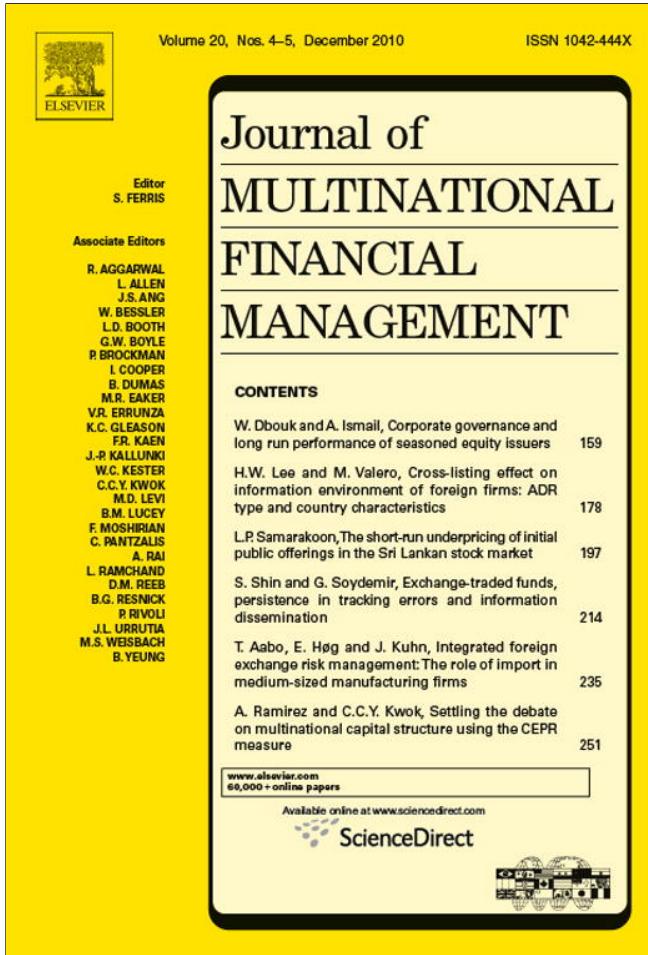


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Corporate governance and long run performance of seasoned equity issuers

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ABSTRACT

This paper examines the effect of corporate governance on the likelihood of issuing Seasoned Equity Offerings (SEO) between 1990 and 2005. It also examines the long-run post-issue performance using operating and stock return measures. Our results suggest that well-governed firms are less likely to issue equity. Nevertheless, when they do so, they outperform both matching non-issuers and issuers with minimal shareholders' rights from pre- to post-issue—with the highest operating out-performance occurring in the two post-issue years. A negative correlation exists between the post-issue performance and the anti-takeover measures, primarily, the protection associated with management entrenchment. Nonetheless, measures of board structure do not appear to affect the post-issue operating performance. Overall, corporate governance appears to be an effective internal control mechanism that restrains managers' incentives to either take an SEO issuance decision that does not serve the interests of shareholders or invest the capital raised in value-destroying projects.

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1. Introduction

The long-run underperformance of seasoned equity offerings (SEOs) has received wide attention in academic research. Information asymmetry between managers and outsiders and/or expectations of decline in future earnings are two suggestions that scholars have advanced in order to explain equity-

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issuance decisions that are value-destroying (Myers and Majluf, 1984; Miller and Rock, 1985). Jung et al. (1996) have a different perspective and argue that agency problems are the most powerful factors pushing managers to make suboptimal decisions to issue equity over debt. In fact, the unfavorable reaction to SEOs and the subsequent underperformance are found to be associated with management entrenchment (Fields and Mais, 1994) and agency problems of free cash flow that induce managers to accept negative net present value (NPV) projects (McLaughlin et al., 1996). Teoh et al. (1998) at least partly attribute the underperformance to the manipulative behavior of managers observed prior to the SEOs. This deceptive behavior translates into having managers borrowing future returns to inflate current earnings prior to the issue. Such earnings management, according to Jensen (2004, 2005), is attributable to agency costs of overvalued stock which induce managers to inflate earnings in order to keep up with the expectations of investors and analysts which are often exploited to issue shares at premium prices (Jensen, 1986).

The benefits of corporate governance extend to a general framework where the incorporation of internal control mechanisms that monitor managers' activities and limit their power can align managerial decisions with the interests of shareholders. Bryan et al. (2004), Niu (2006) and Cornett et al. (2008) document the role of these practices in the scrutiny of the financial reporting process, improvement of the quality of earnings and reduction of the amount of earnings management. In the absence of provisions that reinforce the protection and power of managers, firms also see improvements in operating performance and superior valuations (Gompers et al., 2003; Brown and Caylor, 2004; Bebchuk et al., 2004). Even investors have been reported using the existence of good governance practices as an important criterion in selecting stocks.

Nevertheless, it remains unclear whether corporate governance structures are effective in mitigating the severe agency problems faced by SEO issuers. In light of the documented long run underperformance of SEO firms, we find it important to investigate whether corporate governance prevents managers from issuing SEOs and investing the proceeds in value-destroying projects. To capture the effect of the governance structures, we used two measures: The first is the G-index introduced by Gompers et al. (2003) that accounts for the level of shareholder rights in a firm. The second is the GOV7 index introduced by Aggarwal et al. (2009) who identified seven important governance attributes of which many are related to the board structures. The decision to investigate the effect of the GOV7 index is mainly due to the concern that the G-index, as a general governance index, may fail to account for many board structure measures. Thus, this paper examines the impact of governance on the probability of SEO issuance and the subsequent long-run post-issue performance. We base our research on operating long-run performance given that Gompers et al. (2003) show that investors do not always properly understand the relationship between the value of the firm and its governance structure. Core et al. (2006) used the same reasoning to propose that operating performance is a more representative measure for investigating corporate governance and performance. Moreover, many earlier studies such as Brav et al. (2000) and Eckbo et al. (2000) find no relationship between the long term stock returns and SEO issuance.¹

Our results suggest that when governance structures – as captured by the G-index – are in place, managers are less likely to issue an SEO. But even if such a decision is made, it is more likely to lead to a higher operating performance in the future: strong governance structures are often associated with positive abnormal changes in post-issue performance. Furthermore, these abnormal changes in performance outweigh those of weakly governed issuers, particularly in the year following the seasoned offering. We also find a negative relation between the G-index rank and the post-issue abnormal performance after controlling for factors previously documented to influence SEO performance. The observation that each component group of the G-index affects the post-issue performance of SEO firms strongly argues in favor of the effectiveness of corporate governance in mitigating agency costs,

¹ We have investigated the relationship between the governance structure and stock return for SEO issuers. Our results show that there is no relationship between the holding period returns over the long run and G-index. However, we do not report our results because they add too much length to the paper. These results are consistent with the notion that investors fail to understand fully the relationship between the governance structure and the value of the firm. For instance, Gompers et al. (2003) show that investors can generate abnormal returns by buying firms that are not well governed. Also, investors can reap abnormal returns by selling well governed firms.

and implies that superior performance particularly occurs when managers do not enjoy provisions that solidify their entrenchment. This explains why SEO issuers experience superior performance in the absence of the protection provisions that reinforce management power and provide them with excessive rights—at the expense of shareholder rights. Thus, managers who feel secure in their positions are more inclined to take value-destroying decisions. On the other hand, under a disciplinary environment, managers are more likely to better serve shareholders' interests by investing the SEO proceeds in projects that maximize shareholders' wealth and increase the value of the firm.

On the other hand, our results show that board structure does not affect the long term operating performance of the firm. These findings are consistent with the findings of [Bhagat and Black \(1999\)](#) and [Hermalin and Weisbach \(2003\)](#) who, after surveying the boards of directors literature, conclude that the composition of the board does not seem to predict the performance of the firm since the financial metrics and valuation ratios tend to be similar for the firms with both weak and strong board governance structures (see, for example, [Hermalin and Weisbach, 1991](#); [Mehran, 1995](#); [Klein, 1998](#); [Bhagat and Black, 2002](#)). Nowadays, most U.S. companies have board of directors consisting of a majority of independent directors. Although this is considered a good governance practice, it does not necessarily imply an effective monitoring for managers ([Baker and Powell, 2009](#)).

This paper has international implications on the corporate sector. Currently, a corporation is not a stand-alone business entity but rather one component of a globalized network of firms that interact with one another. Consequently, the way US firms are governed affects global corporate relations. Also, a well-governed firm is more likely to attract investments from domestic and international investors as efficient management participate in increasing trust and transparency, both domestically and internationally. In addition, many international firms are interested in cross-listing their stocks in the US market, which means that these firms need to comply with SEC rules in terms of governance. These firms aim to benefit from cross-listing their stocks in the USA market by perhaps increasing their visibility, improving the liquidity of their stock and/or reducing their cost of capital. All these objectives are more likely to be met if the firm's governance structure fosters investor protection culture. Finally, the governance issues that a US firms face are more likely to be faced by any other international firm, given that international markets are not more efficient than the US market.

