explored various instruments that can reflect or certify the quality of IPOs. Some popular methods of certification are underwriter reputation, auditor reputation, bank relationship, venture capitalist affiliation, analyst coverage, financial institutions affiliation and business group affiliation. The results based on the certification studies so far are not conclusive that certification adds value by reducing the degree of information asymmetry. This inconclusive evidence on the role of certification on IPO pricing efficiency and post-issue performance, motives us to understand the conditions underlying firm's decision to be certified and the appropriateness of the certification device that needs to be used to unravel the role of certification. We argue that the existing studies are carried out *either* in markets where certification may not add value as markets are well developed *or* the certification devise used is biased.

We use Indian stock market to re-examine the certification issue in IPOs. Indian stock market is an emerging market, with many institutional voids[1], where certification is crucial. Apart from that investors in India are mainly retail with relatively very low rate of financial literacy. This fatal combination, with no system to differentiate the quality of the

[1] Khanna and Palepu (2000) is the first paper in finance to address the role of certification in a market (Indian market) where there are institutional voids. They argue that, in markets where there are voids in the product, labour and capital markets, firms organise as business groups to overcome institutional voids. Hence, affiliation to a business group acts as a certifying device and firms that are affiliated to business groups are valued higher than their standalone counter parts.

entrepreneurs, has the potential to wipe out retail investors' wealth[2]. Marisetty and Subrahmanyam (2008) report that underpricing in India is, on average, more than 100 percent and affiliation to large business groups, as a certification mechanism, fails to reduce the information asymmetry and, on the contrary, business group affiliated firms are more underpriced than standalone firms. Apart from that, during 1990 – 2000 many IPOs in India have vanished looting several millions of public funds[3]. Hence, India is a classical case where certification is crucial to safe guard investors' wealth, however, popular certifying devices like business group affiliation do not reduce the information asymmetry.

Aware of this problem, the regulator of Indian stock market SEBI (Securities Exchange Board of India) stepped in by mandating that, effective from May 2007, all IPOs should undergo mandatory quality grading by designated credit rating agencies. The rationale for such dramatic move, as per SEBI, is *to protect the retail investors from fly-by-*

[2] Bombay Stock Exchange President, Mr. J.C.Parikh quoted (in a leading financial news paper, *financial express* published on the 20th December 1998)," we've identified 275 such vanished companies out of 6200 listed companies. These companies apparently raised funds in the 1992-96 period when the public issue boom was in full force". The BSE chief admits that the exchange has no knowledge about the existence of these companies which were listed during the boom period. The BSE chief also admitted that over 1,500 companies have not submitted their accounts for the year 1998 as per the listing norms.

[3] Indian government Join Parliament committee report (para 11.42) dated 6th June 2002 reports that, "In the year immediately after liberalization, 15million new investors, small investors as we call them, came into the market between 1992 and 1996 through IPOs. They were duped. At the time 86000 billion rupees (one US dollar is approximately 45 Indian rupees) were raised in four years through public issues and right by issues by four thousand odd companies. Most of these 15 million investors who came in for the first time in the stock market were duped… Till date 229 companies (only) have been identified by the Government appointed monitoring committee, as having made public issues and disappeared. No one has been arrested and no money has been recovered. There has not been even an action plan as to how to recover that money".

night entrepreneurs. IPO grading is similar to rating of debt instruments where a credit rating agency evaluates the fundamentals of the issuing company and issues are graded in a scale of 1 (worst) to 5 (best). This is the first time in the world that IPOs are graded. This unique setting also allows us to address issues relating to the Indian IPO market and also issues that either plague existing studies in the IPO literature or not addressed in the existing IPO studies.

Issues relating to the Indian IPO market:

First, we aim to address the information content of IPO grading.[4] The efficacy of IPO grading is very important as grading incurs additional cost to the issuers. SEBI is facing lot of criticism on the IPO grading policy on the grounds that: (1) grading discourages small entrepreneurs as they are bound to get lower grading due to their relatively poor back ground; (2) although the cost of monitoring should be borne by the regulator, it is being transferred to the issuer; (3) grading equities, unlike debt where the cash flows and time horizon are defined, is much difficult as the cash flows and time horizon are not certain. Hence, unless grading contributes to the reduction of information asymmetry and thereby help retail investors to pick better quality IPOs, the efforts of SEBI will be futile.

Second, we aim to address one of the major concerns in the Indian market: liquidity of the listed companies. Although India, with more than 8000 listed companies, is the largest stock market in terms of number of companies listed, not even 10 percent of these stocks are highly liquid. Illiquidity of listed stocks is an additional burden to the retail investors

[4] SEBI and the rating agencies make it clear that IPO grading does not reflect the pricing. However, grading is based on the fundamentals of the firm. In other words, grading reflects the true value of the firm and hence it certainly reduces the information asymmetry about the firm value. Thus, mispricing of the IPOs should be relatively low in grading regime.

who have invested in IPOs[5]. Hence IPO grading, which reflects firm fundamentals, should be able to predict post IPO liquidity and risk of the firm. Third, we aim to address whether IPO grading captures firm characteristics. Given that grading is based on firm's fundamental characteristics, it important to know whether grading actually capture firm fundamentals.

Issues relating to the IPO literature:

We also aim to contribute to the literature mainly in two ways. First, we extend the certification based IPO literature by examining a unique form of certification mechanism that is less biased and also not used by any other market in the world, to test the efficacy of certification to reduce information asymmetry. Second, we examine the regulator's role in the IPO certification process, in order to safeguard retail investors' wealth especially in an environment where institutions that generally provide certification are less developed. To our knowledge existing studies did not capture the dynamics of retail investors' investment decisions.

Using a sample of 159 Indian IPOs, issued during 2006 to 2008, we find that: (a) underpricing of IPOs is lower in the post–grading regime; (b) retail investors respond to the IPO grading quality: retail investors show more interest on better graded IPOs; (c) the factors that influence retails investors' interest on IPOs are quite different from institutional investors. Retail investors focus more on the quality of IPO grading, where as institutional investors focus on firm's leverage and return on net worth. The quality of IPO

[5] There are over 3,000 companies listed on the Bombay Stock Exchange are quoting below the par value of Rs 10. Out of this, nearly 50 per cent -- i.e. 1,500 companies-- is traded below Rs five per share. The project status, fund utilisation and financial performance of these companies are very poor. Given this back ground it is hard to expect investors actively trading in these companies.

grading does not influence institutional investors. They invest in firms that are highly levered and generate high returns. This clearly indicates that IPO grading is of value for retail investors; (d) our post-issue results indicate that high quality or better graded IPOs attract higher liquidity and exhibit lower risk; (e) grading mainly captures, firm size, quality of corporate governance and group affiliation. Our findings have a useful implication: in markets where institutions are less developed and retail participation in IPOs is more, regulators role to signal the quality of an IPO adds value to the market welfare.

