

Management Quality, Financial Policies, and Performance of Seasoned Equity Issuers

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Abstract

Using a unique sample of hand-collected data on the management quality of firms making seasoned equity offerings (SEO), we examine the relationship between the reputation and quality of a firm's management and its financial policies, SEO characteristics, and post-SEO performance, a relationship that has so far received little attention in the literature. We hypothesize that better and more reputable managers are able to convey the intrinsic value of their firm more credibly to outsiders, thus reducing the information asymmetry facing their firm in the equity market. Given this, such firms will have more access to the equity market, so that we expect lower leverage ratios for these firms. In addition, they will have less need to signal using dividends, so that they will have lower dividend payout ratios. Further, given that financial intermediaries like investment banks and institutional investors will incur lower costs of producing information about such firms, we expect firms with better and more reputable managements to be associated with more reputable underwriters, smaller underwriting expenses, and larger institutional holdings. Further, since better managers are likely to select better projects (having a higher NPV for any given scale) and implement them more ably, higher management quality will also be associated with larger SEO offer sizes, higher levels of investment and R&D expenditures, and better post-SEO operating performance. We present evidence consistent with the above hypotheses.

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1. Introduction

The quality of a firm's management has been widely regarded by practitioners (like venture capitalists and financial analysts) as an important measure of firm quality. Further, better and more reputable management may be able to "certify" the quality of their firm to the financial markets, thus reducing the extent of information asymmetry between firm insiders and outsiders. This means that firms with higher quality managements may be able to access the equity market more easily, which may in turn affect their financial policies. Further, better managements are more likely to be able to select better (higher NPV) projects and implement them more ably, yielding better operating performance as well. However, relatively little attention has been paid in the literature so far to the relationship between a firm's management quality and its financial policies and performance.¹ Our objective in this paper is to remedy this gap in the literature: we use a unique sample of hand-collected data on the management quality of firms making seasoned equity issues to test whether there is indeed such a relationship between management quality and the financial policies, SEO characteristics, and the post-SEO operating performance of firms making SEOs.

The ability of higher quality and reputation management to certify firm value and thus reduce the extent of asymmetric information about the firm in the equity market may arise in the following manner. First, senior members of a firm's management team build up reputational capital over their career, since these senior managers are involved in repeated dealings with the financial markets as part of their job (e.g., raising bank financing or arranging private placements of equity). Second, these managers know that there is a significant probability that they will leave

¹ Two notable exceptions to this are Chemmanur and Paeglis (2003) and Bertrand and Schoar (2003), as we discuss below.

their firm to join another, and that their future employer will be influenced by their reputation in dealing with the financial markets in deciding whether or not to hire them, as well as in deciding their compensation package. Third, managers know that overpricing or “hyping” their firm’s stock (or deceiving the financial markets in other ways) may tarnish their personal reputation in the equity market, thereby diminishing their future value in the labor market; the greater the personal reputation a manager has at stake, the greater is the future loss from mispricing his firm’s equity. As a consequence of the above, better and more reputable managers are more likely to price their firm’s equity fairly, so that such firms are faced with less information asymmetry about firm value between insiders and outsiders.² Reduced informational asymmetry, in turn, may influence various aspects of a firm’s financial policies. In particular, firms with better and more reputable managements may be more likely to issue equity (since they are more likely to get a fair price for their stock). This implies that such firms can be expected to have lower levels of leverage. Also, a lower degree of asymmetric information facing the firm makes signaling to the equity market through dividend policy less important. Therefore, firms with better and more reputable managements are likely to have lower dividend payout ratios.

Given the above discussed importance of managerial reputation and quality in certifying firm value, it is possible that underwriters and other financial intermediaries use management quality, in addition to other measures of firm quality, when choosing firms to underwrite equity issues. Thus, firms with higher management quality and reputation may be associated with more reputable underwriters. Further, given the reduction in information asymmetry resulting from managerial certification, underwriters and other intermediaries may need to incur only lower costs in acquiring and transmitting information about firms with higher management quality and reputation. This, in turn, implies that such firms need to provide underwriters and other intermediaries only a lower amount of compensation for underwriting their equity issues, thus

² For a theoretical model of how long-lived players associated with a firm can help to reduce the information asymmetry facing it in the equity market and thus increase the offer price (in the context of IPOs), see Chemmanur and Fulghieri (1994).

reducing their costs of selling equity. Finally, the above reduction in outsiders' information acquisition costs for higher management quality firms may also lead to a greater institutional interest in the shares of such firms.

Better and more reputable managers may also be able to select better projects for their firm, characterized by a larger NPV for any given scale. This means that higher management quality firms are likely to have a larger equilibrium scale of investment, and therefore larger SEO offer sizes (*ceteris paribus*). Larger scales of investment will, in turn, be reflected in higher levels of capital expenditures as well as in investments in research and development (R&D). Further, firms with better and more reputable managements are also likely to implement their projects more ably, resulting in better post-SEO operating performance.

The quality of a firm's management may also affect the number and nature of its acquisitions, though the direction of this effect is ambiguous. On the one hand, better and more reputable managers may be more capable of making use of potential synergies arising from mergers and therefore more likely to engage in acquisitions. On the other hand, if high management quality firms are better at attracting and selecting new projects (with larger NPV for a given scale), such managers may be less likely to make acquisitions, since they may be able to generate growth through internal sources, reducing the need for acquisitions.

In addition to testing the above hypothesized relationships between the management quality of a firm and its financial policies, SEO characteristics, and post-SEO performance, we also directly test whether management quality is inversely related to the extent of asymmetric information facing the firm. To accomplish this, we use various proxies for asymmetric information, like the number of analysts following the firm, analysts' forecast error, dispersion of analysts' forecasts, and the average bid-ask spread of a firm's stock. Further, since lower the information asymmetry facing the firm in the equity market, greater is the liquidity of the firm's

equity, we also expect management quality to be positively related to liquidity, as measured by proxies such as trading volume and share turnover.³

The results of our empirical tests indicate that the quality and reputation of a firm's management indeed affect its financial policies, SEO characteristics, and post-SEO performance. First, we find that management quality and reputation are negatively related to a firm's leverage and dividend payout ratios. Second, management quality and reputation are positively related to investment and R&D levels, as well as the acquisition activity of the firm. Third, (controlling for firm size and other firm quality variables) firms with better and more reputable managers have larger SEO offer sizes. Fourth, more reputable underwriters are associated with firms of higher management quality and reputation. Fifth, underwriting expenses (both the underwriting spread and the other expenses of issuing equity) are negatively related to management quality and reputation. Sixth, firms with higher management quality and reputation have higher levels of institutional shareholdings. Seventh, we find that management quality and reputation explain some of the cross-sectional variation in the post-SEO operating performance of firms. Finally, we also find direct evidence that firms with better and more reputable managements do indeed face a lower degree of asymmetric information in the equity market, and are characterized by greater liquidity of their shares.

Our paper contributes to the newly emerging literature on the relationship between the nature of a firm's management and various aspects of its financial policies and performance. In a seminal paper, Bertrand and Schoar (2003) find that manager fixed effects explain some of the heterogeneity in investment, financial, and organizational practices of firms. They attribute these fixed effects to the differences in style across managers and link them to observable managerial

³ See, e.g., Kyle (1985), who shows that liquidity is inversely related to the amount of private information existing about the firm in the equity market.

characteristics, such as age and the institution from which they obtained an MBA degree.⁴ However, by focusing on specific managers, they capture the effects of the management styles of various managers on firms' financial policy, rather than the relationship between management quality per se and financial policy, which is the topic we study here. Chemmanur and Paeglis (2003) study the relationship between a firm's management quality and various aspects of its IPO, and show that management quality indeed affects the characteristics of a firm's IPO.⁵ They, however, do not study the relationship between management quality and financial policy. In summary, this is the first paper in the literature to study the relationship between the quality and reputation of a firm's management and its financial policies, SEO characteristics, and post-SEO performance. This is also the first paper to directly test the relationship between the quality of a firm's management and the extent of asymmetric information facing the firm in the equity market, and the relationship between management quality and the liquidity of its stock.

The rest of the paper is organized as follows. Section 2 summarizes the hypotheses we test in this paper based on theoretical arguments we made in the introduction. Section 3 describes various measures of management and firm quality. Section 4 describes our data and sample selection procedures. Section 5 presents our testing methodology and reports results. Section 6 concludes with a summary of our results and our interpretation of them.

2. Summary of Hypotheses

In the last section, we argued that the quality and reputation of a firm's management may affect its financial policies, SEO characteristics, and post-SEO performance in a variety of ways. We now summarize the hypotheses arising from the above arguments, which will serve as the

⁴ In particular, they find that CEOs with MBA degrees, as well as younger generations of CEOs, on average, are more aggressive: they have higher levels of leverage, capital expenditures, and lower dividend payout ratios.

⁵ Chemmanur and Paeglis (2003) find that firms with better and more reputable managements have lower IPO underpricing and underwriting expenses, are associated with more reputable underwriters, and attract larger institutional interest in their IPO.

basis for our empirical tests. Our first set of hypotheses deals with the relationship between quality and reputation of a firm's management and its financial policies:

H1: The quality and reputation of a firm's management will be: (a) negatively related to its leverage ratio and (b) negatively related to its dividend payout ratio.

H2: Firms with better and more reputable managements will have: (a) higher levels of investment (capital expenditures) and (b) higher levels of research and development (R&D) expenditures.

H3: Management quality and reputation will be related to firms' acquisition activity (we are agnostic about the direction of the expected impact of management quality on the number of acquisitions).

Our second set of hypotheses deals with SEO characteristics and the role of institutional investors in the SEO:

H4: A firm's SEO offer size will be positively related to its management quality and reputation.⁶

H5: The SEOs of firms with higher management quality and reputation will be associated with more reputable underwriters.

H6: The underwriting spread and other expenses related to the SEO will be negatively related to a firm's management quality and reputation.

H7: Institutional holdings in a firm's SEO will be positively related to its management quality and reputation.

We next study the relationship between the quality of a firm's management and its post-SEO operating performance:

H8: The operating performance of firms subsequent to their SEO will be positively related to the quality and reputation of their management.

⁶ We expect this relationship (as well as others) to hold after controlling for firm size and other firm quality variables.

Our final set of hypotheses deals with the direct relationship between management quality and the extent of asymmetric information facing the firm, and between management quality and liquidity:

H9: The degree of asymmetric information facing a firm will be negatively related to its management quality and reputation.

H10: A firm's stock liquidity will be positively related to its management quality and reputation.

3. Measures of Management Quality and Reputation, and Firm Quality

In this section, we describe our measures of management quality and reputation as well as proxies for other aspects of firm quality that we use as control variables in various regressions.

3.1. Measures of Management Quality and Reputation

We measure management quality and reputation along the following three broad dimensions: management team resources, management team structure, and management reputation in the business community. To measure each of these dimensions, we make use of several different measures.

Management team resources refer to the human and knowledge resources (including both education and relevant work experience) available to firm management. This is measured by the number of executive officers (defined as those with a rank of vice president or higher) on a firm's management team (TSIZE). To control for firm size, we use the firm-size-adjusted TSIZE (i.e., the residuals from the regression of team size on the natural log of the book value of firm's assets) as our measure of the team size (XTSIZE).

Team resources also depend upon knowledge and education of its members, which we measure in two ways. Our second measure of team resources is the percentage of the management team with an MBA degree (PMBA). We also measure the percentage of management team members who are Certified Public Accountants (PCPA). Higher percentages of MBAs and CPAs

imply higher management quality. The third factor that increases management team resources is a prior top management experience. We look at the percentage of the management team who have served as vice presidents or higher prior to joining the firm (PFTEAM). The greater the value of this variable, the better is the management quality. Finally, management team resources are also enhanced by the presence of managers who are in charge of the firm's key functional areas. Our fifth measure, therefore, is the percentage of the management team in the core functional areas: operations and production, research and development, marketing and sales, and finance (CORE). Clearly, higher values of CORE mean better management quality.

The second dimension along which we measure management quality, namely, management team structure, reflects the extent of uniformity or heterogeneity in the tenures of management team members, and their relative importance to the management team. We look at the average tenure of the management team (TENURE), defined as the average number of years team members have been a part of the management team. Higher average tenure may indicate cohesion and shared experiences, and thus would imply lower transaction costs among team members. To avoid correlation with the firm age, we use the residuals from the regression of tenure on the natural log of one plus the firm age as our measure of tenure (XTENURE).

However, long tenures might also indicate the presence of complacency and rigidifying effects on team interactions. An ideal team would have members from different cohorts, which would allow for an inflow of new ideas and perspectives. Thus, a higher management quality would be associated not only with a long average tenure, but also with a higher dispersion of tenures. Our second measure of team structure, therefore, is tenure heterogeneity, defined as the coefficient of variation of the team members' tenures (TENHET).