The rest of the paper is organized as follows. Section II includes a review of the previous relevant literature. It also provides an explanation of the hypotheses. Section III presents our sample data and methodology. Section IV is dedicated for discussion the empirical results. Finally, section V contains the conclusion.

2. Literature review

Several research papers find that SEOs are poor investments during the window of 1–5 years after the issuance in the U.S. market ([Loughran and Ritter, 1995](#)), as well as in the international markets ([Cai, 1998](#); [Kang et al., 1999](#); [Jeanneret, 2000](#); [Stehle et al., 2000](#); [Pastor and Martín, 2004](#)). [McLaughlin et al. \(1996\)](#) find that industrial SEO issuers experience pre-issue run-ups and significant post-issue declines in operating performance in both unadjusted and industry-adjusted comparisons. [Loughran and Ritter \(1997\)](#) report that the financial multiples at the time of issuance, including profit margin and return on assets, do not reflect expectations of declining performance. Despite this, operating performance deteriorates following the SEO issuance.

The long-run underperformance of SEO firms has caught the attention of several researchers who have investigated the managers' incentives in equity-issuance decisions and assessed the post-issue performance. First, managers may exploit their private information with regard to either a stock overvaluation ([Myers and Majluf, 1984](#)) or expectations of declining future earnings ([Miller and Rock, 1985](#)). Empirical support is provided by [McLaughlin et al. \(1998\)](#). Second, the agency theory of [Jensen \(1986\)](#) points out the diverging interests between shareholders and managers. In such a case, managers have strong incentives to make decisions and take on projects that maximize their private interests at the expense of the shareholders ([Shleifer and Vishny, 1989](#)). The misconduct of managers worsens if ample free cash flow is available: they are induced to invest the funds in negative NPV projects. Indeed, [McLaughlin et al. \(1996\)](#) find evidence that free cash flow is negatively related to post-SEO performance.

Jung et al. (1996) argue that agency problems related to managerial discretion are the most powerful in explaining the decision to issue equity over debt. They show that a large percentage of equity issuers have poor investment opportunities. Even when their debt capacity is not exhausted, they issue equity and forego the issuance of debt—which would be more enhancing for the firm's value.

Fields and Mais (1994) also find a negative relationship between the announcement stock returns of SEOs and management entrenchment (as measured by the increase in managerial control of voting rights). Similarly, Berger et al. (1997) suggest that the tendency to avoid debt correlates with CEO entrenchment reflected in loose pressure from ownership and compensation incentives, as well as weak monitoring.

The influence of agency problems on SEO issuance is also reflected in the earnings' management practiced by managers prior to the offer. Teoh et al. (1998) and Rangan (1998) find that the tendency of managers to borrow against future returns and inflate current earnings prior to the issue negatively correlates with post-issue performance. According to Jensen (2004, 2005), the earnings' management could be due to the agency costs of overvalued stock which induce managers to inflate earnings in order to keep up with the expectations of investors and analysts. Thus, managers often exploit investors to create illusory value creation and/or issue shares at premium prices.

To conclude, the decision to issue equity and the subsequent underperformance are often perceived to be driven by severe agency problems related most notably to free cash flow, stock overvaluation, and earnings' management. Nevertheless, we are unaware of any published studies that examine the role of corporate governance measures in SEO decisions or on the post-issue performance. On the other hand, the corporate governance literature clearly shows that corporate governance structures and mechanisms mitigate agency problems since they allow the boards of directors to better supervise managers' decisions (Ching et al., 2002), prevent management entrenchment (Gompers et al., 2003), improve earnings' management (Niu, 2006, and Leuz et al., 2003) and hold an overvalued stock (Jensen, 2004, 2005). Consequently, good (bad) corporate governance mechanisms are positively associated with positive (negative) stock returns and operating performance as has been shown in the mergers and acquisitions context after announcement (Jensen, 1986, 2004; Masulis et al., 2007; Bris and Cabolis, 2002; Rossi and Volpin, 2004; Starks and Wei, 2003; Brown and Taylor, 2004).

3. Data and methodology

Our final sample consists of 478 firms issuing Seasoned Equity in the period between 1990 and 2005. The sample of issuers is drawn from Thomson's Securities Data Company (SDC) database.

The equity issues are public, firm commitment, underwritten offers. The sample excludes best-effort offers, unit offerings, joint offers of equity and debt, preferred stock, and warrants. Utility issuers (with SIC between 4910 and 4939) were also excluded from the sample. Issuing firms should have book value data available on the COMPUSTAT database and at least \$20 million in sales in the year prior to the issue. For post-issue operating performance, overlapping issues by a single firm are eliminated. Overlapping issues are issues by the firm from the year prior through the period under study. Thus, in tests of two-year post-issue operating performance, only one issue by a firm is included over the three-year interval that includes one year prior to the issue to two years after the issue. In addition, issuing firms should have data available in the RiskMetrics database², which is the main source of data for the G-Index³ database and which provides detailed listings of corporate governance provisions for individual firms.

The RiskMetrics database includes two main categories. The first covers 22 charter provisions, bylaws provisions, and firm-level rules, while the second covers six state takeover laws. The elimination of the four provisions duplicated between the two categories yields 24 unique provisions categorized into five main groups: those used to delay hostile bidders (Delay), those used to protect shareholders' voting rights (Voting), those used to protect managers' rights (Protection), other takeover defenses (Others), and state laws (State). Gompers et al. (2003) construct the index (G-Index) by adding

² Formerly "The Investor Responsibility Research Center" (IRRC) database.

³ This is the governance index constructed by Gompers et al. (2003).

one point for every provision that reduces shareholders' rights or increases managerial protection and power. Hence, the G-Index implies that firms adopting provisions that decrease shareholders' rights or increase managerial protection and power (such as Bylaw and Charter amendment limitations, Classified Board, lack of Cumulative Voting or Secret Ballots, Director Indemnification, Executive Severance agreements, etc.) enhance managerial entrenchment and increase agency problems. Therefore, we believe that the G-Index is an appropriate measure of governance and employ it in our study. However, in order to ensure robustness of our results, we use another governance variable in our regression analysis which is the GOV7 index introduced by Aggarwal et al. (2009) who identified seven important governance attributes that include:

- Board variables (Board independence, board size, chairman/CEO separation, and no staggered board) that deal with the board composition.
- Audit variables (Audit committee Independence, and auditor ratification) that deal with the independence of auditors.
- An anti-takeover variable (the existence of a single class of shares).

It is worth noting that the GOV7 Index and the G-Index are constructed in opposite ways; that is, for the GOV7 Index, the absence of Staggered Board provision, for example, adds one point to the index, while the presence of Staggered Board provision adds one point to the G-Index, and so on. Therefore; the expected implications of these two governance indices on firm value and performance are opposite.

Table 1 reports the distribution of the seasoned equity offerings across the sample years and industries. Most of the SEOs are issued by manufacturing firms (around 60% of the issues). On the other hand, the number of issues increases gradually, reaching a peak in 2004.

A firm's operating performance is measured by its pre-tax operating cash flows (COMPUSTAT data item 13), and is scaled by its book value of assets (COMPUSTAT data item 16) in order to standardize performance across firms and through time. Pre-tax operating cash flows are net sales less the cost of goods sold and selling and administrative expenses, and before interest, taxes, and depreciation. We use this measure instead of earnings because pre-tax operating cash flows exclude items that distort the focus from operating performance and because they are unaffected by changes in tax status, accounting policies or capital structure resulting from the equity issuance.

The operating performance of an issuing firm is compared to that of a control portfolio matched on the basis of industry and size. The firms in each issuer's matching portfolio meet the following criteria:

1. The matching firm made no security issues in the year of the issue or the prior year.
2. The matching firm has the same 3-digit SIC code as the issuing firm. If a portfolio of at least five matching firms cannot be formed, firms with the same 2-digit SIC codes are used.
3. The matching firm's book value is within 30% of that of the issuing firm in the fiscal year prior to the issue.

This approach controls for general economic or industry factors that may affect the performance of issuing firms. The performance of the control portfolio is the median performance of all the firms in the portfolio. Abnormal performance for an issuing firm is calculated by subtracting the median of its matching portfolio from its own performance. We study operating performance for the period starting a year prior to the issue and extending to three years post-SEO.

Table 2 displays some characteristics of SEO issuers. Due to the fact that our sample is restricted to companies included in the RiskMetrics database, the firms under study have larger book and market values than the ones examined in previous research on SEOs. The mean market value of issuing firms is \$10,179 MM and the largest firm has a market value of \$1.4 trillion. The mean and median book values of firms in this study reached \$3199 MM and \$915 MM, respectively, in the year prior to the issue. The sample of McLaughlin et al. (1996), on the other hand, has a mean book value of \$2105 MM and a median of \$93.68 MM. In later research, McLaughlin et al. (1998) studied a sample of SEO issuers with a mean book value of \$912 MM and a median of \$118 MM.