The rest of the paper is organised in four sections. This section is followed by literature review and brief introduction to the Indian IPO market in Section two. Section three describes the data and methodology. The results are discussed in Section four and the paper ends with concluding remarks in Section five.

2. Background and literature review

2.1 Performance of certification-backed IPOs

Certification-backed IPOs are those that are perceived to be of better quality due to the reputation of the certifier or the certification strategy in question. This certification can come in many forms, including a good track record of the company before the IPO, the use of a reputable underwriter, venture capital backing, group affiliation, institutional backing, and analysts' following, among others. However, the previous theoretical literature suggests that the pricing of certification-backed IPOs can go either way. Chemmanur and Fulghieri (1999) suggest that investors incur a lower cost of information accumulation if an IPO has some backing that signals better quality. However, Allen and Faulhaber (1989), Grinblatt and Hwang (1989), Welch (1989), and Chemmanur (1993) suggest that

underpricing should be greater for higher quality IPOs as they use underpricing as a signalling cost to drive low-quality issuers out of the market.

Table 1 summarizes the findings of existing empirical studies on the certification hypothesis. Barry, Muscarella and Vetsuypens (1990) and Megginson and Weiss (1991) find that underpricing is *lower* for IPOs of firms with a strong venture capital participation than for those without such investors. These results are consistent with the assumption of cost of information accumulation borne by investors. In contradiction to these findings, Lee and Wahal (2004), based on a somewhat larger sample, over a longer time period, uses a more robust statistical methodology to find *higher* underpricing in venture-backed IPOs. These authors explain that the contradiction between the two conclusions could be the result of incentives received by venture capitalists from investment bankers to leave more money on the table. This may happen in exchange for preferential allocation by investment bankers involved in other underpriced IPOs to the venture capitalists. Loughran and Ritter (2002) also reach a similar conclusion.

There is evidence, some of it mixed, regarding underwriter reputation and its effect on IPO performance. Beatty and Ritter (1986), Titman and Trueman (1986), Masksimovic and Unal (1993) and Cater, Dark and Singh (1998) find that the under-pricing of IPOs brought to the market by reputable underwriters is lower than those brought by non-reputable underwriters. The evidence holds both on a short term and a long-term basis. Rajan and Servaes (1997) find that, in the long run, IPOs have better stock performance when analysts predict low growth potential rather than high growth potential before the offering. Chemmanur and Paeglis (2005) test the certification hypothesis by using

management quality as a proxy for certification. They find that good management quality is negatively related to the extent of underpricing.

The study by Dewenter et al., (2001) examines the potential for conflicts of interest in Japanese *keiretsu* business groups. Firms in a *keiretsu* group support each other in many ways, often financially. They argue that underpricing of the IPOs of group-affiliated companies reflects the complexity of the group structure, resulting in information acquisition costs to the investor. Hence, there is a trade-off between visibility and complexity. Visibility leads to costs for unscrupulous business groups — which prefer to be opaque — as investors can detect their opportunistic actions. On the other hand, complexity is a penalty imposed by investors on the business groups, as they incur greater costs of information accumulation. If the benefits of being complex outweigh the penalty costs imposed by the investors, business groups may accept the underpricing of their IPOs. In the event, In the event, Dewenter et al. find that the underpricing of group-affiliated *keiretsu* companies is higher than that of stand-alone companies in their sample. Marisetty and Subrahmanyam (2008) address the efficacy of certification for family business groups in the Indian stock market. The evidence is similar to Dewenter et al.: family group affiliated firms exhibit higher level of underpricing than standalone firms.

Thus, the empirical results, so far, suggest a) that certification may not always reduce the costs associated with *ex-ante* uncertainty of firm value, and b) that firm performance varies with the nature of certification. Generally speaking, underwriting seems to work better than the other forms of certification, although the evidence is somewhat mixed. However, in general, it is difficult to comment on the optimality of certification based on these studies.

2.2 Problems in the existing certification-based studies

We argue that the inconclusive nature of the existing results can be mainly attributed to two major issues: First, majority of the certification based studies are based on US market. Given that US market is well developed both in terms of institutional and investor sophistication, the role of certification of an IPO is relatively weak compared to and emerging market that typically suffers from institutional voids and naïve investors. Second, the existing measures of certification attract endogenity problem[6]. For instance, many authors used underwriter quality to explain the extant of underpricing. It is difficult to hypothesize, as hypothesized in many studies, that IPOs underwritten by good quality underwriters are relatively less underpriced. One can counter argue that underwriter's decision to underwrite depends on the quality of the IPO. Thus, it is not clear whether underwriter quality drives IPO's pricing efficiency or IPO quality drives underwriter's decision to underwrite. This holds for other popular certification measures including, venture capitalist affiliation, business group affiliation, banking relationship.

Further, as found by Lee and Wahal (2004) and argued by Lougran and Ritter (2002) and Khanna et al., (2008), certifying agencies receive several incentives from the issuing firm. Hence, there is every chance that IPO certification is driven by the incentive structure of the issuing firm. This bias puts the quality of the certification in question and further strengthens the endogenity argument.

[6] One exception can be Rajan and Serveas (1997) who use analyst following. However, it can be argued that analyst do not follow all IPOs. They tend to follow popular IPOs more that small and unpopular IPOs. Hence their study may attract sample selection bias. In the IPO grading, being mandatory, all IPOs are graded and hence such bias may not exist.

In contrast to the existing studies, IPO grading, as a mechanism to certify the firm value, is much cleaner for two reasons: 1. IPO grading is done by an independent agency that doesn't have any incentives connected with the IPO proceedings[7] (other than the fees which is small and marginally varies with the issue size.); 2. IPO grading happened due to an exogenous shock whereby all IPOs have to undergo IPO grading with no self selection bias. Hence, we believe that certification mechanism that comes through grading is not only direct but also less biased.