The third measure of team structure we use is CEO dominance. On the one hand, a strong-willed and dominating chief executive officer may severely diminish possible contributions from subordinate team members. On the other hand, a strong CEO might improve the cohesion of the management team. Thus, while we believe that CEO dominance is an

important measure of team quality, we are agnostic about the direction of the expected impact (positive or negative) of this measure on management quality. Our measure of CEO dominance is the ratio of CEO salary and bonus in the fiscal year preceding SEO to the average salary and bonus of other team members listed in the executive compensation section of the prospectus (FCEO). Assuming that CEOs have a substantial influence over their own pay and nearly total influence over their subordinates' pay, this measure reflects the gap between the CEO's assessment of his own worth to the firm and his assessment of other team members' worth, and is thus a good measure of CEO dominance.

The third dimension along which we measure management quality, namely, management reputation in the business community, reflects the reputation built up by members of the management team. This is measured by the number of corporate boards (apart from that of their own firm) that management team members sit on (BOARDS). While the measures discussed above also serve as measures of management reputation to some degree, this variable is a better index of the reputation and visibility of a firm management in the business community. Again, the greater the value of this variable, the higher is the quality and reputation of a firm's management.⁷

Table 2 summarizes our measures of management quality and reputation, as well as dependent variables that will be used in subsequent regressions. The average (median) management team size (TSIZE) was 6.45 (6) with the smallest management team consisting of only one person, and the largest one of 18 members. On average 6.8 percent of managers had an MBA degree (PMBA), 7.5 percent were CPAs (PCPA), 44.1 percent had held a top management position at another firm prior to joining the SEO firm (PFTEAM), and 54.7 percent held positions in the core functional areas (CORE). The average tenure (TENURE) ranged from 1 to 26.7 years,

⁷ Similar measures have been used in the strategy and organizational behavior literature to study the influence of management team quality and reputation on firm performance: see, e.g., D'Aveni (1990) and Hambrick and D'Aveni (1992), who use such measures to study the deterioration of management team quality around bankruptcies. See also Chemmanur and Paeglis (2003).

with a mean (median) of 5.01 (4.29) years. On average, CEOs were earning 47.6 percent more than the average member of their management team (FCEO).

Though the variables described above are expected to measure management quality and reputation, each of them may have unique limitations as a measure of the underlying unobservable construct. Therefore, we use common factor analysis to construct a single variable for each management quality dimension described above that captures variation common to the observable proxies of management quality.⁸ In order to ensure that various factors are capturing only the effects of management quality (and not those of firm size or firm age) we use firm-size- and firm-age-adjusted proxy variables to extract the factors. Team resources factor (TRF) score is obtained using common factor analysis on the firm-size-adjusted TSIZE, PMBA, PCPA, PFTEAM, and CORE variables. Team structure factor (TSF) score is obtained using common factor analysis on the TENURE, TENHET, and FCEO variables.

Table 3 reports the results of the above common factor analysis. Panel A presents starting communalities, calculated as the squared multiple correlations obtained from regressing each of the management quality measures on the other measures within the same dimension, while Panel B reports the eigenvalues of the reduced correlation matrices. As suggested by Harman (1976), the number of factors needed to approximate the original correlations among individual measures is equal to the number of summed eigenvalues needed to exceed the sum of communalities. In our sample the summed communalities are less than the eigenvalues for the first factor in the factor analysis for each dimension of management quality and reputation, suggesting that one factor in each of the dimensions parsimoniously explains the intercorrelations among the individual measures. Correlations between the common factor scores and their respective original measures

⁸ A number of papers in the empirical corporate finance and accounting literature make use of factor analysis to isolate the unobservable construct underlying several proxy variables. See, e.g., Gaver and Gaver (1993) and Guay (1999), who make use of factor analysis to study the size of a firm's investment opportunity set.

of management quality are reported in Panel C, while Panel D reports summary statistics of the team resources factor (TRF) and the team structure factor (TSF) scores.

3.2. Proxies for Other Aspects of Firm Quality

In order to separate the effects of management quality and reputation from those of other dimensions of firm quality, we control for these other dimensions using the following proxies.

First, we use two firm quality variables commonly used in the finance literature: firm size and firm age. We use the natural log of the book value of the firm's assets as a proxy for the firm size (LNBVA). Firm age is defined as the natural log of one plus the number of years the firm has return data available from CRSP (LFAGE). The larger and older the firm, the higher is the firm quality.⁹

Second, we control for the number of outside directors, defined as the number of directors that are listed in the management section of the prospectus and are not executive officers of the company (ODIR). There are two ways in which the number of outside directors influences firm quality. First, outside directors may provide additional knowledge (inputs and perspectives) to the firms' management. Second, they also provide linkages to external parties, such as underwriters, financial institutions, and auditors. The greater the number of outside directors, the better is the firm quality.¹⁰

4. Data and Sample Selection

The data used in this study came from several different databases. The list of seasoned equity offerings was obtained from SDC/Platinum Global New Issues Database. We restrict ourselves to a sample of firms that conducted an SEO between 1993 and 1997. This time period is

⁹ These two measures of firm quality have been widely used in the IPO literature (see, e.g., Ritter (1984), Michaely and Shaw (1994), and Chemmanur and Paeglis (2003)).

¹⁰ Several studies in the corporate control literature have shown that outside directors enhance firm value (see, among others, Cotter, Shivdasani, and Zenner (1997) and Borokhovich, Parrino, and Trapani (1996)).

determined by the availability of prospectuses on Thomson Financial Database starting from 1993, and the need for the data on the post-issue performance. After eliminating non-underwritten issues, issues with offer prices of less than \$5, spin-offs, financial firms (all firms with SIC codes between 6000 and 6999), and foreign firms we were left with 2,006 firms. Further, 32 firms were eliminated because they did not have the necessary information on CRSP/Compustat. Of the remaining companies, 6 did not have prospectuses and 338 did not have management information available in prospectus. After eliminating these firms, we were left with 1,630 firms in our sample. Table 1 shows how we arrived at our final sample.

The data on management quality was hand-collected from the prospectuses of firms conducting SEOs. The prospectuses were obtained from Thomson Financial Database. In particular, information on the team size, tenure, former work experience, level of education, and board memberships of the team members came from the management section of the prospectuses. The data necessary to calculate the CEO dominance (FCEO) were obtained from the executive compensation sections of the prospectuses. Information on stock prices was obtained from CRSP, while the accounting information necessary to calculate financial policy variables and post-SEO operating performance was obtained from Compustat. SEO characteristics and the number of acquisitions were taken from SDC/Platinum Global New Issues and SDC/Platinum Mergers & Acquisitions Databases, respectively. Information on the institutional shareholdings was obtained by searching 13F and 13F-E filings. Finally, the data necessary to calculate asymmetric information variables was obtained from IBES, while the data on bid-ask spreads was obtained from TAQ database.

5. Empirical Tests and Results

In this section we discuss the empirical methodology used to test our hypotheses and report results. In section 5.1 we present the results of our empirical tests regarding the relationship between management quality and various financial policy variables. In section 5.2 we

present the results of our empirical tests regarding the relationship between management quality and various SEO characteristics. In section 5.3 we present the results of our empirical tests of the relationship between management quality and post-SEO operating performance. Finally, in section 5.4 we present the results of our direct tests regarding the relationship between management quality and the level of asymmetric information about the firm and the liquidity of its equity.

5.1. Management Quality and Financial Policies

In this section we study the relationship between the quality and reputation of a firm's management and its financial policies. We first present the results of univariate tests and then analyze the above relationships using multivariate regressions.

5.1.1. Univariate Tests

Table 4 reports the results of our univariate tests of the relationship between the quality and reputation of a firm's management and various aspects of its financial policy. We split the sample into two by the median management quality factor scores (TRF and TSF). From now on we will refer to the firms with below median management quality factor scores as "low management quality firms," and those with above median management quality factor scores as "high management quality firms."

We find that the team resources factor score (TRF) has a significant influence on financial policy variables. In particular, we find that high management quality firms (i.e. firms with an above median TRF score) have lower leverage and dividend payout ratios, and higher levels of investment and R&D expenditures. For example, firms with an above median TRF score, on average, have leverage ratios that are lower than those of low management quality firms by 3.8 percent (this is a 16 percent decrease over the leverage ratio of low management quality firms) and R&D expenditures that are higher by 8.3 percent (this number is approximately a 46

percent increase over the R&D expenditures of low management quality firms). We also find statistically significant differences in the median levels of investments and dividend payout ratios between high and low management quality firms. Finally, we find some evidence that firms with better and more reputable management acquire fewer firms than do low management quality firms.

The impact of the team structure factor score (TSF) on financial policy variables is ambiguous. While we observe lower levels of leverage for firms with better and more reputable managements (firms with above median TSF scores have, on average, leverage ratios that are lower than those of below median TSF score firms by 2.3 percent), the results on R&D expenditures and dividend payout ratios go the opposite way.

5.1.2. Management Quality and Leverage

To test the hypothesis that firms with better and more reputable managements have lower leverage (hypothesis H1a), we run the following regression:

$$\begin{aligned} LEVER_i = & \beta_0 + \beta_1 XTSIZE_i + \beta_2 XTENURE_i + \beta_3 TENHET_i + \beta_4 PMBA_i + \beta_5 PFTEAM_i + \\ & + \beta_6 PCPA_i + \beta_7 CORE_i + \beta_8 BOARDS_i + \beta_9 FCEO_i + \beta_{10} LNBVA_i + \\ & + \beta_{11} LFAGE_i + \beta_{12} ODIR_i + \beta_{13} CF_i + \beta_{14} ROA_i + IND_i + \varepsilon_i, \end{aligned} \quad (1)$$

where LEVER is defined as the ratio of long term debt (Compustat item 9) plus debt in current liabilities (Compustat item 34) over a sum of the long term debt, the debt in current liabilities, and the book value of common equity (Compustat item 60); CF is the cash flow calculated as the ratio of the sum of earnings before extraordinary items (Compustat item 18) and depreciation (Compustat item 14) over the beginning of the year total assets (Compustat item 6); ROA is the return on assets defined as the ratio of earnings before extraordinary items (Compustat item 18) over the total assets at the beginning of the year (Compustat item 6); and IND is a set of two-digit

SIC code dummies (used to account for variations in financial policy variables across industries).¹¹ All the variables are for the fiscal year of the SEO.

The coefficients on the first eight independent variables are expected to be negative, while we are agnostic about the sign of the coefficient of FCEO. If a strong CEO diminishes contributions from other team members, the coefficient is expected to be positive, while if the team cohesion is increased due to a strong CEO, the coefficient is expected to be negative. The remaining independent variables are unrelated to management quality and are used to control for other aspects of firm quality. The expected signs of these proxies are as follows. Larger and older firms tend to have more debt, so we expect the coefficients of LNBVA and LFAGE to be negative. Also, a higher number of outside directors indicates that more management resources and connections with outside parties are available to the firm, indicating a higher firm quality. Therefore, we expect the coefficient of ODIR to be negative. Finally, we are agnostic about the signs of the coefficients of CF and ROA.

Regressions 1 to 4 in Table 5 present the results of the regressions with leverage as a dependent variable.¹² We find that firms with higher percentages of MBAs (PMBA) and managers in the core functional areas (CORE) have significantly lower leverage. In particular, a one standard deviation increase in CORE leads to a 1.6 percent decrease in the leverage ratio (about 14.9 percent of the median firm's leverage), while a one standard deviation increase in PMBA results in a 0.7 percent decrease in leverage (about 6.5 percent of the median firm's leverage).

¹¹ Cash flow, ROA, and Tobin's Q are used by Bertrand and Schoar (2003) as control variables to study the impact of individual managers on financial policies and performance.

¹² All regressions presented in Tables 5, 6, and 7 were also estimated using fixed-effects regressions where the fixed effects groups were determined according to the two-digit SIC codes. The results of these regressions were qualitatively unchanged.

5.1.3. Management Quality and Dividend Payout Ratios

To test the effect of management quality and reputation on dividend payout ratios (hypothesis H1b), we estimate the following regression:

$$\begin{aligned} DIVID_i = & \beta_0 + \beta_1 XTSIZE_i + \beta_2 XTENURE_i + \beta_3 TENHET_i + \beta_4 PMBA_i + \beta_5 PFTEAM_i + \\ & + \beta_6 PCPA_i + \beta_7 CORE_i + \beta_8 BOARDS_i + \beta_9 FCEO_i + \beta_{10} LNBVA_i + \\ & + \beta_{11} LFAGE_i + \beta_{12} ODIR_i + \beta_{13} CF_i + \beta_{14} ROA_i + IND_i + \varepsilon_i, \end{aligned} \quad (2)$$

where DIVID is the dividend payout ratio defined as the ratio of the sum of common dividends (Compustat item 21) and preferred dividends (Compustat item 19) to the earnings before depreciation, interest, and tax (Compustat item 13). We expect management quality and reputation to have a negative effect on the dividend payout. Therefore we expect negative coefficients on the first eight measures of management quality and are agnostic about the sign of the coefficient of FCEO. Furthermore, we expect positive coefficients on firm size and firm age proxies, as older and larger firms are expected to allocate a larger portion of their cash flow to shareholders. We are agnostic about the direction of influence of cash flow and ROA on the dividend payout.