The issuers in our study also have higher levels of operations as measured by sales volume than those examined in other SEO studies. The mean level of sales is \$1799 MM compared to \$981 MM

Table 1
Seasoned equity offers by year.

| Year | Mining | Construction | Manufacturing | Transportation; communications; electric gas; sanitary services | Wholesale trade | Retail trade | Oil royalty traders | Services | Public administration | Total number SEOs | Total % |
|-------|--------|--------------|---------------|---|-----------------|--------------|---------------------|----------|-----------------------|-------------------|---------|
| 1990 | 1 | 0 | 8 | 1 | 0 | 0 | 0 | 0 | 0 | 10 | 2 |
| 1991 | 1 | 1 | 11 | 2 | 0 | 0 | 0 | 2 | 0 | 17 | 4 |
| 1992 | 0 | 0 | 14 | 6 | 0 | 0 | 0 | 0 | 0 | 20 | 4 |
| 1993 | 3 | 1 | 11 | 2 | 1 | 1 | 0 | 2 | 0 | 21 | 4 |
| 1994 | 0 | 0 | 15 | 1 | 0 | 1 | 0 | 0 | 0 | 17 | 4 |
| 1995 | 2 | 1 | 14 | 1 | 0 | 0 | 0 | 2 | 0 | 20 | 4 |
| 1996 | 3 | 0 | 16 | 2 | 1 | 1 | 0 | 1 | 0 | 24 | 5 |
| 1997 | 1 | 0 | 12 | 0 | 2 | 1 | 0 | 1 | 0 | 17 | 4 |
| 1998 | 3 | 0 | 19 | 4 | 1 | 2 | 0 | 6 | 0 | 35 | 7 |
| 1999 | 4 | 0 | 19 | 4 | 2 | 5 | 0 | 3 | 0 | 37 | 8 |
| 2000 | 4 | 0 | 21 | 5 | 0 | 0 | 0 | 3 | 0 | 33 | 7 |
| 2001 | 1 | 0 | 8 | 6 | 3 | 0 | 1 | 5 | 0 | 24 | 5 |
| 2002 | 4 | 1 | 31 | 8 | 4 | 4 | 0 | 6 | 0 | 58 | 12 |
| 2003 | 9 | 0 | 28 | 4 | 0 | 0 | 0 | 3 | 0 | 44 | 9 |
| 2004 | 8 | 0 | 41 | 6 | 3 | 1 | 0 | 9 | 1 | 69 | 14 |
| 2005 | 5 | 0 | 14 | 4 | 0 | 1 | 0 | 8 | 0 | 32 | 7 |
| Total | 49 | 4 | 282 | 56 | 17 | 17 | 1 | 51 | 1 | 478 | 100 |

The table presents the distribution of 478 seasoned stock offers by calendar year for the period of January 1990–December 2005. The percentage of each year's observations of the total sample is also reported. Oil Royalty Traders is referred to in the category of Finance, Insurance and Real Estate since all financials were excluded. Sample issues are firm commitment, underwritten public offers. Best-efforts and unit-offerings are excluded, as are issues where equity is offered jointly with debt, preferred stock, or warrants. Also excluded are issues by financial firms (SIC codes 6000–6999), utilities firms (SIC codes 4910–4939), firms with less than \$20 million in annual sales in the year prior to the offer, or firms for which no book value data are available in the COMPUSTAT database.

Table 2

Summary statistics for the sample of SEOs.

| Variable | SEO issuers | | | | |
|--|-------------|---------|---------|------------|----------|
| | Mean | Median | Min | Max | St. Dev. |
| Book value (\$MM) | 3199.33 | 915.72 | 17.29 | 647483.00 | 29681.48 |
| Cash flow (\$MM) | 303.45 | 108.20 | -313.88 | 36980.00 | 1745.10 |
| Sales (\$MM) | 1799.12 | 696.33 | 0.00 | 133585.00 | 6537.34 |
| Market value of firm (\$MM) | 10179.30 | 1256.94 | 17.38 | 1404370.79 | 78524.87 |
| Leverage (LTD/Mkt Val) | 0.21 | 0.18 | 0 | 1.45 | 0.19 |
| Mkt. Val/Bk. Val | 2.33 | 1.26 | 0.09 | 106.26 | 5.71 |
| Ratio of cash flow to book value in the year prior to the offer | 0.11 | 0.12 | -1.00 | 0.62 | 0.14 |
| Ratio of cash flow to book value in the year of the offer | 0.12 | 0.13 | -0.88 | 0.72 | 0.13 |
| Proceeds from the issue (\$MM) | 241.59 | 120.55 | 6.00 | 3800.03 | 420.55 |
| Underwriter Ranking | 8.68 | 9.00 | 5.00 | 9.00 | 0.72 |
| Years from the IPO year | 18.20 | 13.00 | 1.00 | 101.00 | 19.03 |

Summary statistics for 478 seasoned stock offers during the period January 1990–December 2005. Sample issues are firm commitment, underwritten public offers. Best-efforts and unit-offerings are excluded, as are issues where equity is offered jointly with debt, preferred stock, or warrants. Also excluded are issues by financial firms (SIC codes 6000–6999), utilities firms (SIC codes 4910–4939), firms with less than \$20 million in annual sales in the year prior to the offer, or firms for which no book value data are available in the COMPUSTAT database. Unless stated otherwise, all variables are for year –1 relative to the SEO.

for the sample studied by McLaughlin et al. (1996), or \$852 MM for the sample examined later by the same authors (1998). Similarly, the mean level of cash flows as displayed in Table 2 is \$303 MM, much higher than the \$131 MM reported by McLaughlin et al. (1996). In addition, our sample of issuers has higher levels of financial leverage and poorer operating performance as measured by the ratio of the cash flow to the book value of assets. The mean of this ratio for our sample of firms is 11% in the year prior to the issue compared to 14% documented by both of the previously cited studies. The differences in the periods under study, however, are worth noting.⁴ The table also reveals that the median Market/Book ratio of the sample firms is 2.33, which is very close to the 2.4 reported by Loughran and Ritter (1997) in their study of Seasoned Equity issuers. Most of the firms in our sample hired reputable underwriters with a mean ranking of 8.68 and median ranking of 9.⁵ On average the proceeds from the seasoned issues are around \$241 MM.

4. Results

4.1. Probability of SEO issuance

We start by examining the effect of corporate governance on the decision to issue seasoned equity. In Table 3 we report the results of the logistic regressions investigating the probability that the sample firm does not issue seasoned equity. Our measures of corporate governance are the rank of the G-index⁶ in model 1 and the G-index value in model 2. Other control variables include: the firm's capital expenditure to book value ratio, the log of firm market value, the market to book value ratio, the firm's leverage, Sarbanes-Oxley reforms (Hereafter SOX), and the hotness and coldness of the IPO market.⁷

⁴ McLaughlin et al. (1996, 1998) study SEOs between 1980 and 1991, and between 1980 and 1993, respectively.

⁵ The data about foundation dates and underwriter rankings were retrieved from Jay Ritter's website where rankings range was from 2 to 9.

⁶ Firms were assigned to one of three groups according to their level of investor protection. Group 0 includes firms with the lowest value of the G-index, and Group 2 comprises firms with the highest G-index value.

⁷ We divided the IPO years to normal, hot, and cold years. We followed the definition of Ibbotson and Jaffe (1975) and considered a hot (cold) year the year in which the number of IPO deals that are priced above the midpoint of the original file during the SEO year is unusually high (low). Consequently we assigned for this variable a value of 0, 1, or 2 depending whether

Table 3

Probability of SEO issuance Subject: to the G-Index and rank of G-index.

| | Model 1 (based on G-index rank) | Model 2 (based on G-index) |
|----------------------------|---------------------------------|----------------------------|
| Intercept | -4.19100*** | -4.01926*** |
| Governance index | -0.07438*** | -0.03621*** |
| Capital expenditure ratio | 4.19628*** | 4.18888*** |
| Log of market value | 0.07340*** | 0.07316*** |
| Market/book (in thousands) | 0.00010*** | 0.00010*** |
| Leverage | 0.66483*** | 0.66535*** |
| SOX | 1.17703*** | 1.17579*** |
| Hot year | 0.20857*** | 0.20848*** |
| Number of observations | 17949 | 17949 |
| Obs. = 1 | 959 | 959 |
| Obs. = 0 | 16990 | 16990 |
| McFadden R-squared (in %) | 5.34 | 5.33 |

The Table presents estimates of logistic regressions relating the probability that the sample firm does not issue seasoned equity to the rank of the G-index in Model 1 and to the G-index value in Model 2. Other control variables include the firm's ratio of capital expenditure to book value, the log of firm market value, the ratio of market to book value, and the firm leverage. A dummy variable labeled "Hot Year" is added to the model and takes a value of 0, 1 or 2 depending on whether or not the year is a Hot year in the IPO market. This variable is constructed as follows: After looking at the number of IPO issues per year in the IPO market, the years were ranked according to these issues by giving a value of 2 to the upper tercile (which is the hot year), 1 to the middle tercile, and zero to the lower tercile. Another dummy variable "SOX" is also added to control for the Sarbanes-Oxley reforms that affected the governance structure of the US firms starting year 2003. Finally, the McFadden *R*-squared has been computed in percentage terms. The sample consists of firms included in the RiskMetrics database from January 1990 to December 2005, and it excludes utilities firms (SIC codes 4910–4939). Models 1 and 2 report the probability of SEO Issuance based on the G-Index Rank and the G-Index, respectively.