2.2 IPO Grading Regulation

The primary market for equity in India gained momentum after the liberalization initiative taken by the government in the early 1990s. Following the improvement in the growth rate of the economy at that time, there were a large number of IPOs, particularly during the period 1990-2004.[8] Unlike the US market, which is the basis for many IPO studies, the Indian IPO market has been dominated by retail investors (see Agarwal (2000)). The dominance of retail investors can also be observed in the secondary market. During the last fifteen years, the Indian IPO market has undergone many changes that are widely seen to have improved its transparency and efficiency. In particular, the initial years of liberalization, after 1990-91, witnessed a boom in the Indian IPO market. With fewer regulations during this period, many entrepreneurs used the primary market as the main vehicle to raise capital. The spurt in interest in the equity markets also witnessed several

[7] We examined, as discussed in the results section, whether grading fees is correlated with the quality of grading. We found that after controlling for the issue size, it is not significant.

[8] Source: Securities Exchange Board of India (SEBI) Public Issue Guidelines.

instances of "fly-by-night" entrepreneurs who eroded investors' wealth.[9] Although SEBI has taken several measures to curb dubious entrepreneurs to issue an IPO, in year 2001 Indian market faced one of the largest scams in the IPO market. In response to that SEBI appointed a committee to review primary market. Based on the committee suggestion SEBI introduced IPO grading mandatory from May 2007.

IPO grading is done by registered credit rating agencies. IPOs are graded based on five fundamental factors namely; firm future earnings, accounting practices, management of the firm, foreseeable financial risks and the quality of corporate governance. However, grading doesn't provide information on firm valuation and subsequent recommendations. All IPOs are graded in a scale of 1 to 5, where 1 indicates firms with lowest quality of fundamentals and 5, at the other extreme, indicates highest quality of fundamentals. India is the first market to introduce this sort of grading. Although IPO grading is a novel method used to safe guard retail investors it has the following potential negative aspects: (1) Grading discourages small entrepreneurs as they are bound to get lower grading due to their relatively poor back ground;(2)The cost of grading is borne by the issuer. Technically SEBI has to bear the cost of monitoring the quality of IPOs. With grading SEBI shares these costs with the issuers and hence grading may discourage entrepreneurs to raise equity in the public market; (3) Grading equities, unlike debt where the cash flows and time horizon are defined, is much difficult as the cash flows and time horizon are not certain.

[9] The weakness of then-prevailing regulations attracted the SEBI's attention after a major primary market scandal related to an infamous IPO by MS Shoes Ltd in 1995. In the same year, SEBI took some initiatives by appointing the Malegam Committee to recommend appropriate regulations for closer scrutiny of proposed offerings. See Shah and Thomas (2001) and Rao (2002) for more details.

However grading can also have the following benefits: (1) Grading helps retail to make more informed investment decisions. With grading they can differentiate the quality of an IPO; (2) Grading, being a signalling device, can help cater right IPOs to the right investors and hence can determine liquidity of the IPO during the post issue period. Given the negative and positive trade-offs that grading offers it is quite important to know the efficacy of such mechanism for the issuers, regulator and the investing public.

We test the efficacy of IPO grading regulation through the following hypotheses.

(1) The degree of IPO underpricing should reduce in the post-grading regime compared to the pre-grading regime.

(2) In the post-grading regime, retail investors (compared to institutional investors) should invest more in high quality IPOs compared to low quality IPOs.

(3) Higher quality IPOs should exhibit higher liquidity in the secondary market.

(4) Grading should reflect firm's health, both in terms of financial health and management health.

3. Data and Methodology

3.1 Data and descriptive statistics

As mentioned earlier, IPO grading became a mandatory regulatory requirement as on 1st of May 2007. For the purpose of this study we use a sample of initial public offerings by Indian companies between April 2006 and August 2008. We obtained data from three sources, namely, website of SEBI (for prospectuses of IPOs), Prime Database services or PDS (for public issue related data), and Prowess database of Centre for Monitoring Indian Economy or CMIE (for post-issue financial data). Over the sample

period PDS reports 178 IPOs; 44 issues are graded and rest of them are ungraded IPOs. CMIE provides accounting and secondary market data for 159 firms out of the initial list of 178 IPOs.

Table 2 reports details about the composition of our final sample. Our sample covers 115 ungraded and 44 graded IPOs. About 85% of the IPOs in our sample are offered through Book-building method and rest of them are through Fixed-Price method. Table 3 shows details of the IPO grades in our sample. Only one IPO in our sample is graded by grading agency FITCH. Rest of graded issues are divided among CARE, CRISIL and ICRA rating agencies. Three IPOs in our sample namely IPOs of BHAGWATI BANQUETS & HOTELS LTD., CELESTIAL LABS LTD. and RELIANCE POWER LTD. are graded by two grading agencies independently. In case of the IPO of BHAGWATI BANQUETS & HOTELS LTD., CARE and CRISIL provided two different grades. For the purpose of this study we use the higher grading (2, CARE)[10].

From PDS we collect following information (variables) for each IPO issue: Company name, Issue closing date, Method of the offer (Method) i.e. Book-building or Fixed price, Offer price, Listing price, Issue Amount (Issue_size) in Rs. lakhs i.e.Rs.0.1 million, Subscription details expressed in times – Total subscription (Total), subscription by Qualified institutional Investors (QIB), subscription by Retail/Non institutional investors (Ret) and Promoter's holding post IPO issue (Prom_Hold), IPO Grades and name of the grading agencies. We collect pre-issue accounting variables such as – Total Asset (TA), Debt to equity ratio (DE), Return on Networth (RONW), and age of the firm at the

[10] The results do not change if we use 1 instead of 2.

time of the IPO. Following Marisetty and Subrahmanyam (2008), we also collect information on business group affiliation of each IPO.

We hand collect several pre IPO variables such as issue expenses, earning per share (EPS), current ratio (CR), number of independent directors in the board of the firm (IndDir) and average remuneration of the directors (AvgDirRem) from individual IPO prospectus.

Variables such as daily price of equity shares, quantity traded and number of share outstanding are also collected to study the impact of IPO grading on post IPO secondary market liquidity and risk of the firms. We use S&PCNX Nifty index as a proxy of market index.