As reported in regressions 5 to 8 in Table 5, the percentages of management team with a prior top management experience (PFTEAM) and in the core functional areas (CORE) have a negative effect on dividend payout ratios. We also find some evidence that firms with larger management teams (XTSIZE) have lower payout ratios. The results are also economically significant. One standard deviation increases in either PFTEAM or CORE result in 0.2 percent (about 18.2 percent of the average firm's payout ratio) decreases in the dividend payout ratio.

Our findings of a negative relationship between quality and reputation of a firm's management and its dividend payout ratio are consistent with the notion that better quality

management reduces information asymmetry between the firm and the equity market, which, in turn, renders signaling through dividends less relevant.¹³

5.1.4. Management Quality and the Level of Investment

To test the relationship between management quality and reputation and the level of a firm's investment (hypothesis H2a), we run the following regression:

$$\begin{aligned} INVEST_i = & \beta_0 + \beta_1 XTSIZE_i + \beta_2 XTENURE_i + \beta_3 TENHET_i + \beta_4 PMBA_i + \beta_5 PFTEAM_i + \\ & + \beta_6 PCPA_i + \beta_7 CORE_i + \beta_8 BOARDS_i + \beta_9 FCEO_i + \beta_{10} LNBVA_i + \\ & + \beta_{11} LFAGE_i + \beta_{12} ODIR_i + \beta_{13} TOBINQ_i + \beta_{14} CF_i + \beta_{15} ROA_i + IND_i + \varepsilon_i, \end{aligned} \quad (3)$$

where INVEST is the ratio of capital expenditures (Compustat item 128) to the total assets at the beginning of the year (Compustat item 6); TOBINQ is the Tobin's Q, defined as the market value of assets divided by the book value of assets (Compustat item 6), where market value of assets equals the book value of assets plus the market value of common equity (Compustat item 25 times Compustat item 199) less the sum of the book value of common equity (Compustat item 60), and balance sheet deferred taxes (Compustat item 74).

We expect the coefficients of the first eight management quality proxies to be positive, and we are agnostic about the sign of the coefficient of FCEO. We are agnostic about the signs of the coefficients on control variables such as firm size and age. On the one hand, bigger and older firms may be in mature stages of their development and invest less, while younger and smaller firms in their growth stage are expected to invest more. On the other hand, bigger and older firms may have larger projects to invest in, which would be reflected in higher levels of capital expenditures. We expect the coefficient of Tobin's Q to be positive, while the coefficients of cash flow and ROA can go either way. On the one hand, high cash flow and high ROA may indicate

¹³ This is also consistent with higher quality managers having better projects for their firms, characterized by a larger NPV for any given scale, so that they reinvest a larger fraction of cash flows that their firms generate into these positive net present value projects instead of paying them out to shareholders.

that a firm has more cash to invest, while on the other hand it may indicate that a firm is in mature stage of development, so that less investment is expected.

Regressions 1 to 4 in Table 6 report the results of our regressions with investment level as a dependent variable. We find that firms with larger management teams (*XTSIZE*), higher percentages of CPAs (*PCPA*) on the management team, and higher percentages of managers in the core functional areas (*CORE*) have significantly higher levels of investment. The influence of these variables on the investment level is also economically significant. A one standard deviation increase in the *XTSIZE* leads to a 1.4 percent (about 14% of a median firm's investment level) increase in the level of investments. Also, one standard deviation increases in the percentage of CPAs (*PCPA*) and the percentage of managers in the core functional areas (*CORE*) lead to 1.5 percent and 1 percent increases, respectively, in the investment level. Our results are consistent with the notion that better and more reputable managers are better at selecting and implementing new projects and, therefore, have higher equilibrium levels of investment.

5.1.5. Management Quality and R&D Expenditures

To study the effect of management quality and reputation on R&D expenditures (hypothesis H2b), we estimate the following regression:

$$\begin{aligned}
 RD_i = & \beta_0 + \beta_1 XTSIZE_i + \beta_2 XTENURE_i + \beta_3 TENHET_i + \beta_4 PMBA_i + \beta_5 PFTEAM_i + \\
 & + \beta_6 PCPA_i + \beta_7 CORE_i + \beta_8 BOARDS_i + \beta_9 FCEO_i + \beta_{10} LNBVA_i + \\
 & + \beta_{11} LFAGE_i + \beta_{12} ODIR_i + \beta_{13} CF_i + \beta_{14} ROA_i + IND_i + \varepsilon_i,
 \end{aligned} \tag{4}$$

where *RD* is the ratio of R&D expenditures (Compustat item 46) to the total assets at the beginning of the fiscal year (Compustat item 6). We expect the first eight management quality and reputation proxies to have a positive influence on the level of research and development expenditures, and therefore to have positive coefficients. We are agnostic about the sign of the coefficient of *FCEO* and have no predictions on the signs of the coefficients of control variables.

Regressions 5 to 8 in Table 6 report the results of regressions of R&D level on management quality proxies. We find that firms with larger management teams (XTFSIZE), higher percentages of MBAs (PMBA), and higher percentages of managers in core functional areas (CORE) spend more on research and development. This impact is also economically significant. For example, a one standard deviation increase in XTFSIZE results in a 2.5 percent increase in the level of R&D. This increase is equivalent to a 12.7 (31.1) percent increase in the average (median) firm's R&D expenditures. Also, one standard deviation increases in CORE and PMBA cause a 2.1 percent and 1.5 percent increases in the level of R&D expenditures, respectively. These increases are equal to about 10.6 (26.1) percent and 7.6 (18.7) percent of the average (median) levels of R&D expenditures, respectively. Our results provide evidence in support of the hypothesized positive relationship between quality and reputation of managers and their ability to choose better projects and to implement them more ably.

5.1.6. Management Quality and the Number of Acquisitions

To study the relationship between the quality and reputation of a firm's management and its acquisition activities (hypothesis H3), we estimate the following regression:

$$\begin{aligned}
 ACQ_i = & \beta_0 + \beta_1 XTFSIZE_i + \beta_2 XTENURE_i + \beta_3 TENHET_i + \beta_4 PMBA_i + \beta_5 PFTEAM_i + \\
 & + \beta_6 PCPA_i + \beta_7 CORE_i + \beta_8 BOARDS_i + \beta_9 FCEO_i + \beta_{10} LNBVA_i + \\
 & + \beta_{11} LFAGE_i + \beta_{12} ODIR_i + \beta_{13} TOBINQ_i + \beta_{14} CF_i + \beta_{15} ROA_i + IND_i + \varepsilon_i,
 \end{aligned} \tag{5}$$

where ACQ is the number of acquisitions a firm completed in the two years surrounding the offer. As mentioned before, we are agnostic about the influence of management quality on the number of acquisitions. On the one hand, better quality managers may make better use of the synergies generated by mergers and acquisitions and so are more likely to engage in acquisitions. On the other hand, since better managers are more likely to have better projects and to implement them more ably, they may prefer internal growth as opposed to growing through acquisitions.

Table 7 reports the results of regressions with the number of acquisitions as a dependent variable. We find that PMBA, PFTEAM, PCPA, and FCEO all have a positive influence on the number of acquisitions. At the same time, firms with a larger percentage of managers in the core functional areas (CORE) engage in fewer acquisitions.¹⁴

The effect of management quality on the number of acquisitions is also economically significant. A one standard deviation increase in PCPA increases the number of acquisitions by 0.49 (about 25 percent of the average firm's number of acquisitions), while a one standard deviation increase in PFTEAM leads to the increase in the number of acquisitions by 0.33 (about 16.8 percent of the average firm's number of acquisitions). Finally, one standard deviation increases in PMBA and FCEO increase the number of acquisitions by 0.18 and 0.23, respectively. On the other hand, a one standard deviation increase in CORE decreases the number of acquisitions by 0.37.

Our results suggest that firms with better and more reputable managements are more likely to engage in acquisitions. Four management quality proxies have a significantly positive effect on the number of acquisitions, while only one has a negative and significant effect. These results support the hypothesis that higher quality managers are better at making use of synergies created by mergers and acquisitions and, therefore, are more likely to acquire other companies.

5.2. Management Quality and SEO Characteristics

5.2.1. Univariate Tests

Table 4 reports the results of our univariate tests of the relationship between management quality and reputation on the one hand and various SEO characteristics and institutional holdings

¹⁴ We also split the number of acquisitions into two groups: diversifying and non-diversifying. We defined diversifying acquisitions as those where the target did not have the same two-digit SIC code as did the acquiring (SEO) firm. The results were qualitatively unchanged when we used either of these two subgroups as a dependent variable.

on the other. Again, we split the sample into two by the medians of the management quality factor scores (TRF and TSF).

We find that the team resources factor score (TRF) has a statistically significant influence on SEO characteristics. In particular, we find that high management quality firms (i.e. those with an above median TRF score) are associated with more reputable underwriters, have larger offer sizes, incur lower expenses of issuing equity (both in terms of underwriting spread and other offering-related expenses), and have higher institutional holdings at the end of the first quarter after the SEO. For example, higher management quality firms, on average, pay 0.26 percent less in underwriting spread, 0.37 percent less in other offering-related expenses, have by \$2.13 million larger offer sizes, and by 5.95 percent higher institutional shareholdings than do low management quality firms.

The team structure factor score (TSF) has a somewhat weaker influence on SEO characteristics. Firms with an above median TSF score, on average, pay 0.20 percent less in underwriting spread and 0.50 percent less in other offering-related expenses, while the average holdings of institutional investors in such firms is by 5 percent larger (as compared to those of low management quality firms). All these differences are significant at the 1 percent level.

5.2.2. Management Quality and SEO Offer Size

To test the relationship between the SEO offer size and management quality and reputation (hypothesis H4) we run the following regression:

$$\begin{aligned} LNOFF_i = & \beta_0 + \beta_1 XTSIZE_i + \beta_2 XTENURE_i + \beta_3 TENHET_i + \beta_4 PMBA_i + \\ & + \beta_5 PFTEAM_i + \beta_6 PCPA_i + \beta_7 CORE_i + \beta_8 BOARDS_i + \beta_9 FCEO_i + \\ & + \beta_{10} LNBVA_i + \beta_{11} LFAGE_i + \beta_{12} ODIR_i + \varepsilon_i, \end{aligned} \quad (6)$$

where LNOFF is the natural logarithm of the offer size (in \$). We expect the first eight management quality proxies to have positive coefficients, while we are agnostic about the sign of the coefficient of FCEO. We expect coefficients of LNBVA and LFAGE to be positive as older

and larger firms are more likely to have built up a reputation and brand names in their product markets.

Regressions 1 to 5 in Table 8 report the results of regressions with the offer size as the dependent variable. We find that firms with better and more reputable managements have larger SEO offer sizes. In particular, we find that firms with larger management teams (XTSIZE), higher percentages of CPAs (PCPA), more managers in core functional areas (CORE), and with more top management experience (PFTEAM) have significantly larger offer sizes. Our results are also economically significant. For an average firm a one standard deviation increase in XTSIZE leads to a \$3.2 million increase in the offer size (about 4.5 (7) percent of the average (median) offer size). One standard deviation increases in the percentages of CPAs (PCPA) and managers in core functional expertise areas (CORE) lead to \$2.1 million and \$1.8 million increases in the offer size, respectively. These increases are equal to about 3 (4.6) percent and 2.6 (4) percent of the average (median) offer size, respectively.

5.2.3. Management Quality and Underwriter Reputation

To test our fifth hypothesis (H5), namely, that more reputable underwriters are associated with better management quality firms, we run the following regression:

$$\begin{aligned}
 REP_i = & \beta_0 + \beta_1 XTSIZE_i + \beta_2 XTENURE_i + \beta_3 TENHET_i + \beta_4 PMBA_i + \\
 & + \beta_5 PFTEAM_i + \beta_6 PCPA_i + \beta_7 CORE_i + \beta_8 BOARDS_i + \beta_9 FCEO_i + \\
 & + \beta_{10} LNBVA_i + \beta_{11} LFAGE_i + \beta_{12} ODIR_i + \varepsilon_i,
 \end{aligned} \tag{7}$$

where REP is the log of one plus the lead underwriter's reputation as measured by Loughran and Ritter (2003).¹⁵ We expect coefficients of XTSIZE, XTENURE, TENHET, PMBA, PFTEAM, PCPA, CORE, and BOARDS to be positive, indicating that higher management quality firms are associated with more reputable underwriters. We are agnostic about the sign of the coefficient of FCEO. The remaining independent variables control for other aspects of firm quality. The

¹⁵ This measure takes on values from 0 to 9, with 0 being the least reputable underwriter and 9 being the most reputable one.

coefficients of LNBVA and LFAGE are also expected to be positive indicating that larger and older firms are likely to be associated with more reputable underwriters.