*** Significance at the 1% levels.

Most of these variables are identified by McLaughlin et al. (1996) as determinants of the decision to issue seasoned equity. The sample consists of firms included in the RiskMetrics database from January 1990 to December 2005, and it excludes utilities firms (SIC codes 4910–4939).

Model 1 shows that the coefficient of the G-Index rank (-0.074) is negative and significant at the 1% level. Similarly, the coefficient of the G-index is significantly negative (-0.036, Model 2). These results suggest that the lower the value of the G-index, and the more governed the firms are, the higher the probability that they will not issue an SEO. This is consistent with the hypothesis that the measures taken to improve corporate governance by limiting managers' protection and reinforcing shareholders' rights are effective in restraining managers from taking SEO decisions or at least in pushing them to more thoroughly consider the issuance decision. Whether the decision to issue or not is rewarding and aligned with the interests of shareholders, is examined later in the paper.

The regressions reveal that growth opportunities play a small role in the decision to issue seasoned equity. The coefficient of the market to book ratio is significant at 1% level in all regressions however the value of the coefficient is quite small. The results further suggest that firms with high capital expenditures are less likely to issue an SEO as the ratio of capital expenditures to book value is significant at 1% level in all regressions. The size and leverage of firms also significantly affect the decision to issue an SEO. The results imply that small firms and firms with high financial leverage have a higher probability of deciding not to issue an SEO. Finally, the year of the issue seems to play a major role in the decision to issue an SEO with a higher probability to issue SEOs after the introduction of SOX, which could be due to the higher transparency that these reforms brought to the market. Also, whether the year is a hot or a cold year seems to play a role as the firms prefer to issue stocks when the market is hot. This could be due to issuing firms being prepared to leave a considerable amount of money on the table for investors as hot years are usually associated with high underpricing (e.g. Ljungqvist, 2006).

the year is a cold, normal, or a hot year, respectively. The SOX variable on the other hand, was assigned a value of 1 for years 2003, 2004 and 2005 and 0 otherwise.

Table 4

Operating performance of firms issuing seasoned equity.

| Year | -1 | 0 | 1 | 2 | 3 |
|---|------------|-----------|-----------|----------|----------|
| <i>Panel A—Ratio of cash flow to book value for the year relative to the issue year</i> | | | | | |
| <i>SEO firms</i> | | | | | |
| Mean | 0.11831 | 0.13062 | 0.13461 | 0.13509 | 0.13009 |
| Median | 0.11988 | 0.12598 | 0.12940 | 0.12933 | 0.12389 |
| N | 402 | 401 | 332 | 262 | 217 |
| <i>Matching firms</i> | | | | | |
| Mean | 0.11536 | 0.11753 | 0.11863 | 0.12124 | 0.12466 |
| Median | 0.12453 | 0.12683 | 0.12768 | 0.12570 | 0.12855 |
| N | 401 | 401 | 366 | 317 | 274 |
| <i>Abnormal change in ratio of cash flow to book value</i> | | | | | |
| Mean difference | 0.00325 | 0.01347 | 0.01428 | 0.00715 | 0.00206 |
| P-values for differences | 0.53608 | 0.01065** | 0.03185** | 0.35620 | 0.79369 |
| N | 400 | 399 | 331 | 261 | 215 |
| Interval of years | -1 to 0 | -1 to +1 | -1 to +2 | -1 to +3 | 0 to +1 |
| | | | | | 0 to +2 |
| | | | | | 0 to +3 |
| <i>Panel B—Change in ratio of cash flow to book value</i> | | | | | |
| <i>SEO firms</i> | | | | | |
| Mean | 0.01232 | 0.00773 | -0.00299 | -0.0105 | 0.0013 |
| P-value | 0.00024*** | 0.09435* | 0.60652 | 0.10149 | 0.69407 |
| N | 401 | 332 | 261 | 216 | 332 |
| | | | | | 261 |
| <i>Matching firms</i> | | | | | |
| Mean | 0.00218 | 0.00284 | 0.00048 | -0.0006 | 0.00340 |
| P-value | 0.22407 | 0.25845 | 0.87837 | 0.86826 | 0.08045* |
| N | 401 | 366 | 317 | 274 | 366 |
| | | | | | 317 |
| | | | | | 274 |
| <i>Abnormal change in ratio of cash flow to book value</i> | | | | | |
| Mean | 0.01026 | 0.00697 | -0.00125 | -0.00700 | -0.00100 |
| P-value | 0.00154*** | 0.15340 | 0.83124 | 0.24456 | 0.75819 |
| N | 399 | 331 | 260 | 214 | 331 |
| | | | | | 260 |
| | | | | | 214 |

The Table presents operating performance for firms making seasoned stock offers during the period January 1990–December 2005. Sample issues are firm commitment, underwritten public offers. Best-efforts and unit-offerings are excluded, as are issues where equity is offered jointly with debt, preferred stock, or warrants. Also excluded are issues by financial firms (SIC codes 6000–6999), utilities firms (SIC codes 4910–4939), firms with less than \$20 million in annual sales in the year prior to the offer, or firms for which no book value data are available in the COMPUSTAT database. Abnormal operating performance is the operating performance for the firm minus the median value for that firm's portfolio of matched comparison firms. Firms are matched by SIC code and firm size. Operating performance is measured as a firm's ratio of operating cash flow (COMPUSTAT item #13) to the book value of its assets (COMPUSTAT item #6). We report mean and median operating performance and abnormal operating performance for firms in Panel A, and values for changes in the mean values in Panel B. P-values of the T-statistics are also reported.

* Significance at the 10% levels.

** Significance at the 5% levels.

*** Significance at the 1% levels.

4.2. Operating performance of SEO issuers

In Panel A of **Table 4**, we report results of the operating performance of issuing firms and their matched comparison firms for the period ranging from one year prior to the issue to three years afterwards. The ratio of cash flow to book value of assets is 11.8% and 11.5% for issuers and non-issuers, respectively, in the year prior to the issue. The difference between the operating performance of issuers and non-issuers in year -1 is not statistically significant, providing further validity for comparing the subsequent performance of the two sets of firms. The mean abnormal cash flow returns in the issue year and the subsequent year are positive and significant reaching 1.428% at year +1.

However, the results in Panel B suggest that issuers outperform non-issuers over the -1 to 0 interval, with mean abnormal cash flow return of +1.026, but not over the remaining intervals (the only exception is over the 0 to +3 interval, which exhibits a lower mean abnormal cash flow return of -1.19%

for issuers).⁸ These results are consistent with those of McLaughlin et al. (1996) who report that firms issue an SEO following a 0.99% abnormal run-up in operating performance. However, the present study primarily differs from previous work in the post-issue intervals since no significant change in operating performance could be documented in Panel B of Table 4. This inconsistency may be mainly due to the smaller sample studied here, which obviously consists of larger firms (since only large firms are covered in the RiskMetrics database). Moreover, such a sample is thought to have low information asymmetry problems, since large firms included in the RiskMetrics database are believed to be followed by a large number of analysts and to have a high level of information disclosure. Therefore, they are more likely to outperform the market or their matched comparison firms. As previously reported in Table 2, our sample firms also have lower ratios of market to book values. In other words, these firms are expected to have less risky growth opportunities and better post-issue operating performance, as documented in previous studies (McLaughlin et al., 1998; Loughran and Ritter, 1997).

4.3. Operating performance of SEO issuers conditional on governance structure

Earlier results in Table 3 revealed that managers of firms that impose restrictions on managerial power and protection seem less likely to issue an SEO. However, it is important to examine the effectiveness of corporate governance for SEO issuers. In this section, we take a closer look at the effect of corporate governance practices on post-SEO performance. In Panel A of Table 5 we rank the SEO firms into terciles according to their level of investor protection. Group 0 includes firms with the lowest value of G-index, or the lowest number of anti-takeover provisions (ATPs). Based on this criterion, these firms are the best governed since they operate with the best shareholders' rights. Group 2, on the other hand, consists of firms with the highest G-index value, that is, the largest number of ATPs, featuring the worst shareholders' rights.