3.2 Methodology

We analyse the information content of IPO grading using a cross-section multiple regression models. The pricing efficiency of the IPOs is measured using the initial return (IR). Initial return is defined as

$$IR = \frac{Listing\ Price}{Offer\ Price} - 1 \quad (1)$$

Usefulness of IPO grading is analysed using following multivariate regression model:

$$IR = \alpha + \beta_1 Grad\_dummy + \sum \beta_i X_i \quad (2)$$

Where variable $Grade\_dummy$ takes the value 1 for the graded IPO and 0 for other IPO issues. The variable X_i represents IPO specific variables such as issue_size, Method, total subscription (Total), pre-issue Total asset, DE, RONW, dummy variable indicating business group affiliation and Age of the firms at the time of issue.

The impact of objective certification through IPO grading on investor interest in primary market is modelled as:

$$Subscription = \alpha + \beta_1 IPO\_Grade + \sum \beta_i X_i \quad (3)$$

Where, the dependent variable $Subscription$ refers to subscription by two different investor groups - institutional investors (QIB) and retail investors (RET). The variable IPO_Grade refers to the actual grades of the IPOs. Variable X_i represents issue specific variables such as Method, pre-issue Total asset, DE, RONW, dummy variable indicating business group affiliation. These models are estimated over the sample of graded IPOs only. Higher IPO grading reflects better fundamentals of the issuing firms therefore we expect higher IPO grades will generate greater investor interest in the primary market.

The post–listing liquidity and risk of IPOs are examined using the following model:

$$\begin{bmatrix} Risk \\ Liquidity \end{bmatrix} = \alpha + \beta_1 Grade + \beta_2 Market\ Risk + \sum \beta_i X_i \quad (4)$$

Liquidity in the secondary market is measured through daily turnover ratio, calculated as quantity traded over total number of shares issued. We calculate daily turnover ratio on first day of listing, average daily turnover ratio for day 2 to day 7 of listing and also for day 2 to day 90 of listing. IPO post-issue short term daily volatility in secondary market is measured using standard deviation of daily returns over day 2 to day 7 of listing and also for day 2 to day 90 of listing. Risk is measured with standard deviation of daily returns and Liquidity is the average daily turnover ratio. The variable $Grade$ represents IPO grading expressed in two different forms. We use a dummy variable indicating graded IPOs ($Grade\_dummy$) for the models estimated with the full sample of both graded and ungraded IPOs. For the models estimated over the sub sample of graded IPOs we use the actual IPO grades (IPO_Grade). $Market\ Risk$ is the standard deviation of daily market return. Independent variables X_i represents pre-issue Total asset, DE, RONW, Age, Promoter's ownership and business group affiliation dummy.

Finally we analyse which of the firm characteristics are captured in IPO grading. In principle IPO grades suppose to incorporate fundamental firm characteristics such as firm's earnings, accounting practices, management of the firm, financial risks and the quality of corporate governance. To investigate how far IPO grading really captures those factors, we use ordered Probit models.

We assume, true quality (y^*) of an IPO is an unobservable continuous variable which depends the fundamental characteristics of the firm. An IPO is graded using a discrete 5 point scale based on the value of its true quality (y^*). We assume IPO grade (y) is assigned to an IPO based on following rules:

$$\left.\begin{aligned} y &= 5 \ \text{ if } y^* > \delta_4 \\ y &= 4 \ \text{ if } \delta_3 < y^* \le \delta_4 \\ y &= 3 \ \text{ if } \delta_2 < y^* \le \delta_3 \\ y &= 2 \ \text{ if } \delta_1 < y^* \le \delta_2 \\ y &= 1 \ \text{ if } y^* \le \delta_1 \end{aligned}\right\} \qquad (5)$$

Where, δ_i's are threshold values of y^*. We estimate the probability of any IPO securing a grade 1,2,3,4 or 5 using an ordered probit model described below,

$$\left.\begin{aligned} \Pr(y=1 \mid x) &= \Phi\left(\delta_1 - x'\beta\right) \\ \Pr(y=2 \mid x) &= \Phi\left(\delta_2 - x'\beta\right) - \Phi\left(\delta_1 - x'\beta\right) \\ \Pr(y=3 \mid x) &= \Phi\left(\delta_3 - x'\beta\right) - \Phi\left(\delta_2 - x'\beta\right) \\ \Pr(y=4 \mid x) &= \Phi\left(\delta_4 - x'\beta\right) - \Phi\left(\delta_3 - x'\beta\right) \\ \Pr(y=5 \mid x) &= 1 - \Phi\left(\delta_4 - x'\beta\right) \end{aligned}\right\} \qquad (6)$$

where $\Phi(.)$ is the cumulative standard normal distribution function. x is the vector of independent variables (various proxies of the fundamental factors discussed earlier) and β is the parameter vector. Summary statistics of all the variables used in the study are reported in Table 4. Average initial return for the entire sample is 21.3%. This indicates that the IPO

market in India is matured post year 2006. Marisetty and Subrahmanyam report underpricing of more than 100% during 1991-2006. Mean value of initial return for ungraded sample is marginally (2.1%) higher than the graded IPOs, this difference is higher in median initial return. Median initial return of ungraded IPOs is 6.7% higher than that of the graded counterparts. In our sample average issue size of the graded IPOs is higher and post issue promoter's holding is lower than the ungraded sub sample. The difference in total subscription ratio between these two sub samples is very low; the median values of total subscription are almost equal. It is noticeable that QIB subscription quite low for the graded IPOs (19.046 times) compared to the ungraded IPOs (34.5 times). There is not much difference in average standard deviations of daily returns between the graded and ungraded sample. Average turnover ratios of graded IPOs are higher than that of the ungraded sample.

4. Regression results

4.1 Impact of IPO grading on underpricing

We analyse the impact of IPO grading on efficiency of Indian primary market using the multivariate model (Equation 2). The estimated parameters from the model along with their t- statistics are reported in Table 5. In all the models presented in Table 5

-----Table 5 here-----

shows that the coefficient of the variable $Grade\_dummy$ is negative and significant at 10% level. This shows that underpricing is significantly lower for graded IPO compared to the ungraded ones. Other variables in those models are issue amount [Ln(Issue_size)], method of IPO (Method), Total Subscription, natural logarithm of total asset value (LN(TA)), profitability or Return on Net Worth (RONW) and Age of the firm (Age). Table

5 shows that Ln(Issue_size) is negative and significant at 5% level of significance. It indicates larger issue are less underpriced than smaller ones. Total subscription is positive and highly significant in all the models which suggest that investors' excess demand causes initial return by increasing listing price in the secondary market. It may also suggest that attractively priced IPOs enjoy higher investor demand. R square values for all the models in Table 5 are above 0.54. Over all this evidence suggest that IPO grading indeed increases pricing efficiency of Indian primary market.