Regressions 6 to 10 in Table 8 report the results of the regressions of underwriter reputation on the proxies for management quality. In particular, we find that firms with larger (XTSIZE) and more heterogeneous (TENHET) management teams as well as those with higher percentages of MBAs (PMBA) and managers in core functional areas (CORE) are underwritten by more reputable underwriters. The coefficients of these variables are significant at the 1 percent level, except for TENHET, which is significant at the 5 percent level.¹⁶

A one standard deviation increase in the percentage of management team in core functional areas (CORE) increases the underwriter reputation measure by 0.23 (this represents 3.2 (2.9) percent increase for an average (median) firm). Also, a one standard deviation increase in management team size (XTSIZE) leads to the increase in the underwriter reputation measure by 0.19 which corresponds to 2.7 (2.4) percent increase for an average (median) firm. Finally, a one standard deviation increase in the percentage of MBAs in the management team (PMBA) increases underwriter reputation measure by 0.17 which translates into 2.3 (2.1) percent increase for an average (median) firm. These results indicate that firms with better and more reputable management teams are associated with more reputable underwriters.

5.2.4. Management Quality and Underwriting Expenses

To test whether underwriting spreads and other offering-related expenses are negatively related to management quality (hypothesis H6), we run two regressions. The first regression is:

¹⁶ We also run the same regression using natural logarithm of one plus the market share of the lead underwriter in the year before the issue as a measure of underwriter reputation. The market share was calculated by taking the total amount of money raised by the lead underwriter in the SEO market in the year preceding the issue and dividing it by the total amount of money raised in that year in the SEO market. The results were qualitatively unchanged in this alternative specification.

$$\begin{aligned}
SPREAD_i = & \beta_0 + \beta_1 XTSIZE_i + \beta_2 XTENURE_i + \beta_3 TENHET_i + \beta_4 PMBA_i + \\
& + \beta_5 PFTEAM_i + \beta_6 PCPA_i + \beta_7 CORE_i + \beta_8 BOARDS_i + \beta_9 FCEO_i + \\
& + \beta_{10} LNBVA_i + \beta_{11} LFAGE_i + \beta_{12} ODIR_i + \beta_{13} XOFFER_i + \varepsilon_i,
\end{aligned} \tag{8}$$

where SPREAD is the underwriting spread as a percentage of the offer price. Previous studies have found a negative relationship between underwriting expenses and offer size, and have interpreted this result as the evidence of economies of scale in underwriting. Since we have shown that offer size is positively related to management quality and reputation and therefore is not an exogenous variable, we include the offer size not explained by management quality and other firm quality variables (i.e., residuals from regression 6), denoted by XOFFER, as an additional control variable.

The second regression is:

$$\begin{aligned}
EXP_i = & \beta_0 + \beta_1 XTSIZE_i + \beta_2 XTENURE_i + \beta_3 TENHET_i + \beta_4 PMBA_i + \\
& + \beta_5 PFTEAM_i + \beta_6 PCPA_i + \beta_7 CORE_i + \beta_8 BOARDS_i + \beta_9 FCEO_i + \\
& + \beta_{10} LNBVA_i + \beta_{11} LFAGE_i + \beta_{12} ODIR_i + \beta_{13} XOFFER_i + \varepsilon_i,
\end{aligned} \tag{9}$$

where EXP denotes other offering-related expenses as a percentage of the offer size.

The coefficients of the first eight variables in regressions (8) and (9) are expected to be negative, implying that higher management quality firms incur lower equity issue costs. As before, we expect the coefficient of FCEO to be significant with no prediction about its sign. The coefficients of other measures of firm quality and offer size (LNBVA, LFAGE, ODIR, and XOFFER) are expected to be negative as well.

Table 9 reports the results of regressions of the underwriting spread and underwriting expenses on the proxies of management quality. Regressions 1 to 6 show that firms with larger (XTSIZE), more heterogeneous (TENHET) and CEO-dominated (FCEO) management teams, as well as those with longer tenures of their members (XTENURE), higher percentages of MBAs (PMBA), and managers in the core functional areas (CORE) incur lower underwriting spreads. The coefficients on all these variables are significant at the 1 percent level, except for XTENURE which is significant at the 5 percent level. Regressions 7 to 11 in Table 9 show that higher

management quality firms also incur lower other offering-related expenses. In particular, we find that XTSIZE, XTENURE, TENHET, and CORE all have a significantly negative influence on the other offering-related costs.

Our results indicate that management quality and reputation have an economically as well as a statistically significant influence on the costs of issuing equity. In particular, we find that a one standard deviation increase in XTSIZE results in about a 0.10 percent decrease in the underwriting spread and a 0.19 percent decrease in the ratio of other expenses to the offer size. For a median firm (with an offer price of \$19.625 and with 2.5 million shares offered) this results in savings of approximately \$49,000 (1.84 percent) on underwriting spread, and around \$93,000 (8.91 percent) savings on other offering-related expenses. Similarly, a one standard deviation increase in the percentage of team members in the core functional expertise areas (CORE) results in a 0.12 percent reduction in underwriting spread (savings of about \$59,000) and a 0.27 percent decline in the ratio of other expenses to the offer size (savings of about \$132,000). Finally, a one standard deviation increase in the tenure heterogeneity (TENHET) leads to about \$34,000 savings on the underwriting spread and \$103,000 savings on the other offering-related expenses. Our results suggest that better and more reputable managers have a certifying effect on firm quality and thus incur lower costs of issuing equity, as measured by both the underwriting spread and the other offering-related expenses.

5.2.5. Management Quality and Institutional Shareholdings

In this section we test the influence of management quality on institutional interest (hypothesis H7) by running the following regression:

$$\begin{aligned}
 INSTP_i = & \beta_0 + \beta_1 XTSIZE_i + \beta_2 XTENURE_i + \beta_3 TENHET_i + \beta_4 PMBA_i + \\
 & + \beta_5 PFTEAM_i + \beta_6 PCPA_i + \beta_7 CORE_i + \beta_8 BOARDS_i + \beta_9 FCEO_i + \\
 & + \beta_{10} LNBVA_i + \beta_{11} LFAGE_i + \beta_{12} ODIR_i + \beta_{13} XREP_i + \varepsilon_i,
 \end{aligned} \tag{10}$$

where INSTP is the natural logarithm of one plus the percentage of shares held by institutional investors at the end of the first quarter after the issue. We also repeat the above regression using the natural logarithm of one plus the number of institutional investors (INSTN) holding SEO firms' shares at the end of the first quarter after the issue as the dependent variable (instead of INSTP).¹⁷ Notice that, in addition to the proxies of firm age and firm size, we use XREP (i.e. residuals from regression (7)) as a control variable, since the reputation of the SEO underwriters may also influence the extent of institutional interest in the shares of the SEO firm. The coefficients of the first eight independent variables are expected to be positive, while we don't have a strong a priori expectation about the sign of the coefficient of FCEO. The coefficients of the control variables (LNBVA, LFAGE, ODIR, and XREP) are also expected to be positive.

Table 10 reports the results of the estimation of equation (10). We find that management quality is indeed positively related to institutional interest. The results hold for both dependent variables: institutional holdings (INSTP) and the number of institutional holders (INSTN). In particular, we find that firms with larger (XTSIZE) and more heterogeneous (TENHET) management teams, as well as those with longer average tenures of its members (XTENURE), higher percentages of MBAs (PMBA) and managers in the core functional areas (CORE) had a significantly higher institutional interest in their equity (as measured by the number of institutional investors and their holdings). The coefficients are significant at the 1 percent level, except for XTENURE, which in some specifications is significant at the 5 percent level.

Our results are not only statistically, but also economically significant. A one standard deviation increase in the percentage of the team members in the core functional areas (CORE) leads to an increase of about 3.2 percent in the holdings of institutional shareholders (this represents 8 (4.6) percent increase for an average (median) firm, respectively), and of about 4 in the number institutional investors (this is 10.1 (11.8) percent increase for an average (median)

¹⁷ We also run the above regression with the institutional holdings and the number of institutional investors at the end of the quarter before the SEO as a dependent variable. The results are qualitatively unchanged.

firm). Also, a one standard deviation increase in XTSIZE, on average, increases the fraction of equity held by institutional investors by 2.4 percent (this corresponds to about 6 percent increase for both an average and a median firm) and the number of institutional investors by 2.6 (this is 6.6 (7.6) percent increase for an average (median) firm). Finally, a one standard deviation increase in the percentage of the team with MBA degrees (PMBA) increases the percentage of institutional holdings by 1.8 percent (this represents 4.3 (4.5) percent increase for an average (median) firm) and the number of institutional investors by 2.7 (this is 6.8 (7.9) percent increase for an average (median) firm). Our results suggest that the certification of a firm's quality by a better and more reputable management team results in an increase in the institutional interest in the firm's shares.

5.3. Management Quality and Operating Performance

In this section we study the relationship between management quality and reputation and the operating performance of firms in the three years after the equity issue. We use two measures of operating performance. The first one is the return on assets (ROA) defined as the ratio of earnings before extraordinary items (Compustat item 18) to the total assets (Compustat item 6) at the beginning of the year. The second measure is operating return (OPRET), defined as the ratio of the operating cash flow (Compustat item 308) to the total assets (Compustat item 6) at the beginning of the year. We look at the operating performance in the year of SEO (defined as year 0) and the following three years.

The results of our univariate tests regarding the relationship between management quality and reputation and the levels of ROA and OPRET are reported in Table 11. We find that firms with an above median team structure factor (TSF) score indeed have significantly higher levels of operating performance. In particular, median return on assets (ROA) for the high management quality firms is between 1.8 and 3.1 percentage points higher, while median operating return (OPRET) for these firms is between 1.5 to 2.4 percentage points higher than that for the low management quality firms. The differences, in most cases, are significant at the 1 percent level.

The differences in the median operating performance of firms with below and above median team resources factor (TRF) scores seem to indicate that high management quality firms have lower ROAs than do low management quality firms. This result, however, can be largely due to the fact that, as showed before, high management quality firms have lower leverage. The fact that we find no significant differences in the operating return (OPRET) between high and low management quality firms seems to support this explanation. Our multivariate results (omitted for the sake of brevity) are largely consistent with the univariate results reported above. We find that average tenure (XTENURE) had a significantly positive influence on ROA and the operating return, while the percentage of management team members in core functional areas (CORE) had a significantly positive influence on the operating return.

5.4. Management Quality, the Degree of Asymmetric Information, and Liquidity

The results presented so far are largely consistent with the notion that firms with better and more reputable management face a lower degree of asymmetric information in the equity market. In this section we conduct a more direct test of the relationship between management quality and the degree of informational asymmetry. We do so by examining the relationship between management quality and two groups of asymmetric information measures. The first group includes the number of financial analysts following the firm, the forecast error, the dispersion of forecasts, and the bid-ask spread.¹⁸ The second group includes two liquidity measures: trading volume (in dollars) and the turnover of the firm's equity.¹⁹

¹⁸ These measures are similar to those used by Christie (1987), Krishnaswami and Subramaniam (1999), and Clarke and Shastri (2001).

¹⁹ Eckbo and Norli (2001) use these measures of liquidity in their study of liquidity risk and long-run IPO returns.

5.4.1. Univariate Tests

Table 12 presents the results of our univariate tests of the relationship between management quality and reputation and the degree of asymmetric information about the firm in the equity market. We split the sample into two by the median management quality factor scores (TRF and TSF).

We find that management quality and reputation do indeed reduce the degree of asymmetric information between the firm and the equity market. In particular, firms with an above median team resources factor score (TRF) have a greater analyst coverage, lower forecast error, lower bid-ask spread, and are more liquid. For example, high management quality firms have 0.78 more analysts following them (about 25 percent more than the number of analysts following low management quality firms), 0.4 percent lower forecast errors (40 percent decrease over those of low management quality firms), and 0.5 percent lower bid-ask spreads (12 percent decrease as compared to those of low quality management firms) than do low management quality firms. Also, average trading volume of high management quality firms is by around \$5.5 million (68 percent) higher, while their share turnover is approximately 3.7 percent higher (this represents around 29 percent increase as compared to that of the firms with below median TRF score) than that of low management quality firms. All these differences are statistically significant at the 1 percent level, except for the forecast error which is significant at the 5 percent level.