In panel A, issuers in the lowest G-index tercile have substantially higher ratios of cash flow to book value of assets than issuers in the highest G-index terciles or their matched comparison firms. This is evident across all years examined in the study. At the time of the offer, issuers in the lowest G-index tercile have a ratio of 14.37% compared to 11.35% for issuers in the highest G-index tercile and 12.06% for non-issuing firms. Two years later, these firms achieve a ratio of 15.57% compared to 11.42% for poorly governed issuers and 12.10% for matching non-issuers. Hence, the abnormal performance of issuers in the lowest G-index tercile is significantly positive in the issue year and the subsequent two years that follow. On the other hand, the abnormal performance of firms in the highest G-index tercile is not significantly different from zero in all of the years studied. However, well governed issuers (low G-index) significantly outperform badly governed issuers (high G-index) in the year of the issue and the subsequent two years at the 5% significant level.

Panel B focuses on the changes in performance for years 0, +1, +2, and +3 relative to year -1. It shows that well-governed firms have 1.46% abnormal change in cash returns in the year of the issue. The positive abnormal change in performance is maintained during the period -1 to +1. Thereafter, however, the positive abnormal change in performance becomes insignificant. Conversely, issuers with the highest values of the G-index have insignificant abnormal change in the ratio of cash flow to book value of assets following the issue and have even a negative change of -1.67% during the period -1 to +3.

We use the *T*-test to examine the significant differences in performance between the best and the worst governed issuers. Issuers in the lowest tercile significantly outperform those in the highest tercile during the periods -1 to 0, -1 to +1, and -1 to +2 by 1.78%, 2.07% and 3.02%, respectively.

The results of Table 5 imply that the decline in operating performance subsequent to SEOs and the underperformance relative to non-issuers is observed for issuers with poor corporate governance structures. Well-governed issuers exhibit the opposite pattern: their performance improves and they outperform both, their matched comparison firms and badly-governed issuers for up to two years after the issue. The results support previous research linking post-issue underperformance to agency

⁸ The holding period returns prior to the issue year for the intervals -1 to 0, -1 to +1 and for the year -1 are higher for the SEO issuers than those of the matching firms.

Table 5

Operating performance of firms issuing seasoned equity conditional on G-index.

| | Mean G-index (Range) | -1 | 0 | +1 | +2 | +3 |
|---|----------------------|------------|------------|-----------|------------|-----------|
| <i>SEO firms</i> | | | | | | |
| <i>Panel A—ratio of cash flow to book value for the year relative to the issue year</i> | | | | | | |
| 0 (lowest value) | 5.547 (2–7) | 0.12976 | 0.14369 | 0.14497 | 0.15571 | 0.13930 |
| 1 | 8.519 (8–9) | 0.10769 | 0.13321 | 0.14347 | 0.13247 | 0.12376 |
| 2 (Highest value) | 11.848 (10–18) | 0.11320 | 0.11347 | 0.11661 | 0.11419 | 0.12404 |
| <i>Matched comparison firms</i> | | | | | | |
| 0 (lowest value) | | 0.12123 | 0.12063 | 0.11975 | 0.12103 | 0.11960 |
| 1 | | 0.11229 | 0.11676 | 0.11697 | 0.11744 | 0.12163 |
| 2 (Highest value) | | 0.11096 | 0.11455 | 0.11858 | 0.12413 | 0.13264 |
| <i>Abnormal performance</i> | | | | | | |
| 0 (Lowest value) | | 0.00899 | 0.02363*** | 0.02435** | 0.02752** | 0.01244 |
| P-value of T-tests | | (0.24526) | (0.00847) | (0.02805) | (0.02572) | (0.31910) |
| 1 | | −0.00437 | 0.01675 | 0.02117 | 0.00449 | 0.00145 |
| P-value of T-tests | | (0.72455) | (0.11311) | (0.10541) | (0.73290) | (0.92834) |
| 2 (Highest value) | | 0.00246 | −0.00085 | −0.00218 | −0.01365 | −0.00956 |
| P-value of T-tests | | (0.76318) | (0.91587) | (0.83815) | (0.33025) | (0.46917) |
| P-values for difference between 0 and 2 | | | | | | |
| P-values for difference between 0 and 2 | | 0.5606 | 0.0425** | 0.0853* | 0.0284** | 0.2272 |
| Interval of years | Mean G-index (Range) | | −1 to 0 | −1 to +1 | −1 to +2 | −1 to +3 |
| <i>SEO firms</i> | | | | | | |
| <i>Panel B—Change in the ratio of cash flow to book value</i> | | | | | | |
| 0 (lowest value) | 5.547 (2–7) | 0.01393 | 0.01149 | 0.00936 | −0.01028 | |
| 1 | 8.519 (8–9) | 0.02552 | 0.01663 | −0.01342 | −0.02278 | |
| 2 (Highest value) | 11.848 (10–18) | 0.00034 | −0.00270 | −0.00997 | −0.00252 | |
| <i>Matched comparison firms</i> | | | | | | |
| 0 (lowest value) | | −0.00059 | −0.00157 | −0.00030 | −0.00912 | |
| 1 | | 0.00447 | 0.00283 | −0.01003 | −0.01498 | |
| 2 (Highest value) | | 0.00359 | 0.00804 | 0.00867 | 0.01937 | |
| <i>Abnormal performance</i> | | | | | | |
| 0 (Lowest value) | | 0.01463*** | 0.01362* | 0.01415 | 0.00174 | |
| P-value of T-tests | | (0.00421) | (0.07021) | (0.15096) | (0.87813) | |
| 1 | | 0.02112** | 0.01624 | −0.00479 | −0.00770 | |
| P-value of T-tests | | (0.00578) | (0.12649) | (0.64653) | (0.51747) | |
| 2 (Highest value) | | −0.00321 | −0.00716 | −0.01605 | −0.01669** | |
| P-value of T-tests | | (0.46971) | (0.37116) | (0.10254) | (0.02601) | |
| P-Values for difference between 0 and 2 | | 0.0087*** | 0.0595* | 0.0310** | 0.1762 | |

The Table presents operating performance for firms making seasoned stock offers during the period January 1990–December 2005 conditional on the G-Index. Sample issues are firm commitment, underwritten public offers, Best-efforts and unit-offerings are excluded, as are issues where equity is offered jointly with debt, preferred stock, or warrants. Also excluded are issues by financial firms (SIC codes 6000–6999), utilities firms (SIC codes 4910–4939), firms with less than \$20 million in annual sales in the year prior to the offer, or firms for which no book value data are available in the COMPUSTAT database. Abnormal operating performance is the operating performance for the firm minus the median value for that firm's portfolio of matching firms. Firms are matched by SIC code and firm size. Operating performance is measured as a firm's ratio of operating cash flow (COMPUSTAT item #13) to the book value of its assets (COMPUSTAT item #6). We report mean operating performance, abnormal operating performance, and values for changes in the mean values for firms sorted into terciles in Panel A (A.1 and A.2, respectively). Relative Operating Performance Sorted into Terciles According to G-Index Value.

* Significance at the 10% levels.

** Significance at the 5% levels.

*** Significance at the 1% levels.

problems related to free cash flow, earnings management, or managerial entrenchment (McLaughlin et al., 1996; Teoh et al., 1998; Fields and Mais, 1994; Jung et al., 1996). Furthermore, the results complement previous findings by suggesting that corporate governance practices are effective in mitigating agency problems and in preventing managers from investing in value-destroying projects. Managers who enjoy fewer provisions that reinforce their power at the expense of the shareholders appear to be investing the offer proceeds in value-enhancing projects.

4.4. Multivariate analysis: impact of G-index

In Table 6, we conduct a regression analysis to examine the post-issue performance of SEO firms after having controlled for various firm characteristics. The dependent variables are the abnormal operating performance and the abnormal change in operating performance in various years and intervals. Apart from the rank of the G-index⁹, the independent variables include several measures of firm and market characteristics such as the ratio of capital expenditure to book value, the relative log of the firm's market value (SEO firm relative to matching firms), the ratio of relative market to book value, the relative leverage, and a dummy variable "SOX" to control for the Sarbanes-Oxley reforms that affected the governance structure of the US firms starting year 2003. Prior research demonstrated that these variables affect post-SEO performance (McLaughlin et al., 1996, 1998).

The results of the multivariate analysis are indeed consistent with our previous results. Columns 1 and 2 report results of the abnormal operating performance in years +1 and +2 relative to the SEO year, respectively. The coefficient of the G-index rank is negative and significant at the 5% level (-0.01561 and -0.02104 for years +1 and +2, respectively), which suggests that firms with fewer ATPs and stronger shareholders' rights enjoy superior post-SEO abnormal operating performance.