4.2 Impact of IPO grading on Primary market demand

We also analyse how different investor classes respond to IPO grading. Basic intention behind IPO grading is that it provides information about the fundamentals of less known private firms and hence investors can make informed decision. We investigate if investors' demand significantly varies across the different grades of IPO. We estimate models described in Equation 3 over the sub sample of graded IPOs. The estimated parameters of these models are provided in Table 6. Model I in Table 6 analyses primary market demand from retail

-----Table 6 Here - ---

-investors / non institutional investors, where as Model II investigates demand of the institutional investors. Results from Model I show that demand of the retail investors is positive and significantly related to IPO grades. Results also show that business group affiliation is an important determinant of retail demand in primary market. Retail investors, along with IPO grading, also look at group affiliation as a possible certification mechanism. Other variables such as Method, DE and RONW are not at all significant in explaining retail investors' subscription.

In contrast to Model I, IPO grade is not significant in Model II. Variables that are highly significant in explaining institutional demand are firm profitability (RONW), financial risk (DE). Model II results also suggest that institutional investors prefer Book-building issues more than the Fixed-price ones. Both Model I and II are quite significant with R square values of 0.18 and 0.16. This evidence from Table 6 implies that retail investors take into consideration IPO while placing their demand in primary market. On the other hand institutional investors do not rely on IPO grading. Profitability and financial risk of a firm determines institutional investors' demand. This implies that the information structure of retail investors to decide on which IPO is different from institutional investors. And it also indicates for retail investors, who are not expected to study the financial soundness of the IPO, IPO grading helps in their investment decision.

4.3 IPO grading and the post issue short term risk and liquidity

In the next part of this study we investigate if IPO grading can indicate post -issue short term risk and liquidity of an investment. We estimate the models described in Equation 4. Table 7 provides the details of the parameters estimated using Equation 4 based models along with t statistics.

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Table 7 presents parameter estimates from four different models, Model 1a and Model 2a (Model 1b and 2b) use sd7, standard deviation of daily return from second day of listing to day 7 (sd90, deviation of daily return from second day of listing to day 90) of listing as dependent variables. Model 1a and 1b are estimated over the entire sample and $Grade\_dummy$ is used to capture effects of IPO grading. On the other hand, Model 2a and 2b is estimated on the sub sample of graded IPOs only. Independent variable

IPO_Grade is the actual grade of the IPOs. The results reported in Table 7 indicate that on an average graded IPOs have lower variability of return over first 7 days of listing. However, over the period of first 3 months risk of the investment or variability of return is not significantly different between graded and ungraded IPOs. Business group affiliation is found to be negatively significant in explaining variability of first weeks return after listing in stock exchange. Size of the firm [Ln(TA)] is also highly significant in both Model 1a and 1b. Results show that smaller firms experience greater risk over first week and also over first 3 months of listing.

Results of Model 2a and 2b demonstrate that IPOs with higher grading experience lower variability of post-issue return over first 1 week as well as over initial 3 months of listing. IPO Grading is negative and significant at 5% (1%) level in Model 2a (2b). In all the models presented in Table 7, Market risk, sd7mkt (sd90mkt), measured as standard deviation of market return is found to be highly significant at 1% level. Models estimated in Table 7 are quite significant with R square values ranging from 0.24 to 0.38.

We present the results of the estimated models for post-issue liquidity in Table 8. In order to explore if IPO grading predict secondary market liquidity, we estimate four different models. Model A1 and Model B1 (Model A2 and B2) use tor7, average daily turnover ratio of over day 2 to day 7 (tor90, average daily turnover ratio of over day 2 to day 90) of listing in stock exchange. Model A1 and Model A2 are estimated over the

--- Table 8 Here ----

entire sample and independent variable $Grade\_dummy$ is used to represent graded IPOs in the sample. Model B1 and Model B2 analyse relationship between actual IPO Grade and secondary market liquidity. These models are estimated over the sub sample of the graded

IPOs. Results provided in Table 8 show that graded IPOs experience higher secondary market liquidity over the first week of listing. Though, there is no difference between the liquidity of the graded IPOs and that of the ungraded ones over first 90 days of their listing. Affiliation to a business group is a significant variable that explains secondary market liquidity in both Model A1 and A2. Asset size and Promoters ownership are also highly significant is these models.

In Model B1 and B2, variable IPO Grading is positive and significant. This indicates in the sample of the graded IPOs highly graded issues are more actively traded in the market compared to the poorly graded ones. Asset size (Ln(TA)) is also significant and negatively related to daily average turnovers in these models. Overall significance of all the models is quite high with R square values ranging from 0.25 to 0.36. The models estimated in Table 7 and Table 8 provides evidence that IPO grading to some extent indicates post IPO risk and liquidity of the investment over a short term. These results show that IPO grades are positively related to secondary market liquidity and negatively related to risk.

4.4 Does IPO grading captures firm characteristics?

We now turn our analysis to see whether grading agencies capture firm characteristics. In other words, whether better graded IPOs really reflect better firm quality. In order to undertake this analysis we collected pre-issue firm financials and corporate governance data[11]. We use order probit model which takes actual IPO grading values as the dependent variable. The higher the number the better is the quality. The independent variables

[11] IPO grading agencies assert that the main parameters for grading are firm financial soundness and the quality of corporate governance.

include, firm size (Ln(TA)), firm age (AGE), board independence (IndDir), group affiliation (Group), director remuneration (AvgDirRem), financial leverage (DE), liquidity position of the firm (CR), and earnings per share (EPS). We are also interested to investigate if incentives to the grading agency (i.e. grading fees) drive actual grading of the IPOs. Actual grading expenses data is available for only 16 IPOs therefore we include issue expenses as a proxy for the grading fees. The correlation between available grading expenses and issue expenses is 0.905.[12] The results are presented in Table 9.