We find that the team structure factor (TSF) score has a similar, though somewhat less significant influence on the degree of asymmetric information. Firms with above median TSF scores have more analysts following them and have lower dispersion and bid-ask spread. The differences between high and low management quality firms are also economically significant. For example, better quality managements have 0.23 more analysts following their firm, which is around 10 percent more than the number of analysts following low management quality firms. Also, the bid-ask spread of high management quality firms is lower by 0.2 percent, which is a 20 percent decrease over the bid-ask spread of low management quality firms.

5.4.2. Management Quality and Asymmetric Information

To test the hypothesis that higher management quality and reputation is negatively related to the degree of asymmetric information facing the firm in the equity market (hypothesis H9), we run the following regression:

$$\begin{aligned} NUMEST_i = & \beta_0 + \beta_1 XTSIZE_i + \beta_2 XTENURE_i + \beta_3 TENHET_i + \beta_4 PMBA_i + \\ & + \beta_5 PFTEAM_i + \beta_6 PCPA_i + \beta_7 CORE_i + \beta_8 BOARDS_i + \beta_9 FCEO_i + \\ & + \beta_{10} LNBVA_i + \beta_{11} LFAGE_i + \beta_{12} ODIR_i + \varepsilon_i, \end{aligned} \quad (11)$$

where NUMEST is the natural logarithm of one plus the number of analysts following the firm at the end of the fiscal year preceding the SEO. We expect the coefficients of the first eight management quality variables to be positive, while we are agnostic about the sign of the coefficient of FCEO. We also expect larger and older companies to have more analyst coverage.

Regressions 1 to 4 in Table 13 report the results of the regressions with the number of analysts as a dependent variable. We find that XTSIZE, XTENURE, CORE, and BOARDS have significantly positive influence on the number of analysts following the firm. These relationships are also economically significant. A one standard deviation increase in CORE increases the number of analysts following the company by 0.31 (about 31% of the number of analysts that follow the median firm). Also, one standard deviation increases in XTSIZE and BOARDS lead to increases in the number of analysts by 0.21 and 0.13, respectively.

The second measure of the information asymmetry is the forecast error. In regression 11 we substitute number of analysts by FORERR, defined as the ratio of the absolute difference between the mean EPS estimate and the actual EPS to the stock price. All values are for the end of the fiscal year preceding the SEO. We expect management quality to have a negative influence on the forecast error. Again, we are agnostic about the sign of the coefficient of FCEO.

Regressions 5 and 6 in Table 13 report the results of our regressions with forecast error as a dependent variable. We find that firms with longer tenures of its management team members (XTENURE) and higher percentages of CPAs (PCPA) have lower forecast errors. Coefficients of

these variables are significant at the 5 percent level. A one standard deviation increase in PCPA leads to a 0.17 percent decrease in the forecast error (about a 22 (77) percent decrease in the average (median) firm's forecast error).

Our third measure of asymmetric information is the dispersion of analyst forecasts, defined as the ratio of the standard deviation of analyst forecasts to the stock price.²⁰ We expect management quality proxies to have a negative effect on the dispersion. The regressions 7 to 9 in Table 13 present the results of our regressions with dispersion as a dependent variable. We find that firms with longer tenures of its managers (XTENURE) and higher percentages of CPAs (PCPA) have significantly lower dispersions. These results are significant at the 5 and 1 percent levels, respectively, and are also economically significant. One standard deviation increases in XTENURE and PCPA decrease the dispersion by 0.08 and 0.07 percent (67 and 58 percent of the median firm's dispersion), respectively.

Our fourth measure of asymmetric information is bid-ask spread (BIDASK), defined as the median monthly ratio of bid-ask spread to the stock price (calculated over the fiscal year preceding the issue). We expect higher management quality firms to have a lower bid-ask spread and therefore negative coefficients of management quality variables. Regressions 10 to 12 in Table 13 report the results of these regressions. We find that firms with larger management teams (XTSIZE) and higher percentages of CPAs (PCPA) have significantly lower bid-ask spreads. One standard deviation increases in XTSIZE and PCPA reduce the bid-ask spread by 0.32 and 0.18 percent (around 10 and 6 percent of the median firm's bid-ask spread), respectively.

These results confirm our conjecture that better and more reputable management mitigates the degree of information asymmetry between the firm and the equity market. This relationship is both statistically and economically significant.

²⁰ We also used the standard deviation of analyst forecasts as a dependent variable. The results are qualitatively unchanged with this dependent variable.

5.4.3. Management Quality and Liquidity

We now study the relationship between management quality and liquidity. To test if firms with better and more reputable management are more liquid (hypothesis H10), we run the following regression:

$$\begin{aligned} PVOL_i = & \beta_0 + \beta_1 XTSIZE_i + \beta_2 XTENURE_i + \beta_3 TENHET_i + \beta_4 PMBA_i + \\ & + \beta_5 PFTEAM_i + \beta_6 PCPA_i + \beta_7 CORE_i + \beta_8 BOARDS_i + \beta_9 FCEO_i + \\ & + \beta_{10} LNBVA_i + \beta_{11} LFAGE_i + \beta_{12} ODIR_i + \beta_{13} LAGLEVER_i + \beta_{14} SHAROUT_i + \varepsilon_i, \end{aligned} \quad (12)$$

where PVOL is the natural logarithm of stock price times the monthly trading volume averaged over the fiscal year preceding the offer; LAGLEVER is lagged leverage, defined as the ratio of long term debt (Compustat item 9) plus debt in current liabilities (Compustat item 34) to the long term debt plus debt in current liabilities plus the book value of common equity (Compustat item 60) at the end of the fiscal year preceding the issue; and SHAROUT is the number of shares outstanding (in millions) at the end of the fiscal year preceding the offer. We expect positive signs of the coefficients of the first eight management quality proxies, but are agnostic about the sign of the coefficient of FCEO.

Regressions 1 to 6 in Table 14 present the results of our regressions with PVOL as a dependent variable. We find that firms with larger management teams (XTSIZE), higher percentages of CPAs (PCPA) and managers in the core functional areas (CORE) are significantly more liquid. The coefficients of these variables are significant at the 1 percent level.

These results are also economically significant. A one standard deviation increase in XTSIZE brings about \$1.7 million (about 16% of the average firm's monthly trading volume) increase in PVOL. Also, one standard deviation increases in CORE and PCPA lead to around \$1.5 and \$1 million increases in PVOL, respectively.

Our second measure of liquidity is the average monthly turnover. To test if management quality and reputation is positively related to liquidity (as measured by the monthly turnover), we estimate the following regression:

$$\begin{aligned}
TO_i = & \beta_0 + \beta_1 XTSIZE_i + \beta_2 XTENURE_i + \beta_3 TENHET_i + \beta_4 PMBA_i + \\
& + \beta_5 PFTEAM_i + \beta_6 PCPA_i + \beta_7 CORE_i + \beta_8 BOARDS_i + \beta_9 FCEO_i + \\
& + \beta_{10} LNBVA_i + \beta_{11} LFAGE_i + \beta_{12} ODIR_i + \beta_{13} LAGLEVER_i + \varepsilon_i,
\end{aligned} \tag{13}$$

where TO is the ratio of the monthly trading volume to the number of shares outstanding, averaged over the fiscal year preceding the offer. Regressions 7 to 10 in Table 14 report the results of various specifications of the above regression. Our findings indicate that firms with larger management teams (XTSIZE) and higher percentages of managers in the core functional areas (CORE) have significantly higher turnover. The coefficients of these variables are significant at the 1 percent level. The effects of XTSIZE and CORE on the monthly turnover are also economically significant. One standard deviation increases in CORE and XTSIZE result in 1.2 and 1 percent increases, respectively, in turnover. These increases represent around 11.3 and 9.4 percent increases, respectively, in the median firm's turnover.

The above findings of a positive relationship between quality and reputation of a firm's management and liquidity of its equity provides additional evidence consistent with a lower degree of asymmetric information faced by high management quality firms.

6. Summary, Interpretation of Results, and Conclusion

Using a sample of firms making seasoned equity offerings, we examine the relationship between the reputation and quality of a firm's management and its financial policies, SEO characteristics, and post-SEO performance, a relationship that has so far received little attention in the literature. Our main findings are as follows. First, quality of a firm's management is negatively related to its leverage and dividend payout ratios. Second, management quality and reputation is positively related to the levels of investments and R&D expenditures. Third, controlling for firm size and other aspects of firm quality, firms with better and more reputable managers have larger SEO offer sizes. Fourth, firms of higher management quality and reputation are associated with more reputable underwriters. Fifth, underwriting expenses (both the

underwriting spread and the other offering-related expenses) are negatively related to management quality and reputation. Sixth, firms with higher management quality and reputation have a higher fraction of their equity held by institutional investors. Seventh, management quality and reputation explains some of the cross-sectional variation in the post-SEO operating performance of firms. Finally, we find direct evidence that management quality and reputation is negatively related to the degree of asymmetric information facing the firm in the equity market, and positively related to the liquidity of the firm's equity.

Our findings suggest that management quality and reputation are indeed important dimensions of firm quality, and that measures of these variables provide additional information about intrinsic value of a firm over and above that provided by firm quality variables such as firm age and firm size. Many of our findings are consistent with better and more reputable firm management being able to convey the value of their firm more credibly to outsiders, thus reducing the information asymmetry facing the firm in the equity market. In particular, our findings of lower levels of leverage and lower payout ratios support the notion that firms with better managements face a lower degree of asymmetric information in the equity market. This is also supported by the results of our direct tests of the relationship between management quality and asymmetric information, which document an inverse relationship between the quality and reputation of a firm's management and various proxies for the asymmetric information facing the firm in the equity market.

A lower extent of information asymmetry will also be associated with a reduction in outsiders' costs of evaluating a firm, be it financial intermediaries evaluating a firm prior to deciding whether or not to underwrite its SEO, or institutional investors evaluating it from the point of view of investing in its equity. The positive relationship we find between the quality and reputation of a firm's management and the reputation of investment banks underwriting its SEO is thus consistent with a reduced cost to outsiders of evaluating the firm when its management is of high quality. The negative relationship we document between the quality and reputation of a

firm's management and its costs of issuing equity also supports this notion: if underwriters incur only lower costs to acquire information about firms with higher management quality and reputation and to transmit this information to the SEO market, they will demand only lower fees to underwrite the equity issues of these firms. The positive relationship we find between the management quality of a firm and the extent of institutional holdings in that firm is also consistent with this notion.

Our findings also indicate that better and more reputable managers are capable of selecting better projects and implementing them more ably. The positive relationship we find between the quality and reputation of a firm's management and its post-SEO operating performance provides direct evidence supporting this notion. Further, since better quality projects have larger NPV for any given scale, the equilibrium scale (level of investment) of such projects will also be larger, requiring larger capital expenditures, higher R&D spending, and consequently larger SEO offer sizes. In summary, the positive relationship we document between the quality and reputation of a firm's management and its levels of capital expenditures and R&D expenses, as well as the positive relationship between management quality and the amount raised in its SEO provide evidence consistent with the notion that firms with better managers have better projects and are able to implement them more successfully.

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Table 1

Number of SEOs by year

	1993	1994	1995	1996	1997	Total
Total	683	447	572	702	686	3090
Non-underwritten	7	15	6	8	5	41
Offer price less than \$5	42	25	18	32	16	133
Spin-offs	0	1	1	0	0	2
Financial	175	99	120	146	203	743
Foreign	21	33	22	44	45	165
CRSP/Compustat not available	9	4	6	1	12	32
Prospectus not available	2	0	1	1	2	6
Information on management not available	107	62	70	49	50	338
<i>Final sample</i>	320	208	328	421	353	1630

Table 2

Summary statistics. TSIZE is the size of a firm's management team, defined as executive officers and/or managers with a rank of vice president or higher. XTSIZE are residuals from a regression of TSIZE on LNBVA, where LNBVA is the natural log of the book value of the firm's assets. PMBA is the percentage of a firm's management team with MBA degrees. PCPA is the percentage of a firm's management team who are certified public accountants. PFTEAM is the percentage of the management team who have served as executive officers and/or vice presidents and above prior to joining the SEO firm. CORE is the percentage of the management team having core functional expertise, namely, holding positions in operations, sales and marketing, research and development, and finance. TENURE is the average number of years management team members have been in the team. XTENURE is the average number of years management team members have been in the team, adjusted for firm age. TENHET is the coefficient of variation of the team members' tenures. BOARDS is the number of other companies' boards that management team members sit on. FCEO is the ratio of CEO salary and bonus in the fiscal year preceding SEO to the average salary and bonus of the other management team members. LFAGE is the natural log of one plus firm age, where firm age is defined as the number of years the firm has return data available on CRSP. ODIR is the number of outside directors. LEVER is the leverage defined as long term debt plus debt in current liabilities over long term debt plus debt in current liabilities plus the book value of common equity. DIVID is the dividends payout ratio defined as the sum of common dividends and preferred dividends over earnings before depreciation, interest and tax. INVEST is the investment level calculated as capital expenditures over beginning of the year total assets. RD is the level of research and development defined as the ratio of R&D expenses over beginning of the year total assets. ACQ is the number of acquisitions the firm has completed within one year (before and after) of the SEO. LNOFF is the natural logarithm of the offer size. REP is the log of one plus lead underwriter's reputation as measured by Loughran and Ritter (2003). SPREAD is the underwriting spread as a percentage of the offer price. EXP is the offering expenses as a percentage of the offer size. INSTP is the natural logarithm of one plus the percentage of the firm's shares held by institutional investors at the end of the first quarter after the SEO. INSTN is the natural logarithm of one plus the number of institutional investors holding shares of the firm at the end of the first quarter after the issue. NUMEST is the natural logarithm of one plus the number of analysts following the firm as of the end of the fiscal year preceding the issue. FORERR is the analysts' median forecast error, where forecast error is defined as the absolute difference between mean estimate and actual EPS divided by the share price. DISPERS is the ratio of the standard deviation of the forecasts and stock price. BIDASK is the median bid-ask spread as a percentage of the share price for the twelve months of the fiscal year preceding the issue. PVOL is the natural logarithm of stock price times the monthly trading volume averaged over the fiscal year preceding the offer. TO is the ratio of the monthly trading volume to the number of shares outstanding, averaged over the fiscal year preceding the offer. INVEST, LEVER, RD, and DIVID are winsorized at the 99th percentile. For LEVER and DIVID only positive observations are reported.