The coefficients of the ratio of capital expenditure to book and leverage for years +1 and +2 are positive and significant. On the other hand, the coefficients of the log of market value, market to book ratios, and SOX are not significant, thus indicating that the size of the firm, the growth opportunities, and the Sarbanes-Oxley reforms do not affect the operating performance SEO issuers. Columns 4, 5, and 6 report the regression results when the independent variable is set to be the change in abnormal operating performance for the intervals -1 to +1, -1 to +2, and -1 to +3. The results imply that the better the firm's governance structure (lower G-Index rank) and the higher the relative leverage, the better the operating performance change in the post-issue years as the rank of the G-index and the relative leverage are negatively and positively related to the change in abnormal cash flow returns, respectively. Interestingly, the SOX variable that controls for the effects of Sarbanes-Oxley Act is positive and significant for the interval -1 to +1 indicating that the reforms have a positive impact on the abnormal change in operating performance.

In Panels B, we investigate whether the GOV7 index affects the operating performance of the firm. The insignificance of GOV7 might be surprising since the firms that have good board structures tend to motivate the average board of directors to do their job properly. However, the literature recognizes that well structured boards might be inefficient in recognizing the problems that a firm might face (Jensen, 1986) and might fail to motivate the board of directors to perform well, especially if these directors are well compensated (Denis, 2001). Consequently, these results do not come as a complete surprise given that, in the literature, the effect of these governance factors is debatable. For instance, Fogel and Geier (2007) do not find conclusive evidence that a relationship exists between boards dominated by independent outsiders and the performance of the firm. Bhagat and Black (1999) note that no relation between the board structure and the performance of the firm exists as board structures may only affect discrete tasks such as replacing the CEO defending against a takeover. On the other hand, Weisbach (1988) finds that a board size might affect the probability of firing a CEO but with a small economic significance, whereas the degree of board independence does not affect the probability of firing a CEO. In general, the evidence is mixed about the effect of board variables on the performance of the firm but the literature is abundant with studies stating that the board structure has either a low or no significant effect on the performance of the firm.

⁹ Three ranks.

Table 6

Regressions of abnormal operating performance of firms issuing seasoned equity: impact of the rank of G-index and the GOV7 index.

| | Abnormal operating performance for year relative to the SEO | | | Change in abnormal operating performance for interval relative to the SEO | | |
|------------------------------|---|-------------|-------------|---|-------------|-------------|
| | +1 | +2 | +3 | -1 to +1 | -1 to +2 | -1 to +3 |
| <i>Panel A—Rgindex</i> | | | | | | |
| Intercept | 0.00529 | 0.01306 | -0.00258 | 0.00330 | 0.00796 | -0.00737 |
| Rgindex | -0.01561 ** | -0.02104 ** | -0.01208 | -0.01056 * | -0.01422 ** | -0.00934 |
| Capital Expenditure Ratio | 0.35187 *** | 0.31898 *** | 0.27638 ** | 0.04554 | 0.02567 | -0.01273 |
| Relative log of Market Value | 0.01940 ** | -0.00546 | 0.00171 | 0.00740 | 0.00127 | 0.01547 |
| Relative Market/Book | 0.00304 | 0.00418 | 0.00430 | -0.00036 | -0.00230 | -0.00235 |
| Relative Leverage | 0.09380 *** | 0.12370 *** | 0.17124 *** | 0.06696 ** | 0.08379 *** | 0.12211 *** |
| SOX | 0.00239 | -0.00829 | 0.00495 | 0.03860 *** | -0.00939 | -0.00854 |
| Adj R-Sq | 0.08310 | 0.07410 | 0.08520 | 0.04700 | 0.03370 | 0.06400 |
| F-Value | 5.96 *** | 4.43 *** | 4.29 *** | 3.70 *** | 2.49 ** | 3.42 *** |
| Number of observations | 329 | 258 | 213 | 329 | 258 | 213 |
| <i>Panel B—GOV7</i> | | | | | | |
| Intercept | 0.02162 | -0.00686 | -0.05685 | -0.02608 | -0.02985 | -0.04923 |
| GOV7 | -0.05856 | 0.00044 | 0.08406 | 0.03762 | 0.04743 | 0.06479 |
| Capital Expenditure Ratio | 0.34488 *** | 0.31764 *** | 0.26415 * | 0.04235 | 0.02429 | -0.02220 |
| Relative log of Market Value | 0.01884 | -0.00842 | -0.00182 | 0.00660 | -0.00158 | 0.01275 |
| Relative Market/Book | 0.00307 | 0.00426 | 0.00433 | -0.00038 | -0.00231 | -0.00232 |
| Relative Leverage | 0.09017 ** | 0.12231 *** | 0.17342 *** | 0.06774 ** | 0.08379 *** | 0.12379 *** |
| SOX | 0.00545 | -0.00278 | 0.00650 | 0.03733 *** | -0.00765 | -0.00733 |
| Adj R-Sq | 0.07300 | 0.05210 | 0.08280 | 0.03820 | 0.01900 | 0.06150 |
| F-Value | 5.30 *** | 3.36 *** | 4.19 *** | 3.17 *** | 1.83 * | 3.32 *** |
| Number of observations | 329 | 258 | 213 | 329 | 258 | 213 |
| <i>Panel C—Board</i> | | | | | | |
| Intercept | 0.01333 | -0.00077 | -0.01035 | -0.01839 | -0.01719 | -0.01886 |
| Board | -0.04874 | -0.01307 | -0.00682 | 0.02615 | 0.02644 | 0.00695 |
| Capital Expenditure Ratio | 0.34839 * | 0.31953 *** | 0.26185 * | 0.04034 | 0.02096 | -0.02426 |
| Relative log of Market Value | 0.01823 * | -0.00820 | -0.00008 | 0.00696 | -0.00115 | 0.01388 |
| Relative Market/Book | 0.00313 | 0.00429 | 0.00439 * | -0.00041 | -0.00232 | -0.00229 |
| Relative Leverage | 0.08933 ** | 0.12174 *** | 0.17083 *** | 0.06793 ** | 0.08399 *** | 0.12240 *** |
| SOX | 0.00560 | -0.00237 | 0.01033 | 0.03752 *** | -0.00643 | -0.00481 |
| Adj R-Sq | 0.07450 | 0.05240 | 0.07690 | 0.03840 | 0.01810 | 0.05560 |
| F-Value | 5.40 *** | 3.37 *** | 3.94 *** | 3.18 *** | 1.79 | 3.08 *** |
| Number of observations | 329 | 258 | 213 | 329 | 258 | 213 |
| <i>Panel D—Single class</i> | | | | | | |
| Intercept | -0.01894 | -0.01424 | -0.05913 * | -0.00953 | -0.00860 | -0.03822 ** |
| Single Class | 0.01164 | 0.00900 | 0.05366 ** | 0.00369 | 0.00384 | 0.02638 |
| Capital Expenditure Ratio | 0.35052 *** | 0.32260 *** | 0.28153 ** | 0.04301 | 0.02688 | -0.01434 |
| Relative log of Market Value | 0.01799 * | -0.00876 | -0.00247 | 0.00664 | -0.00087 | 0.01288 |
| Relative Market/Book | 0.00307 | 0.00425 | 0.00435 * | -0.00035 | -0.00226 | -0.00230 |
| Relative Leverage | 0.09352 *** | 0.12273 *** | 0.17533 *** | 0.06645 ** | 0.08302 *** | 0.12410 *** |
| SOX | 0.00220 | -0.00381 | 0.00529 | 0.03873 *** | -0.00610 | -0.00692 |
| Adj R-Sq | 0.07140 | 0.05280 | 0.10330 | 0.03640 | 0.01630 | 0.06640 |
| F-Value | 5.20 *** | 3.39 *** | 5.07 *** | 3.06 *** | 1.71 | 3.51 *** |
| Number of observations | 329 | 258 | 213 | 329 | 258 | 213 |
| <i>Panel E—Audit</i> | | | | | | |
| Intercept | 0.05404 | -0.02005 | -0.05350 | 0.00535 | -0.04303 | -0.07802 |
| Audit | -0.12902 | 0.02746 | 0.08235 | -0.02402 | 0.07709 | 0.12791 |
| Capital Expenditure Ratio | 0.34938 *** | 0.31704 *** | 0.25884 * | 0.04222 | 0.02307 | -0.02852 |
| Relative log of Market Value | 0.01957 ** | -0.00873 | -0.00121 | 0.00700 | -0.00161 | 0.01242 |
| Relative Market/Book | 0.00293 | 0.00428 | 0.00446 * | -0.00038 | -0.00219 | -0.00217 |
| Relative Leverage | 0.09613 *** | 0.12120 *** | 0.16740 *** | 0.06681 ** | 0.07975 ** | 0.11619 *** |