--- Table 9 Here ----

Table 9 shows that grading agencies grading decision relies on firm size, group affiliation and board independence. Large firms, firms affiliated to groups and firms with higher board independence receive higher grades. The positive correlation with business group firms indicates that group firms tend to go public after establishing a decent track record. This is possible for group companies as they can rely on internal capital markets during their initial years. Hence, they signal better quality.

Our results provide some evidence that grading agencies do take in consideration the quality of corporate governance of the firms. Higher IPO grades are positively correlated to number independent directors (IndDir) present on the board. Average remuneration for the directors (AvgDirRem), a proxy for the quality of the board is also positive and significant variable in explaining grading. However, we find very limited or no evidence that factors such as firm's profitability and risk are significantly related to IPO grading. Financial risk (DE) and liquidity position (CR) are not significant variables in

[12] Correlation between absolute grading expenses (grading expenses as a percentage issue expenses) and IPO grading of 16 IPOs is -0.1169 (-0.02687).

determining IPO grades. Earnings per share (EPS) is significant only in absence of AvgDirRem and total asset (Ln(TA)). Size of the firm (Ln(TA)) is positive and significant though age of the firm is statistically insignificant to determine IPO grades. We also find issue expense, a proxy of grading fee, is not significant after controlling for firm size and age which may indicate that incentives to the grading agency is not a significant determinant of IPO grading.

5. Summary and Conclusion

In order to safeguard retail investors' wealth from low quality IPOs, for the first time in the world, Indian stock market regulator SEBI introduced grading of initial public offerings and made it mandatory since May 2007. In this study we analyse whether IPO grading provides information on the IPO quality and more specifically helps retail investors in their investment decisions. We also examine whether better graded IPOs exhibit higher liquidity and lower risk in the post-issue secondary market.

We find that underpricing is lower in the post-grading regime compared to pre-grading regime. Retail investors' interest on IPO depends on the quality of the IPO. Better graded IPOs attract higher interest from the retail investors. These results indicate that retail investors believe IPO grading provides credible certification. On the other hand, our results show that institutional investors' subscription does not depend on IPO grading. We find that the demand of the institutional investors is primarily determined by profitability and financial risk of the firm.

We further investigate if IPO grading provides information regarding post-issue secondary market liquidity and risk. Our analysis suggests that, to a certain extent, IPO grading can predict short term post listing liquidity and risk of the securities. Highly

graded IPOs enjoy greater liquidity and lower risk in the periods immediate after listing in the stock exchanges. Overall, IPO grading is an effective certification mechanism in the Indian market. Finally we turned our analysis to know whether grading really captures firm characteristics. We find that grading capture firm size, board independence and firm group affiliation. In summary, we conclude that, in markets where credible institutions that provide certification for IPOs are less prevalent, regulator's role to certify the quality of an IPO adds value to the market welfare.

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Table 1

Summary of prior research results on the relationship between the nature of certification and the extent of underpricing of IPOs

Author/s	*Nature of Certification*	*Relationship between the Nature of Certification and the Extent of Underpricing*	*Country*	*Study Period*
Beatty (1989)	Auditor Reputation	Negative	US	1975-84
Barry, Muscarella, Peavy, and Vetsuypens (1990)	Venture Capitalist Affiliation	Negative	US	1978-87
James and Weir (1990)	Borrowing relationship with Banks	Negative	US	1980-83
Megginson and Weiss (1991)	Venture Capitalist Affiliation	Negative	US	1983-87
Rajan and Servaes (1997)	Degree of Analysts Coverage	Positive	US	1985-87
Carter, Dark and Singh (1997)	Underwriter Reputation	Negative	US	1979-91
Hamao, Packer and Ritter (2000)	Institutional Affiliation	Positive	Japan	1989-95
Dewenter, Novaes and Pettway (2001)	Business Group Affiliation	Positive	Japan	1975-87
Loughran and Ritter (2004)	Underwriter Reputation	Positive	US	1990-2000*
Lee and Wahal (2004)	Venture Capitalist Affiliation	Positive	US	1999-00
Chemmanur and Paeglis (2004)	Management Quality	Negative	US	1993-96
Marisetty and Subrahmanyam (2008)	Family Business group affiliation	Postive	India	1990 -2006

*Insignificant positive relationship during 1980-89 and 2001-2003.

Table 2
Details of the Final Sample

Sample Period	April2006 to August 2008
Total Number of IPOs	159
Ungraded	115
Graded	44
Business Group IPOs	17
Fixed Price Issues	24
Book Building Issues	135
Year 2006 IPOs	43
Year 2007 IPOs	91
Year 2008 IPOs	25

Table 3
Details of the IPO Grading
This table provides distribution of graded IPOs in our sample across different grades and various grading agencies.

	Grades					
Grading Agency	**1**	**2**	**3**	**4**	**5**	**Total**
CARE	4	6	4	4	0	18
CRISIL	5	3	3	4	0	15
ICRA	2	4	6	1	0	13
FITCH	0	0	1	0	0	1
Total	11	13	14	9	0	47[#]

#Total number of grades exceeds total number of graded IPOs as three IPOs are graded by two separate agencies. In case of two different grading for an IPO (only in the case of one IPO) we selected the higher grading for the study.

Table 4
Descriptive Statistics

This table reports summary statistics of all the variables used in this study. The reported statistics represents 159 IPOs in Indian market over a sample period of April 2006 to August 2008. This table provides Mean, Median and standard deviation (Std Dev) for the all the variable over the entire sample as well as over the sub samples of ungraded and graded IPOs. Maximum and Minimum values of the variables over the entire sample is also reported. The variable **IR** refers to initial return of the IPOs calculated as per the definition provided in Equation 1 in Section 3. **Issue_size** stands for Issue Amount in Rs. Crores; Promoter's holding post IPO issue is **Prom_Hold**, Subscription details of the IPOs are represented as – Total subscription in times (**Total**), subscription by Qualified institutional Investors (**QIB**), subscription by Retail/Non institutional investors (**RET**); pre IPO debt to equity ratio is **DE**, return on networth is **RONW** and Total Asset is **TA**. **Age** refers to age of the firm (in number of years) at the time of the IPO. Variable **Std7** (**Std90**) is the standard deviation of daily returns over day 2 to day 7 (day 90) of listing in stock exchange. Liquidity of day 1and day 2 to day 7 (day 90) is measured by turnover ratio of day1 i.e. **tor1** and average turnover ratio of day 2 to day 7 (day 90) i.e. **tor7** (**tor90**).