Panel A: Summary statistics of independent variables

	min	mean	median	max	std. dev
TSIZE	1	6.453	6	18	2.556
XTSIZE	-6.497	0.000	-0.283	9.564	2.398
PMBA	0	0.068	0	0.833	0.141
PCPA	0	0.075	0	1	0.123
PFTEAM	0	0.441	0.429	1	0.285
CORE	0	0.547	0.571	0.900	0.203
TENURE	1	5.017	4.286	26.667	3.128
XTENURE	-5.343	0.000	-0.655	20.334	2.986
TENHET	0	0.684	0.671	1.741	0.300
FCEO	0	1.476	1.446	4.438	0.447
BOARDS	0	0.591	0	9	1.132
LNBVA	12.899	18.162	18.083	23.106	1.474
LFAGE	0	1.365	1.099	4.248	0.901
ODIR	0	4.866	5	14	2.072

Panel B: Summary statistics of dependent variables

	min	mean	median	max	std. dev
LEVER	0	0.203	0.108	1.063	0.231
DIVID	0	0.011	0.000	0.319	0.037
INVEST	0	0.193	0.102	1.856	0.242
RD	0	0.197	0.080	2.132	0.287
ACQ	0	1.964	1	50	4.072
LNOFF	14.457	17.645	17.644	20.864	0.916
REP	0	2.107	2.197	2.302	0.297
SPREAD	2.007	5.484	5.429	10	1.103
EXP	0.059	2.990	2.128	45.714	2.923
INSTP	0	0.316	0.352	0.693	0.211
INSTN	0	2.959	3.555	6.127	1.607
NUMEST	0	0.834	0.693	3.526	0.842
FORERR	0	0.008	0.002	0.504	0.027
DISPERS	0	0.004	0.001	0.160	0.011
BIDASK	0	0.039	0.031	0.461	0.034
PVOL	10.118	16.181	16.242	21.070	1.592
TO	0.0002	0.145	0.106	1.128	0.125

Panel C: Correlations between independent variables

	XTSIZE	PMBA	PFTEAM	PCPA	XTENURE	TENHET	FCEO	BOARDS
XTSIZE	1							
PMBA	0.0407	1						
PFTEAM	-0.0237	0.0781	1					
PCPA	-0.1017	0.0976	-0.0536	1				
XTENURE	-0.2375	-0.0733	-0.4489	0.0313	1			
TENHET	0.1630	-0.0123	-0.1128	-0.0147	0.0422	1		
FCEO	0.0524	-0.0648	-0.0339	-0.0417	0.0341	0.0586	1	
BOARDS	0.0881	-0.0283	0.0406	-0.0413	-0.0677	-0.0208	0.0503	1
CORE	0.0743	0.1041	0.0647	0.0300	-0.1089	0.0096	-0.0904	-0.0587
LNBVA	-0.0020	-0.1521	-0.0911	-0.1130	0.0877	-0.0048	0.3535	0.2067
LFAGE	-0.0285	-0.0628	-0.2193	-0.0194	-0.0002	0.0900	0.1432	0.0741
ODIR	0.0202	-0.0449	-0.0031	-0.1098	-0.1371	-0.0476	0.1745	0.1675

	CORE	LNBVA	LFAGE	ODIR
CORE	1			
LNBVA	-0.2367	1		
LFAGE	-0.1721	0.2646	1	
ODIR	-0.1144	0.3475	0.2098	1

Table 3

Selected statistics related to a common factor analysis of eight measures of management quality and reputation. The sample consists of 1630 seasoned equity offerings between 1993 and 1997. TRF is the management team resources factor score obtained using common factor analysis on the firm-size-adjusted TSIZE, PMBA, PCPA, CORE, and PFTEAM. TSF is the management team structure factor score obtained using common factor analysis on the firm-age-adjusted TENURE, TENHET, and the firm-size-adjusted FCEO.

Panel A: Estimated communalities of eight management quality measures					
	TSIZE	PCPA	PFTEAM	PMBA	CORE
TRF	0.0201	0.0234	0.0120	0.0186	0.0125
	TENURE	TENHET	FCEO		
TSF	0.0018	0.0054	0.0036		

Panel B: Eigenvalues of the reduced correlation matrix of eight management quality measures					
	1	2	3	4	5
TRF	0.16768	0.13004	0.03907	-0.07122	-0.17893
TSF	0.07912	-0.00073	-0.06764		

Panel C: Correlations between the common factors and eight management quality measures					
	TSIZE	PCPA	PFTEAM	PMBA	CORE
TRF	0.3645	0.1930	0.2487	0.7096	0.6341
	TENURE	TENHET	FCEO		
TSF	0.4262	0.7312	0.5988		

Panel D: Descriptive statistics of the common factors extracted from eight management quality measures			
		TRF	TSF
	Maximum	1.371	1.550
	Third quartile	0.203	0.155
	Median	-0.022	-0.009
	First quartile	-0.233	-0.167
	Minimum	-1.061	-1.028
	Mean	0.000	0.000

Table 4

Tests of differences in mean and median financial policy, acquisitions, SEO characteristics, and institutional holdings, for firms with above- and below-median management quality and reputation factor scores. TRF is the management team resources factor score obtained using common factor analysis on the TSIZE, PMBA, PCPA, CORE, and PFTEAM. TSF is the management team structure factor score obtained using common factor analysis on TENURE, TENHET, and FCEO. LEVER is the long term debt plus debt in current liabilities over long term debt plus debt in current liabilities plus the book value of common equity. DIVID is the sum of common dividends and preferred dividends over earnings before depreciation, interest, and tax. INVEST is the ratio of capital expenditures to the total assets. RD is the ratio of R&D expenses to the total assets. ACQ is the number of acquisitions the company completed one year before and after the issue. REP is the log of one plus the lead underwriter's reputation as measured by Loughran and Ritter (2003). LNOFF is the natural logarithm of the offer size. SPREAD is the underwriting spread as a percentage of the offer price. EXP is the offering expenses as a percentage of the offer size. INSTP is the natural logarithm of one plus the percentage of the firm's shares held by institutional investors at the end of the first quarter after the SEO. INSTN is the natural logarithm of one plus the number of institutional investors holding shares of the firm at the end of the first quarter after the issue. Medians are reported in brackets. The results of *t*-tests for the difference in means and non-parametric Wilcoxon signed rank tests for the difference in medians are reported in parenthesis. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

	<i>TRF</i>			<i>TSF</i>		
	<i>below median</i>	<i>above median</i>	<i>difference</i>	<i>below median</i>	<i>above median</i>	<i>difference</i>
LEVER	0.232 [0.137]	0.194 [0.092]	-0.038 (-2.84)*** [-0.045] (-2.39)**	0.225 [0.115]	0.202 [0.098]	-0.023 (-1.74)** [-0.017] (-1.43)
DIVID	0.019 [0.000]	0.006 [0.000]	-0.013 (-1.14) [0.000] (-3.01)***	0.005 [0.000]	0.020 [0.000]	0.015 (1.35) [0.000] (2.40)***
INVEST	0.221 [0.101]	0.234 [0.105]	0.013 (0.48) [0.004] (2.02)**	0.227 [0.102]	0.227 [0.104]	0.000 (0.01) [0.002] (0.06)
RD	0.179 [0.037]	0.262 [0.142]	0.083 (3.01)*** [0.105] (5.49)***	0.266 [0.130]	0.190 [0.054]	-0.076 (-2.74)*** [-0.076] (-3.98)***
ACQ	1.987 [1.000]	1.942 [1.000]	-0.045 (-0.22) [0.000] (-2.12)**	1.961 [1.000]	1.969 [1.000]	0.008 (0.04) [0.000] (0.33)
REP	2.066 [2.197]	2.147 [2.197]	0.081 (5.53)*** [0.000] (3.62)***	2.100 [2.197]	2.115 [2.197]	0.015 (1.02) [0.000] (-0.69)
LNOFF	17.562 [17.553]	17.729 [17.736]	0.167 (3.68)*** [0.183] (3.78)***	17.621 [17.655]	17.671 [17.642]	0.050 (1.09) [-0.013] (0.59)
SPREAD	5.615 [5.490]	5.354 [5.259]	-0.261 (-4.77)*** [-0.231] (-3.43)***	5.582 [5.486]	5.383 [5.314]	-0.199 (-3.65)*** [-0.172] (-3.33)***
EXP	3.173 [2.251]	2.805 [1.944]	-0.368 (-2.42)*** [-0.307] (-3.87)***	3.236 [2.222]	2.739 [1.975]	-0.497 (-3.29)*** [-0.247] (-3.49)***
INSTP	0.293 [0.322]	0.339 [0.379]	0.046 (4.41)*** [0.057] (4.27)***	0.297 [0.327]	0.335 [0.369]	0.038 (3.70)*** [0.042] (3.37)***
INSTN	2.752 [3.401]	3.165 [3.664]	0.413 (5.23)*** [0.263] (5.56)***	2.848 [3.497]	3.073 [3.583]	0.373 (2.83)*** [0.086] (3.37)***

Table 5

Relationship between leverage, dividend payout ratio, and management quality and reputation. LEVER is the ratio of the long term debt plus debt in current liabilities to the long term debt plus debt in current liabilities plus the book value of common equity. DIVID is the ratio of the sum of common dividends and preferred dividends to the earnings before depreciation, interest, and tax. See Table 2 for definitions of independent variables. CF is the ratio of earnings before extraordinary items plus depreciation to the total assets. ROA is the ratio of earnings before extraordinary items to the total assets. All regressions include two-digit SIC code industry dummies. Both dependent variables are winsorized at the 99th percentile. Only observations with positive LEVER and DIVID are included in the regressions. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

Dependent variable	1	2	3	4	5	6	7	8
	LEVER	LEVER	LEVER	LEVER	DIVID	DIVID	DIVID	DIVID
Intercept	-1.205 (-12.04)***	-1.300 (-14.47)***	-1.283 (-13.77)***	-1.213 (-12.21)***	-0.042 (-2.32)**	-0.057 (-3.09)***	-0.053 (-2.92)***	-0.048 (-2.54)**
XTSIZE	-0.004 (-1.64)	-0.004 (-1.87)*			-0.001 (-1.36)	-0.001 (-1.84)*		
XTENURE	-0.002 (-1.01)				0.001 (1.27)			
TENHET	-0.015 (-0.95)				-0.001 (-0.46)			
PMBA	-0.051 (-1.90)*		-0.057 (-2.09)**		-0.000 (-0.06)			
PFTEAM	-0.004 (-0.21)				-0.008 (-2.13)**		-0.010 (-2.94)***	
PCPA	-0.002 (-0.06)				0.002 (0.25)			
CORE	-0.081 (-3.39)***			-0.087 (-3.62)***	-0.008 (-2.02)**			-0.009 (-2.33)**
BOARDS	-0.003 (-0.54)				0.002 (1.51)			
FCEO	0.013 (1.17)				-0.003 (-1.31)			
LNBVA	0.085 (18.77)***	0.087 (19.90)***	0.086 (19.79)***	0.085 (19.32)***	0.002 (1.89)*	0.002 (2.20)*	0.002 (2.10)*	0.002 (1.92)*
LFAGE	-0.012 (-1.98)**	-0.009 (-1.61)	-0.009 (-1.60)	-0.011 (-1.94)*	0.003 (2.01)**	0.004 (2.53)**	0.003 (2.10)*	0.004 (2.39)**
ODIR	-0.001 (-0.28)	0.000 (0.19)	0.000 (0.15)	0.000 (0.16)	0.002 (3.74)***	0.002 (3.37)***	0.002 (3.48)***	0.002 (3.35)***
CF	0.155 (2.96)***	0.159 (3.03)***	0.155 (3.03)***	0.156 (2.97)***	-0.003 (-0.73)	-0.003 (-0.84)	-0.003 (-0.79)	-0.004 (-0.91)
ROA	-0.206 (-3.94)***	-0.212 (-4.04)***	-0.206 (-4.04)***	-0.207 (-3.96)***	0.004 (0.99)	0.005 (1.18)	0.004 (1.03)	0.005 (1.30)
R ²	0.4355	0.4271	0.4266	0.4304	0.1463	0.1319	0.1356	0.1321
N	1589	1590	1590	1590	1565	1566	1566	1566