Table 6 (Continued)

| | Abnormal operating performance for year relative to the SEO | | | Change in abnormal operating performance for interval relative to the SEO | | |
|------------------------|---|----------|---------|---|----------|----------|
| | +1 | +2 | +3 | −1 to +1 | −1 to +2 | −1 to +3 |
| SOX | 0.00430 | −0.00358 | 0.00728 | 0.03921*** | −0.00796 | −0.00893 |
| Adj R-Sq | 0.07460 | 0.05230 | 0.07920 | 0.03640 | 0.01860 | 0.06510 |
| F-Value | 5.41*** | 3.36*** | 4.04*** | 3.07*** | 1.81* | 3.46*** |
| Number of observations | 329 | 258 | 213 | 329 | 258 | 213 |

The Table presents estimates of cross-sectional regressions relating ex-post performance to firm variables. The dependent variable is the ratio of the abnormal cash flow to the book value of assets and the change in that variable. The independent variables are: the rank for the G-index (or alternatively GOV7 index), the ratio of the firm's capital expenditure to book value, the relative log of firm market value, the relative ratio of market to book value, and the relative firm leverage. Unless stated otherwise, all variables are for year −1 relative to the SEO. A dummy variable "SOX" is also added to control for the Sarbanes-Oxley reforms that affected the governance structure of the US firms starting year 2003. The values of 0, 1 and 2 were assigned to the GOV7 index, where 0 refers to the firms with the lowest GOV7 score and 2 refers to the firms with the highest GOV7 score. The sample consists of firms making seasoned stock offers during the period January 1990–December 2005. Sample issues are firm commitment, underwritten public offers. Best-efforts and unit-offerings are excluded, as are issues where equity is offered jointly with debt, preferred stock, or warrants. Also excluded are issues by financial firms (SIC codes 6000–6999), utilities firms (SIC codes 4910–4939), firms with less than \$20 million in annual sales in the year prior to the offer, or firms for which no book value data are available in the COMPUSTAT database. Overlapping issues by the same firm in the time interval studied are also eliminated. Abnormal operating performance is the operating performance for the firm minus the median value for that firm's portfolio of matched comparison firms. Firms are matched by SIC code and firm size. Operating performance is measured as a firm's ratio of operating cash flow (COMPUSTAT item #13) to the book value of its assets (COMPUSTAT item #6). Panel C refers to Board variables (Board independence, board size, chairman/CEO separation, and no staggered board) that deal with the board composition. Panel D refers to an anti-takeover variable (the existence of a single class of shares). Panel E refers to audit variables (Audit committee Independence and auditor ratification) that deal with the independence of auditors.

* Significance at the 10% levels.

** Significance at the 5% levels.

*** Significance at the 1% levels.

In order to see whether a component of this GOV7 index affects the operating performance of the firm, we divide the GOV7 index into three subsets as classified by Aggarwal et al. (2009). The three subsets are:

- Board variables (Board independence, board size, chairman/CEO separation, and no staggered board) that deal with the board composition.
- Audit variables (Audit committee Independence, and auditor ratification) that deal with the independence of auditors.
- An anti-takeover variable (the existence of a single class of shares).

Panels C, D, and E of Table 6 report the results of the regressions and show that none of these three components is significant.¹⁰

4.5. Multivariate analysis: impact of G-index components

The G-index is more generally perceived to be composed of anti-takeover provisions exploited by managers and directors seeking to preserve their positions and to reap extravagant benefits through deferring any potential change in control. In order to alleviate any concerns that our previous results may have raised – mainly that they are driven by provisions serving as defenses against takeovers rather than by provisions magnifying agency problems and protecting managers' positions – we repeat the regression tests of the previous section using the same independent variables while separately considering the impact of the individual groups composing the G-index. Thus, following the example

¹⁰ We test also the effect of each individual constituent of the Gov7 index on the performance of the firm. All the regressions reveal that these Gov7 variables are insignificant.

Table 7

Regressions of abnormal operating performance of firms issuing seasoned equity—additional impacts.

| | Abnormal operating performance for year relative to the SEO | | | Change in abnormal operating performance for interval of years relative to the SEO | | |
|--------------------------------------|---|------------|------------|--|------------|------------|
| | +1 | +2 | +3 | -1 to +1 | -1 to +2 | -1 to +3 |
| <i>Panel A—Delay provisions</i> | | | | | | |
| Intercept | -0.00431 | -0.00627 | -0.02181 | 0.01372 | 0.00674 | -0.01001 |
| Delay | -0.00243 | -0.00018 | 0.00435 | -0.01035* | -0.00612 | -0.00297 |
| Capital Expenditure Ratio | 0.35185*** | 0.31801*** | 0.24725* | 0.06629 | 0.03694 | -0.01424 |
| Relative log of Market Value | 0.01886* | -0.00840 | -0.00047 | 0.00824 | -0.00029 | 0.01418 |
| Relative Market/Book | 0.00296 | 0.00425 | 0.00442* | -0.00068 | -0.00233 | -0.00231 |
| Relative Leverage | 0.09292*** | 0.12229*** | 0.17037*** | 0.06741** | 0.08243*** | 0.12260*** |
| SOX | 0.00304 | -0.00276 | 0.00970 | 0.03950*** | -0.00559 | -0.00429 |
| Adj R-Sq | 0.07090 | 0.05210 | 0.07890 | 0.05630 | 0.02210 | 0.05710 |
| F-Value | 5.17*** | 3.36*** | 4.03*** | 4.26*** | 1.97* | 3.14*** |
| Number of observations | 329 | 258 | 213 | 329 | 258 | 213 |
| <i>Panel B—Protection provisions</i> | | | | | | |
| Intercept | 0.01265 | 0.01710 | 0.00766 | 0.00461 | 0.00491 | -0.00119 |
| Protection | -0.01041* | -0.01143* | -0.01004 | -0.00529 | -0.00494 | -0.00694 |
| Capital Expenditure Ratio | 0.32922*** | 0.29489*** | 0.24055* | 0.03305 | 0.01492 | -0.03870 |
| Relative log of Market Value | 0.01903* | -0.00552 | 0.00283 | 0.00706 | 0.00053 | 0.01609 |
| Relative Market/Book | 0.00330* | 0.00440 | 0.00441* | -0.00022 | -0.00219 | -0.00226 |
| Relative Leverage | 0.08868** | 0.11807*** | 0.16494*** | 0.06416** | 0.08101** | 0.11774*** |
| SOX | -0.00058 | -0.01119 | 0.00119 | 0.03718*** | -0.00930 | -0.01071 |
| Adj R-Sq | 0.08070 | 0.06380 | 0.08780 | 0.04110 | 0.01990 | 0.06440 |
| F-Value | 5.80*** | 3.92*** | 4.40*** | 3.34*** | 1.87* | 3.43*** |
| Number of observations | 329 | 258 | 213 | 329 | 258 | 213 |
| <i>Panel C—Other provisions</i> | | | | | | |
| Intercept | 0.00362 | 0.00390 | -0.00619 | 0.00122 | 0.00068 | -0.01103 |
| Other | -0.01660** | -0.01362* | -0.00896 | -0.00999* | -0.00780 | -0.00585 |
| Capital Expenditure Ratio | 0.35282*** | 0.31716*** | 0.27701** | 0.04567 | 0.02449 | -0.01409 |
| Relative log of Market Value | 0.01927** | -0.00675 | 0.00103 | 0.00726 | 0.00023 | 0.01480 |
| Relative Market/Book | 0.00285 | 0.00423 | 0.00435* | -0.00047 | -0.00227 | -0.00231 |
| Relative Leverage | 0.09295*** | 0.12357*** | 0.17217*** | 0.06636** | 0.08356*** | 0.12270*** |
| SOX | 0.00269 | -0.00778 | 0.00494 | 0.03882*** | -0.00853 | -0.00792 |
| Adj R-Sq | 0.08700 | 0.00110 | 0.00060 | 0.04730 | 0.02200 | 0.05950 |
| F-Value | 6.21*** | 3.85*** | 4.17*** | 3.72*** | 1.96* | 3.24*** |
| Number of observations | 329 | 258 | 213 | 329 | 258 | 213 |
| <i>Panel D—Voting provisions</i> | | | | | | |
| Intercept | -0.01399 | -0.00944 | -0.01908* | -0.00475 | -0.00192 | -0.01651** |
| Voting | 0.00958 | 0.00545 | 0.01146 | -0.00317 | -0.00663 | 0.00154 |
| Capital Expenditure Ratio | 0.33993 | 0.31436*** | 0.24295* | 0.04362 | 0.02877 | -0.02661 |
| Relative log of Market Value | 0.01850 | -0.00836 | -0.00010 | -0.00038 | -0.00079 | 0.01401 |
| Relative Market/Book | 0.00309 | 0.00424 | 0.00435 | 0.00446 | -0.00224 | -0.00229 |
| Relative Leverage | 0.09288** | 0.12287*** | 0.17307*** | 0.06608** | 0.08215*** | 0.12231*** |
| SOX | 0.00283*** | -0.00148 | 0.01319 | 0.03899*** | -0.00721 | -0.00414 |
| Adj R-Sq | 0.07350 | 0.05300 | 0.08140 | 0.03680 | 0.01840 | 0.05560 |
| F-Value | 5.33*** | 3.40*** | 4.13*** | 3.09*** | 1.80* | 3.08** |
| Number of observations | 329 | 258 | 213 | 329 | 258 | 213 |
| <i>Panel E—State law provisions</i> | | | | | | |
| Intercept | 0.00316 | 0.01184 | -0.00118 | -0.00798 | 0.00183 | -0.01793* |
| State Laws | -0.00727 | -0.01110** | -0.00800 | 0.00095 | -0.00431 | 0.00143 |
| Capital Expenditure Ratio | 0.33545*** | 0.30469*** | 0.26138* | 0.04298 | 0.01973 | -0.02404 |
| Relative log of Market Value | 0.01854* | -0.00669 | 0.00116 | 0.00680 | -0.00005 | 0.01376 |
| Relative Market/Book | 0.00316 | 0.00427 | 0.00437* | -0.00038 | -0.00225 | -0.00228 |
| Relative Leverage | 0.09191*** | 0.12372*** | 0.17344*** | 0.06626** | 0.08339*** | 0.12165*** |