		Full Sample					Ungraded			Graded		
Variables		**Mean**	**Std Dev**	**Minimum**	**Maximum**	**Median**	**Mean**	**Std Dev**	**Median**	**Mean**	**Std Dev**	**Median**
IR		0.213	0.261	-0.229	0.8	0.153	0.219	0.262	0.153	0.197	0.263	0.086
Issue_size		39933.68	122709.9	600	1012320	8555	39516.9	109840.3	8736	41022.97	152776.5	7441.08
Prom_Hold		58.749	15.657	22.57	90	58.03	59.296	16.183	58.995	57.331	14.281	57.64
	QIB	30.39	44.208	0.18	184.94	6.73	34.5	43.359	10.95	19.064	45.08	2.84
Subscription	**RET**	41.369	66.337	0.220	437.34	10.57	41.318	68.217	10.57	41.502	61.904	10.18
	Total	23.633	32.217	0.91	158.63	6.66	23.225	30.104	6.66	24.701	37.544	6.605
DE		1.304	2.533	0	26.76	0.81	1.209	1.548	0.815	1.551	4.136	0.74
RONW		31.542	34.45	-47.65	275.36	25.42	30.36	25.002	25.695	34.252	50.117	21.93
TA		2006.51	9747.07	0.25	93343.66	108.76	1548.1	6683.61	113.27	3200.5	15108.77	86.52
Age		14.526	11.994	1	100	12	14.678	10.803	13	14.078	15.13	10.5
Risk	**sd7**	0.053	0.027	0.016	0.132	0.047	0.0539	0.028	0.047	0.0509	0.0255	0.046
	sd90	0.041	0.011	0.0206	0.084	0.0406	0.0398	0.0097	0.039	0.0498	0.0131	0.051
	tor1	4.544	46.05	0.0051	537.57	0.423	0.5784	0.6818	0.423	19.841	101.468	0.431
Liquidity	**tor7**	0.723	7.228	0.0037	84.391	0.068	0.1062	0.1054	0.069	3.1039	15.931	0.065
	tor90	0.267	2.851	0.0011	33.272	0.015	0.0221	0.0208	0.0156	1.214	6.2828	0.0113

Table 5
Impact of IPO Grading on Underpricing

This table reports estimated parameters of the model described in Equation 2 of Section 3, along with the t statistics and R square value of the model. The models are estimated over a sample of 159 IPOs issues over the period of April 2006 to August 2008. The dependent variable **IR** refers to initial return of the IPOs calculated as per the definition provided in Equation 1 in Section 3. Variable **Method** is dummy variable which takes the value 1 for Book-building IPOs and 0 if the offer is Fixed price**. Grade_Dummy** takes value 1 to indicate graded IPOs in the sample. **Age** refers to age of the firm (in number of years) at the time of the IPO. Dummy variable **Group** takes value 1 for all the IPOs with business group affiliation and 0 otherwise. **Ln(Issue_size)** is the natural logarithm of issue amount in Rs. Crores; Subscription of the IPOs is represented by **Total Subscription**, pre IPO return on net worth is **RONW** and natural logarithm of pre issue Total Asset is **Ln(TA)**. Significance of the estimated parameters at 1%, 5% and 10% levels are indicated by ***, ** and *.

Dependent Variable: Initial Return (IR)

Variables	Estimates	t Value	Parameter	t Value	Parameter	t Value
Intercept	0.352***	2.82	0.38164***	2.81	0.35677***	2.56
Method	0.059	1.28	0.05829	1.08	0.06159	1.28
Grade_dummy	-0.0602*	-1.86	-0.05612*	-1.65	-0.05609*	-1.65
Age	0.000510	0.42	0.000398	0.32	-0.00009	-0.07
Group	-0.0028	-0.06	-0.0407	-0.76	-0.0053	-0.1
Ln(issue_size)	-0.0318**	-2.32	-0.03257**	-2.12	-0.03646**	-2.07
Total Subscription	0.0065***	13.73	0.0063***	12.72	0.0065***	12.8
RONW			-0.00028	-0.63		
Ln(TA)					0.00981	0.82
R Sq.	0.5594		0.5692		0.5463	

Table 6
Impact of IPO Grading on Primary Market Demand

This table reports estimated parameters of the model described in Equation 3 of Section 3, along with the t statistics and R square value of the model. The models are estimated over a sample of 44 graded IPOs issues over the period of April 2006 to August 2008. The dependent variable for Model I (Model II) is **RET (QIB)** refers to retail/non-institutional (Institutional) subscription of the IPOs. Variable **IPO_Grade** is the actual grade given to the IPOs. **Method** is dummy variable which takes the value 1 for Book-building IPOs and 0 if the offer is Fixed price**.** Dummy variable **Group** takes value 1 for all the IPOs with business group affiliation and 0 otherwise. Pre IPO debt to equity is **DE**, return on net worth is **RONW** and natural logarithm of pre issue Total Asset is **Ln(TA)**. Significance of the estimated parameters at 1%, 5% and 10% levels are indicated by ***, ** and *.

	Model I **Dependent Variable: RET**		**Model II** **Dependent Variable: QIB**	
Variable	**Parameter**	**t Value**	**Parameter**	**t Value**
Intercept	-14.58152	-0.48	-4.23771	-0.15
IPO_Grade	18.81986*	1.7	-10.3297	-1.14
Method	25.17672	0.96	38.63626*	1.81
Group	72.88127**	2.37	21.39593	0.87
DE	-2.32871	-0.74	-6.08232**	-2.44
RONW	0.02535	0.09	0.70195***	3.07
Ln(TA)			5.55764	1.44
R Sq.	0.18		0.16	

Table 7
IPO grading and post IPO short term risk

This table reports estimated parameters of the model described in Equation 4 of Section 3, along with the t statistics and R square value of the model. Model Ia and Ib (Model IIa and IIb) are estimated over a sample of 159 (44 graded) IPOs issues over the period of April 2006 to August 2008. The dependent variable **sd7 (sd90)** refers to standard deviation of daily returns over day 2 to day 7 (90) of listing. Variable **Grade_Dummy** takes value 1 to indicate graded IPOs in the sample. Variable **IPO_Grade** is the actual grade given to the IPOs. Dummy variable **Group** takes value 1 for all the IPOs with business group affiliation and 0 otherwise. Pre IPO debt to equity is **DE**, return on net worth is **RONW** and natural logarithm of pre issue Total Asset is **Ln(TA)**. **Age** refers to age of the firm (in number of years) at the time of the IPO. Variable **sd7mkt** (**sd90mkt**) represents market risk measured by standard deviation of market return over day 2 to day 7 (90). Significance of the estimated parameters at 1%, 5% and 10% levels are indicated by ***, ** and *.