Table 6

Relationship between investment and R&D levels and management quality and reputation. INVEST is the ratio of capital expenditures to the total assets. RD is the ratio of R&D expenses to the total assets. See Table 2 for definitions of independent variables. TOBINQ is the market value of assets divided by book value of assets, where market value of assets equals the book value of assets plus the market value of common equity less the sum of the book value of common equity and balance sheet deferred taxes. CF is the ratio of earnings before extraordinary items plus depreciation to the total assets. ROA is the ratio of earnings before extraordinary items to the total assets. All regressions include two-digit SIC code industry dummies. Both dependent variables are winsorized at the 99th percentile. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

Dependent variable	1	2	3	4	5	6	7	8
	INVEST	INVEST	INVEST	INVEST	RD	RD	RD	RD
Intercept	0.441 (3.47)***	0.533 (3.94)***	0.491 (3.70)***	0.461 (3.43)***	0.654 (5.22)***	0.776 (7.38)***	0.723 (6.80)***	0.597 (4.86)***
XTSIZE	0.006 (2.56)***	0.006 (2.97)***			0.010 (3.75)***	0.012 (4.21)***		
XTENURE	-0.002 (-1.42)				-0.003 (-1.62)			
TENHET	-0.007 (-0.37)				-0.014 (-0.65)			
PMBA	0.043 (1.17)				0.105 (2.12)**		0.114 (2.32)**	
PFTEAM	0.017 (0.88)				0.038 (1.38)			
PCPA	0.125 (2.65)***		0.120 (2.60)***		0.014 (0.18)			
CORE	0.050 (2.09)**			0.065 (2.67)***	0.105 (2.80)***			0.133 (3.52)***
BOARDS	0.004 (0.68)				0.011 (1.62)			
FCEO	-0.011 (-0.74)				-0.011 (-0.78)			
LNBVA	-0.016 (-3.32)***	-0.019 (-4.10)***	-0.017 (-3.60)***	-0.017 (-3.51)***	-0.040 (-5.71)***	-0.043 (-6.90)***	-0.039 (-6.34)***	-0.036 (-5.53)***
LFAGE	-0.022 (-4.18)***	-0.025 (-4.81)***	-0.026 (-4.99)***	-0.024 (-4.53)***	-0.006 (-0.72)	-0.014 (-1.80)*	-0.013 (-1.62)	-0.011 (-1.34)
ODIR	-0.003 (-1.04)	-0.003 (-1.14)	-0.003 (-1.03)	-0.003 (-1.14)	0.008 (2.65)***	0.008 (2.54)**	0.009 (2.84)***	0.009 (2.99)***
TOBINQ	0.004 (1.22)	0.004 (1.30)	0.005 (1.52)	0.005 (1.33)				
CF	1.009 (4.60)***	1.005 (4.56)***	0.999 (4.50)***	1.002 (4.51)***	0.155 (0.82)	0.131 (0.69)	0.142 (0.73)	0.119 (0.61)
ROA	-1.016 (-4.73)***	-1.013 (-4.69)***	-1.010 (-4.65)***	-1.013 (-4.65)***	-0.410 (-2.27)**	-0.390 (-2.17)**	-0.405 (-2.19)**	-0.384 (-2.07)**
R ²	0.4059	0.3945	0.3944	0.3936	0.5724	0.5565	0.5517	0.5550
N	1517	1518	1518	1518	975	976	976	976

Table 7

Relationship between the number of acquisitions and management quality and reputation. Dependent variable is ACQ, which is the number of acquisitions the firm has completed within one year (before and after) of the SEO. See Table 2 for definitions of independent variables. TOBINQ is the market value of assets divided by book value of assets, where market value of assets equals the book value of assets plus the market value of common equity less the sum of the book value of common equity and balance sheet deferred taxes. CF is the ratio of earnings before extraordinary items plus depreciation to the total assets. ROA is the ratio of earnings before extraordinary items to the total assets. All regressions include two-digit SIC code industry dummies. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

	1	2	3	4	5	6
Intercept	-5.352 (-3.90)***	-6.359 (-4.75)***	-6.415 (-4.76)***	-6.797 (-5.17)***	-4.355 (-3.10)***	-5.540 (-4.25)***
XTSIZE	0.058 (1.06)					
XTENURE	-0.029 (-0.93)					
TENHET	-0.322 (-0.98)					
PMBA	1.278 (1.65)*	1.692 (2.16)**				
PFTEAM	1.150 (2.95)***		1.224 (3.16)***			
PCPA	3.948 (3.33)***			3.743 (3.23)***		
CORE	-1.815 (-3.66)***				-1.646 (-3.38)***	
BOARDS	-0.038 (-0.56)					
FCEO	0.515 (1.93)*					0.524 (1.89)*
LNBVA	0.380 (5.24)***	0.436 (6.04)***	0.425 (6.05)***	0.458 (6.42)***	0.388 (5.53)***	0.366 (5.18)***
LFAGE	-0.104 (-1.06)	-0.118 (-1.27)	-0.052 (-0.55)	-0.143 (-1.51)	-0.177 (-1.82)*	-0.142 (-1.50)
ODIR	-0.029 (-0.69)	-0.016 (-0.38)	-0.028 (-0.67)	-0.006 (-0.15)	-0.021 (-0.49)	-0.026 (-0.60)
TOBINQ	-0.107 (-2.78)***	-0.127 (-3.10)***	-0.126 (-3.21)***	-0.120 (-2.92)***	-0.115 (-3.04)***	-0.125 (-3.11)***
CF	2.073 (2.25)**	2.104 (2.21)**	2.017 (2.13)**	2.092 (2.36)**	2.011 (2.14)***	2.031 (2.25)**
ROA	-1.863 (-2.05)**	-1.999 (-2.13)**	-1.830 (-1.95)*	-1.998 (-2.29)**	-1.876 (-2.03)**	-1.907 (-2.15)**
R ²	0.2403	0.2105	0.2140	0.2190	0.2134	0.2101
N	1549	1550	1550	1550	1550	1550

Table 8

Relationship between offer size, underwriter reputation, and management quality and reputation. LNOFF is the natural logarithm of the offer size. REP is the log of one plus the lead underwriter's reputation as measured by Loughran and Ritter (2003). See Table 2 for definitions of independent variables. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

Dependent variable	1	2	3	4	5	6	7	8	9	10
	LNOFF	LNOFF	LNOFF	LNOFF	LNOFF	REP	REP	REP	REP	REP
Intercept	9.677 (38.58)***	10.073 (42.65)***	9.968 (41.93)***	10.007 (41.64)***	9.810 (39.71)***	0.117 (0.86)	0.347 (3.03)***	0.324 (2.73)***	0.290 (2.42)**	0.165 (1.31)
XTSIZE	0.028 (3.45)***	0.033 (4.34)***				0.010 (3.73)***	0.012 (5.05)***			
XTENURE	-0.017 (-2.51)**					-0.001 (-0.48)				
TENHET	0.028 (0.50)					0.051 (2.16)**		0.064 (2.81)***		
PMBA	-0.027 (-0.25)					0.142 (3.24)***			0.171 (3.74)***	
PFTEAM	0.083 (1.17)		0.151 (2.43)**			-0.001 (-0.03)				
PCPA	0.364 (2.88)***			0.283 (2.27)**		0.056 (0.89)				
CORE	0.192 (2.07)**				0.244 (2.60)***	0.139 (4.03)***				0.168 (4.69)***
BOARDS	0.010 (0.61)					-0.001 (-0.15)				
FCEO	0.049 (1.14)					0.003 (0.19)				
LNBYA	0.436 (30.90)***	0.428 (30.87)***	0.430 (30.96)***	0.430 (30.66)***	0.435 (31.41)***	0.101 (15.49)***	0.096 (15.60)***	0.094 (15.58)***	0.098 (15.32)***	0.100 (15.81)***
LFAGE	-0.176 (-8.02)***	-0.183 (-8.90)***	-0.176 (-8.17)***	-0.187 (-9.05)*	-0.180 (-8.52)***	-0.031 (-3.86)***	-0.032 (-4.44)***	-0.036 (-4.96)***	-0.033 (-4.48)***	-0.029 (-3.91)***
ODIR	0.005 (0.54)	0.009 (0.99)	0.008 (0.95)	0.011 (1.25)	0.011 (1.16)	0.015 (5.35)***	0.013 (4.66)***	0.016 (5.58)***	0.014 (4.75)***	0.015 (4.97)***
R ²	0.4679	0.4589	0.4535	0.4529	0.4542	0.2738	0.2581	0.2514	0.2547	0.2606
N	1629	1630	1630	1630	1630	1629	1630	1629	1630	1630

Table 9

Relationship between underwriting spread, offering expenses, and management quality and reputation. SPREAD is the underwriting spread as a percentage of the offer price. EXP is the offering expenses as a percentage of the offer size. See Table 2 for definitions of independent variables. XOFFER is the offer size not explained by management quality and other firm quality variables (i.e. residuals from the regression 1 in Table 8). ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

Dependent variable	1	2	3	4	5	6	7	8	9	10	11
Intercept	15.848 (50.11)***	15.000 (54.74)***	15.202 (53.68)***	15.088 (53.60)***	15.647 (51.95)***	14.948 (53.32)***	11.892 (8.06)***	10.159 (7.97)***	9.607 (7.56)***	10.777 (8.33)***	11.468 (8.17)***
XTSIZE	-0.042 (-6.08)***	-0.044 (-6.56)***					-0.080 (-2.33)**	-0.063 (-2.04)**			
XTENURE	-0.015 (-2.32)**						-0.140 (-5.23)**		-0.123 (-5.23)***		
TENHET	-0.221 (-3.63)***		-0.289 (-4.73)***				-0.689 (-3.01)***			-0.874 (-3.79)***	
PMBA	0.019 (0.18)						-0.316 (-0.73)				
PFTEAM	-0.085 (-1.24)						0.076 (0.24)				
PCPA	-0.491 (-4.02)***			-0.400 (-3.30)***			0.339 (0.57)				
CORE	-0.579 (-6.45)***				-0.604 (-6.42)***		-1.356 (-3.80)***				-1.225 (-3.40)***
BOARDS	0.003 (0.26)						0.211 (1.76)*				
FCEO	-0.106 (-2.64)***					-0.132 (-3.14)***	-0.213 (-0.95)				
LNBA	-0.541 (-33.22)***	-0.535 (-34.98)***	-0.535 (-34.79)***	-0.538 (-34.33)***	-0.551 (-35.40)***	-0.522 (-31.71)***	-0.418 (-5.00)***	-0.413 (-5.46)***	-0.373 (-4.90)***	-0.414 (-5.51)***	-0.446 (-5.69)***
LFAGE	0.182 (8.23)***	0.190 (8.80)***	0.205 (9.55)***	0.195 (8.98)***	0.178 (8.19)***	0.196 (9.09)***	0.184 (2.06)**	0.182 (2.15)**	0.193 (2.30)**	0.220 (2.63)***	0.156 (1.83)*
ODIR	-0.020 (-2.09)**	-0.012 (-1.22)	-0.016 (-1.71)*	-0.015 (-1.60)	-0.014 (-1.50)	-0.012 (-1.24)	-0.042 (-0.78)	0.019 (0.38)	-0.020 (-0.38)	0.006 (0.13)	0.015 (0.30)
XOFFER	-0.649 (-19.64)***	-0.648 (-18.38)***	-0.649 (-18.13)***	-0.649 (-17.88)***	-0.650 (-18.74)***	-0.649 (-18.01)***	-1.022 (-5.70)***	-1.027 (-5.45)***	-1.024 (-5.52)***	-1.023 (-5.47)***	-1.026 (-5.45)***
R ²	0.6723	0.6526	0.6496	0.6455	0.6550	0.6460	0.1377	0.0969	0.1098	0.1022	0.1011
N	1614	1614	1614	1614	1614	1614	1477	1477	1477	1477	1477