Table 7 (Continued)

| | Abnormal operating performance for year relative to the SEO | | | Change in abnormal operating performance for interval of years relative to the SEO | | |
|------------------------|---|----------|---------|--|----------|----------|
| | +1 | +2 | +3 | −1 to +1 | −1 to +2 | −1 to +3 |
| SOX | 0.00303 | −0.00893 | 0.00426 | 0.03894*** | −0.00805 | −0.00352 |
| Adj R-Sq | 0.07750 | 0.06920 | 0.08600 | 0.03640 | 0.02060 | 0.05590 |
| F-Value | 5.59*** | 4.18*** | 4.33*** | 3.06*** | 1.90* | 3.09*** |
| Number of observations | 329 | 258 | 213 | 329 | 258 | 213 |

The Table presents estimates of cross-sectional regressions relating ex-post performance to firm variables. The dependent variable is the ratio of the abnormal cash flow to the book value of assets and the change in that variable. Panels A to E present the regressions for which the independent variables are the rank of the Delay, Protection, Other, Voting, and State Law provisions, respectively. Other independent variables include the ratio of the firm's capital expenditure to book value, the relative log of firm market value, the relative ratio of market to book value, and the relative firm leverage. Unless stated otherwise, all variables are for year −1 relative to the SEO. A dummy variable "SOX" is also added to control for the Sarbanes-Oxley reforms that affected the governance structure of the US firms starting year 2003. The sample consists of firms making seasoned stock offers during the period January 1990–December 2004. Sample issues are firm commitment, underwritten public offers. Best-efforts and unit-offerings are excluded, as are issues where equity is offered jointly with debt, preferred stock, or warrants. Also excluded are issues by financial firms (SIC codes 6000–6999), utilities firms (SIC codes 4910–4939), firms with less than \$20 million in annual sales in the year prior to the offer, or firms for which no book value data are available in the COMPUSTAT database. Overlapping issues by the same firm in the time interval studied are also eliminated. Abnormal operating performance is the operating performance for the firm minus the median value for that firm's portfolio of matching firms. Firms are matched by SIC code and firm size. Operating performance is measured as a firm's ratio of operating cash flow (COMPUSTAT item #13) to the book value of its assets (COMPUSTAT item #6).

* Significance at the 10% levels.

** Significance at the 5% levels.

*** Significance at the 1% levels.

of Gompers et al. (2003), the G-index provisions are divided into five groups: Delay, Protection, Others, Voting, and State Laws. The results of the regressions are, respectively, reported in Panels A to E of Table 7.

The Delay group includes tactics for slowing hostile bids by, for instance, constraining or requiring excessive shareholder support to call for a special meeting or limiting the number of board members that can be replaced each year (Gompers et al., 2003). Although the Delay coefficient is significant for the change in operating performance for the [−1, +1] window, Panel A of Table 7 implies that the Delay coefficient is generally not significant and that it is not the main governance factor that affects the performance of the firm.

Panel B, on the other hand, provides stronger evidence of the effects of Protection provisions on the post-issue performance of SEO firms. The Protection coefficient is negative and significant at the 10% level for the abnormal performance regressions of years +1, and +2 (−0.01041 and −0.01143, respectively). These results are particularly important; they imply that, in the absence of provisions that provide excessive protection or job security for managers, management entrenchment is mitigated and managers are more likely to invest the funds of the SEO in rewarding projects that lead to superior long-run abnormal performance. In fact, the Protection provisions are closely related to management entrenchment, furnishing managers and directors with excessive rights, perquisites, bonuses or compensation that shield them against job-related liability, termination, or change in control. These managerial benefits come at the expense of shareholders' rights since the shareholders must incur costs to fire incompetent management (Gompers et al., 2003). Because they include clauses that indemnify managers against legal liability resulting from misconduct, managers' benefits also serve as an incentive to pursue self-centered demeanor. The "Other" group includes provisions that are more closely associated with takeover defense mechanisms such as Anti-greenmail, Pension Parachutes, Poison Pill, and Silver Parachutes. These provisions are significant for years +1 and +2 and for the [−1, +1] window, implying that this group plays a major role in determining the short-run operating performance.

The coefficient of the Voting provisions is insignificant (Panel D). Most of the Voting provisions impose partial or even total restrictions on shareholders' rights in elections, bylaw amendments,

or in the event of mergers. The provisions may take the form of unequal voting, a requirement for supermajority votes, or the transfer of the power to amend laws to directors (Gompers et al., 2003).

Panel E displays results for the State level provisions. Among these provisions are some that make takeovers more expensive or allow directors to legally bypass shareholders and reject a merger that may have a positive impact on shareholders' wealth. None of the State Laws coefficients (in all regressions) is significant, indicating that this category is not a major determinant of the operating performance.¹¹

Similar to the results of the regression reported in Table 6, the results of all the panels of Table 7 imply that issuers that invest more in capital expenditures and have higher leverage enjoy superior operating performance.

Hence, the results of Table 7 suggest that among the G-index groups, Protection and Others provisions are the most significant determinants of SEO post-issue performance. The underperformance is associated with provisions that permit and encourage managers to follow actions that serve their own interests at the expense of those of the shareholders. Their behavior becomes more costly as any penalty for misconduct is either impossible or very expensive. Also the underperformance is driven by takeover defenses.

5. Conclusion

In this paper we study the impact of corporate governance on the quality of managers' decisions and the subsequent operating performance of their firms. In this context, we focus on these factors as they affect seasoned equity offerings in the US. The United States is considered the most efficient and transparent market in the world. As a result, the governance of US firms, unlike non-US firms, is closer to the optimal corporate governance. Hence, our study of a U.S. sample of SEO issuers and the concluding findings about the relationship between corporate governance and post-issue performance, can serve as a benchmark in an international setting, where improving corporate governance mechanisms and enhancing shareholders' rights are still ongoing.

This research is central given the severe impact of agency problems on the SEO decision and the widely documented post-issue underperformance of firms (McLaughlin et al., 1996; Loughran and Ritter, 1997).

We investigate whether corporate governance affects the decision to issue equity and/or the quality of that decision when it is made. Consistent with our expectations, we find that firms with fewer managerial provisions and better corporate governance structures are less likely to issue an SEO. Nevertheless, if they do issue an SEO, they experience superior operating performance. These firms issue after run-ups in abnormal cash flow performance, which continues to improve following the offer. Issuers in the highest G-index rank, on the other hand, show insignificant abnormal performance and changes in performance over all years from pre- to post-issue. Furthermore, well-governed issuers significantly outperform poorly-governed ones, with the differences in performance widening in the first and second post-issue years. On the other hand, the constituents of the GOV7 index, which is formed mainly by variables that reflect the governance of the board of directors, are not significant and reveal that although a better structure for the board might increase the probability of taking discrete decisions (such as firing a CEO or defending a takeover), these structures do not affect the post-issue performance of our sample firms.

These results persist after controlling for some characteristics of the firm. The analysis shows a negative relationship between the G-Index rank and the long-run performance of issuing firms. In order to gain insight into the specific governance drivers of post-SEO operating performance, we study the impact of each of the G-index component groups and find supporting evidence for the entrenchment hypothesis. The SEO long run performance is observed to be superior among issuers that do not protect managers against job termination or indemnify them from penalties for misconduct. In contrast, the evidence on anti-takeover provisions is not as strong.

¹¹ The results of holding period returns are not consistent with those of operating performance and in general do not show that the G-index plays a major role in determining the financial performance of the firm.

Thus, corporate governance appears to be an effective tool that restricts managerial misconduct prior to SEOs. Managers in firms that safeguard investors' rights behave in the best interests of shareholders and take on projects that maximize their wealth.

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