	Model Ia		**Model Ib**		**Model IIa**		**Model IIb**	
Dependent Variable:	**sd7**		**sd90**		**sd7**		**sd90**	
Variables	**Parameter**	**t Value**	**Parameter**	**t Value**	**Parameter**	**t Value**	**Parameter**	**t Value**
Intercept	0.05668	6.36***	0.0304	8.28***	0.06802	4.34***	0.04404	4.05***
Grade_dummy	-0.01402	-2.28**	0.00185	0.82				
IPO_Grade					-0.01239	-2.47**	-0.00823	-3.08***
Group	-0.01636	-2.2**	-0.00356	-1.45	-0.00146	-0.12	-0.00338	-0.52
DE	-0.00048	-0.44	4.16E-06	0.01	-0.00105	-0.83	0.000288	0.44
RONW	4.14E-05	0.49	-1.3E-05	-0.48	0.00015	1.21	-2.6E-05	-0.42
Ln(TA)	-0.0035	-2.28**	-0.00145	-2.87***	-0.00302	-1.57	-0.00142	-1.39
Age	-9.2E-05	-0.45	-2.7E-05	-0.41				
sd7mkt	1.35436	4.59***			1.47278	2.89***		
sd90mkt			1.09234	6.4***			1.62906	3.22***
R Sq.	0.2486		0.3918		0.3826		0.3768	

Table 8
IPO Grading and Secondary Market Liquidity

This table reports estimated parameters of the model described in Equation 4 of Section 3, along with the t statistics and R square value of the model. Model A1 and A2 (Model B1 and B2) are estimated over a sample of 159 (44 graded) IPOs issues over the period of April 2006 to August 2008. The dependent variable **tor7 (tor90)** refers to average turnover ratio over day 2 to day 7 (90) of listing. Variable **Grade_Dummy** takes value 1 to indicate graded IPOs in the sample. **IPO_Grade** is the actual grade given to the IPOs. Dummy variable **Group** takes value 1 for all the IPOs with business group affiliation and 0 otherwise. Pre IPO debt to equity is **DE**, and natural logarithm of pre issue Total Asset is **Ln(TA)**. Promoter's holding post IPO issue is **Prom_Hold**, Variable **sd7mkt** (**sd90mkt**) represents market risk measured by standard deviation of market return over day 2 to day 7 (90). Significance of the estimated parameters at 1%, 5% and 10% levels are indicated by ***, ** and *.

	Model A1		**Model A2**		**Model B1**		**Model B2**	
	tor7		**tor90**		**tor7**		**tor90**	
Variable	**Parameter**	**t Value**	**Parameter**	**t Value**	**Parameter**	**t Value**	**Parameter**	**t Value**
Intercept	-0.28351	-0.11	-0.51752	-0.46	4.34098	0.5	2.10953	0.47
Grade_dummy	2.35949	1.67*	0.72248	1.17				
IPO_Grade					5.26502	1.8*	2.13732	1.72*
Group	5.25899	2.97***	2.10256	3.00***	9.30613	1.31	3.68935	1.31
Ln(TA)	-1.92683	-5.69***	-0.76306	-5.69***	-3.83833	-3.52***	-1.5039	-3.46***
DE	0.01366	0.06	-0.00336	-0.04	-0.1601	-0.31	-0.06316	-0.31
Prom_Hold	0.14256	3.6***	0.05561	3.56***				
sd7mkt	78.32635	1.17			123.1141	0.42		
sd90mkt			55.37577	1.17			11.68421	0.05
R Sq.	0.25		0.25		0.36		0.35	

Table 9
Determinants of IPO grades

This table reports estimated parameters from ordered probit models. The dependent variable is the actual IPO grading (**IPO_Grade)** that takes values 1, 2, 3 and 4 (there is no IPO with grading 5 in our sample). Higher grading number indicates better quality of the IPO. The independent variables: **Ln(issuexp)** is natural logarithm of issue expenses. Variables **EPS, CR, De, Ln(TA), Age** are pre IPO earning per share, debt to equity ratio and current ratio, natural logarithm total asset and age of the firm at the time of the IPO respectively. **IndDir** represents the number of independent directors in the board of the firm and **AvgDirRem** is the average remuneration of the directors. The dummy variable **Group** takes value 1 for IPOs of firms affiliated to Indian business groups. All the models are estimated using a sample of the graded IPOs included in our sample. Significance of estimated coefficients are indicate as ***, ** and * for 1%, 5% and 10% level of significance. Pseudo R square values for all the models are also reported.

Variables	Estimate	P-value	Estimate	P-value	Estimate	P-value	Estimate	P-value
Intercept 4	-4.436***	<0.0001	-5.954***	0.0002	-6.945***	<0.0001	-4.822***	0.0049
Intercept 3	-3.161***	0.002	-4.670***	0.0019	-5.280***	0.0008	-3.653***	0.0263
Intercept 2	-1.950**	0.046	-3.103**	0.0275	-3.5647**	0.0147	-1.8604	0.2291
Ln(issuexp)	0.258*	0.075	0.374**	0.0375	0.1423	0.473	0.1354	0.5176
EPS	0.043**	0.042	0.015	0.5717	0.0169	0.5368	0.0229	0.4244
IndDir	0.250**	0.043	0.283**	0.0428	0.2618*	0.0614	0.2448*	0.0911
DE	0.030	0.580	0.0425	0.7367	0.1043	0.4674	0.0372	0.7046
CR	0.034	0.247	0.1585	0.4795	0.3008	0.207	0.0211	0.9301
Group	1.591**	0.015	1.838***	0.0088	1.712**	0.0246	2.255***	0.0076
AvgDirRem			0.092**	0.0261	0.053	0.167	0.110**	0.0209
Ln(TA)					0.453**	0.0225		
Age							0.0305	0.1014
Pseudo R Sq.	0.4376		0.5613		0.648		0.616	