Table 11

Tests of differences in mean and median post-issue operating performance for firms with above- and below-median management quality and reputation factor scores. TRF is the management team resources factor score obtained using common factor analysis on the TSIZE, PMBA, PCPA, CORE, and PFTEAM. TSF is the management team structure factor score obtained using common factor analysis on TENURE, TENHET, and FCEO. ROA0, ROA1, ROA2, and ROA3 are the returns on assets in the year of issue and the following three years, respectively. ROA is defined as the ratio of earnings before extraordinary items to the total assets. OPRET0, OPRET1, OPRET2, and OPRET3 are the operating returns on assets in the year of issue and the following three years, respectively. Operating return on assets is defined as the ratio of the operating cash flow to the total assets. Medians are reported in brackets. The results of *t*-tests for the difference in means and non-parametric Wilcoxon signed rank tests for the difference in medians are reported in parenthesis. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

	<i>TRF</i>			<i>TSF</i>		
	<i>below median</i>	<i>above median</i>	<i>difference</i>	<i>below median</i>	<i>above median</i>	<i>difference</i>
ROA0	-0.028 [0.080]	-0.024 [0.081]	0.004 (0.15) [0.001] (-0.83)	-0.072 [0.066]	0.021 [0.097]	0.093 (3.21)*** [0.031] (5.75)***
ROA1	-0.007 [0.056]	-0.026 [0.045]	-0.019 (-1.53)* [-0.011] (-2.00)**	-0.045 [0.036]	0.010 [0.059]	0.055 (4.55)*** [0.023] (4.77)***
ROA2	-0.035 [0.037]	-0.059 [0.024]	-0.024 (-1.47)* [-0.013] (-2.80)***	-0.077 [0.019]	-0.019 [0.042]	0.058 (3.55)*** [0.023] (4.44)***
ROA3	-0.036 [0.027]	-0.054 [0.015]	-0.018 (-1.23) [-0.012] (-2.03)**	-0.075 [0.012]	-0.016 [0.030]	0.059 (3.90)*** [0.018] (3.10)***
OPRET0	-0.040 [0.074]	-0.013 [0.070]	0.027 (0.97) [-0.004] (-0.90)	-0.065 [0.064]	0.013 [0.083]	0.078 (2.80)*** [0.019] (2.93)***
OPRET1	0.032 [0.069]	0.027 [0.055]	-0.005 (-0.42) [-0.014] (-1.41)	0.012 [0.055]	0.047 [0.073]	0.035 (3.34)*** [0.018] (2.85)***
OPRET2	0.026 [0.064]	0.016 [0.053]	-0.010 (-0.81) [-0.011] (-1.18)	-0.003 [0.045]	0.045 [0.069]	0.048 (3.78)*** [0.024] (3.93)***
OPRET3	0.033 [0.064]	0.033 [0.064]	-0.000 (-0.00) [-0.000] (0.03)	0.011 [0.055]	0.053 [0.070]	0.042 (3.47)*** [0.015] (2.51)**

Table 12

Tests of differences in mean and median asymmetric information and liquidity variables for firms with above- and below-median management quality and reputation factor scores. TRF is the management team resources factor score obtained using common factor analysis on the TSIZE, PMBA, PCPA, CORE, and PFTEAM. TSF is the management team structure factor score obtained using common factor analysis on TENURE, TENHET, and FCEO. NUMEST is the natural logarithm of one plus the number of analysts following the firm as of the end of the fiscal year preceding the issue. FORERR is the analysts' median forecast error, where forecast error is defined as the absolute difference between mean estimate and actual EPS divided by the price. DISPERS is the ratio of the standard deviation of the forecasts and stock price. BIDASK is the median bid-ask spread for the twelve months of the preceding fiscal year. PVOL is the natural logarithm of stock price times the monthly volume of trade averaged for the twelve months of the fiscal year preceding the offer. TO is the monthly trading volume divided by the number of shares outstanding averaged for the twelve months of the fiscal year preceding the offer. Medians are reported in brackets. The results of *t*-tests for the difference in means and non-parametric Wilcoxon signed rank tests for the difference in medians are reported in parenthesis. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

	<i>TRF</i>			<i>TSF</i>		
	<i>below median</i>	<i>above median</i>	<i>difference</i>	<i>below median</i>	<i>above median</i>	<i>difference</i>
NUMEST	0.723 [0.693]	0.945 [1.099]	0.222 (5.36)*** [0.406] (5.32)***	0.785 [0.693]	0.884 [1.099]	0.099 (2.39)*** [0.406] (2.50)**
FORERR	0.010 [0.002]	0.006 [0.002]	-0.004 (-2.05)** [0.000] (0.96)	0.008 [0.002]	0.007 [0.002]	-0.001 (-0.78) [-0.000] (-0.80)
DISPERS	0.004 [0.001]	0.004 [0.001]	0.000 (0.55) [0.000] (1.52)	0.005 [0.001]	0.003 [0.001]	-0.002 (-2.18)** [-0.000] (-1.66)*
BIDASK	0.042 [0.032]	0.037 [0.031]	-0.005 (-2.73)*** [-0.001] (-2.26)**	0.040 [0.032]	0.038 [0.031]	-0.002 (-1.55)* [-0.001] (-1.51)
PVOL	15.919 [15.954]	16.436 [16.478]	0.517 (6.25)*** [0.524] (6.16)***	16.171 [16.243]	16.196 [16.230]	0.025 (0.30) [-0.013] (0.22)
TO	0.126 [0.095]	0.163 [0.123]	0.037 (5.76)*** [0.028] (5.51)***	0.148 [0.113]	0.141 [0.104]	-0.007 (-1.05) [-0.009] (-0.51)

Table 13

Relationship between information asymmetry and management quality and reputation. NUMEST is the natural logarithm of one plus the number of analysts following the firm as of the end of the fiscal year preceding the issue. FORERR is the median ratio of the absolute difference between mean estimate and actual EPS to the stock price. DISPERS is the ratio of the standard deviation of the forecasts to the stock price. BIDASK is the median bid-ask spread as a percentage of the price calculated over the preceding fiscal year. See Table 2 for definitions of independent variables. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

Dependent variable	1	2	3	4	5	6	7	8	9	10	11	12
	NUMEST	NUMEST	NUMEST	NUMEST	FORERR	FORERR	DISPERS	DISPERS	DISPERS	BIDASK	BIDASK	BIDASK
Intercept	-3.414 (-12.55)***	-2.870 (-11.55)***	-3.561 (-13.50)***	-2.765 (-10.86)***	0.045 (1.91)*	0.037 (2.08)**	0.016 (2.47)**	0.018 (2.88)***	0.021 (3.21)***	0.218 (10.30)***	0.210 (11.82)***	0.213 (11.80)***
XTSIZE	0.037 (4.09)***	0.040 (4.66)***			-0.000 (-0.22)		0.000 (0.34)			-0.001 (-4.22)***	-0.001 (-4.75)***	
XTENURE	0.013 (1.69)*				-0.001 (-2.00)**		-0.000 (-2.31)**	-0.000 (-2.95)***		0.000 (0.53)		
TENHET	0.033 (0.53)				-0.002 (-0.79)		-0.001 (-1.32)			-0.004 (-1.06)		
PMBA	0.048 (0.41)				-0.005 (-1.47)		0.004 (1.33)			-0.004 (-0.74)		
PFTEAM	-0.032 (-0.42)				-0.005 (-1.13)		-0.001 (-0.59)			0.001 (0.34)		
PCPA	0.026 (0.18)				-0.014 (-2.41)**	-0.014 (-2.51)**	-0.006 (-3.01)***		-0.006 (-3.38)***	-0.015 (-2.25)**		-0.012 (-1.90)*
CORE	0.629 (6.60)***		0.641 (6.84)***		-0.002 (-0.70)		0.003 (1.67)*			-0.004 (-0.89)		
BOARDS	0.049 (2.52)**			0.052 (2.65)***	-0.000 (-0.47)		-0.000 (-0.48)			-0.001 (-1.08)		
FCEO	0.028 (0.58)				-0.001 (-0.41)		-0.000 (-0.07)			-0.002 (-0.66)		
LNBVA	0.203 (12.70)***	0.198 (13.40)***	0.215 (14.36)***	0.191 (12.59)***	-0.002 (-1.84)	-0.002 (-1.96)*	-0.001 (-2.62)***	-0.001 (-2.97)***	-0.001 (-3.20)***	-0.010 (-8.72)***	-0.010 (-9.49)***	-0.010 (-9.50)***
LFAGE	0.146 (6.31)***	0.135 (5.95)***	0.148 (6.52)***	0.131 (5.73)***	0.002 (1.46)	0.002 (1.85)*	0.001 (3.28)***	0.001 (3.36)***	0.001 (3.24)***	0.003 (2.75)***	0.003 (2.97)***	0.003 (3.06)***
ODIR	-0.012 (-1.14)	-0.014 (-1.38)	-0.011 (-1.13)	-0.016 (-1.54)	0.000 (0.72)	0.001 (0.88)	0.001 (2.99)***	0.001 (3.18)***	0.001 (3.21)***	0.001 (1.53)	0.001 (1.62)	0.001 (1.32)
R ²	0.1954	0.1695	0.1789	0.1613	0.0171	0.0125	0.0570	0.0476	0.0463	0.1582	0.1550	0.1464
N	1629	1629	1629	1629	915	915	786	786	786	1399	1400	14000

Table 14

Relationship between liquidity and management quality and reputation. PVOL is the natural logarithm of the stock price times the monthly trading volume, averaged over the fiscal year preceding the offer. TO is the ratio of the monthly trading volume to the number of shares outstanding, averaged over the fiscal year preceding the offer. See Table 2 for definitions of independent variables. LAGLEVER is the leverage (as defined in Table 2) at the end of the fiscal year preceding the offer. SHAROUT is the number of shares outstanding at the end of the fiscal year preceding the offer. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

Dependent variable	1	2	3	4	5	6	7	8	9	10
	PVOL	PVOL	PVOL	PVOL	PVOL	PVOL	TO	TO	TO	TO
Intercept	5.58 (8.52)***	6.966 (11.14)***	6.796 (10.76)***	6.716 (10.55)***	6.761 (10.49)***	5.961 (9.18)***	0.120 (2.45)**	0.240 (5.94)***	0.222 (5.28)***	0.158 (3.62)***
XTSIZE	0.062 (4.06)***	0.076 (5.37)***					0.004 (3.31)***	0.005 (4.17)***		
XTENURE	-0.034 (-2.68)***						-0.002 (-1.77)*			
TENHET	0.169 (1.50)		0.238 (2.13)**				0.013 (1.15)			
PMBA	0.329 (1.54)			0.492 (2.26)**			0.008 (0.36)			
PFTEAM	-0.012 (-0.08)						0.017 (1.38)		0.022 (2.06)**	
PCPA	0.739 (3.11)***				0.617 (2.59)***		0.022 (1.00)			
CORE	0.656 (3.80)***					0.771 (4.43)***	0.062 (3.86)***			0.069 (4.32)***
BOARDS	0.034 (1.24)						-0.003 (-0.98)			
FCEO	-0.050 (-0.60)						-0.006 (-0.74)			
LNBVA	0.600 (15.51)***	0.552 (14.84)***	0.553 (14.56)***	0.564 (14.92)***	0.560 (14.66)***	0.581 (15.54)***	0.003 (1.31)	-0.001 (-0.29)	-0.000 (-0.13)	0.002 (0.66)
LFAGE	-0.508 (-11.53)***	-0.536 (-12.89)***	-0.556 (-13.07)***	-0.541 (-12.86)***	-0.543 (-12.95)***	-0.517 (-12.23)***	-0.028 (-6.93)***	-0.032 (-8.44)***	-0.031 (-7.76)***	-0.03 (-7.75)***
ODIR	-0.041 (-2.33)**	-0.037 (-2.21)**	-0.032 (-1.83)*	-0.036 (-2.08)**	-0.032 (-1.87)*	-0.032 (-1.90)*	-0.006 (-4.23)***	-0.006 (-4.46)***	-0.006 (-4.47)***	-0.006 (-4.19)***
LAGLEVER	-0.323 (-1.51)	-0.323 (-1.50)	-0.329 (-1.49)	-0.328 (-1.48)	-0.337 (-1.49)	-0.327 (-1.50)	-0.015 (-1.74)*	-0.016 (-1.70)*	-0.016 (-1.67)*	-0.016 (-1.70)*
SHAROUT	0.013 (6.29)***	0.014 (6.34)***	0.013 (5.93)***	0.013 (5.89)***	0.013 (5.88)***	0.013 (5.83)***				
R ²	0.4045	0.3892	0.3767	0.3781	0.3785	0.3850	0.1048	0.0887	0.0818	0.0909
N	1440	1441	1440	1441	1441	1441	1441	1442	1442	1442