Corporate Governance and the Long-Run Performance of Firms Issuing Seasoned Equity: An Australian Study

ABSTRACT

Corporate governance has been propelled to the forefront of contemporary business thinking by a string of high profile corporate collapses and dramatic regulatory responses in the United States, Australia and in other countries as well. A particularly extensive body of research has emerged surrounding the relationship between corporate governance and firm performance. We combine the governance literature with evidence on the long-term underperformance of firms issuing seasoned equity to examine the benefits of corporate governance in a setting where it is more likely to matter. That is, we address the question, "Does good corporate governance mitigate post-issue underperformance?" For a broad sample of Australian seasoned equity offerings and employing a comprehensive, self-constructed governance database, we first demonstrate that issuing firms substantially underperform a variety of benchmarks over the long term, confirming similar findings in the existing literature. We then find evidence that better-governed firms do not experience the same degree of post-issue underperformance. Our findings, which are robust to a variety of estimation methods and econometric specifications, are consistent with the windows of opportunity hypothesis and with equity raisings being an important channel through which better corporate governance can improve future performance.

JEL Classification: G14, G30, G32, G34

Keywords: Corporate governance, seasoned equity issue, long-run underperformance

1 INTRODUCTION

In the words of Borsch-Supan and Koke (2002) "the economic analysis of corporate governance is in vogue." Two years earlier that was not the case, but today this statement rings truer than ever. In 2001, a spate of high profile corporate collapses in the United States climaxed with the spectacular failure of Enron, an event which many would come to attribute directly to failed corporate governance practices. The resulting fallout engendered a comprehensive re-evaluation of the role and implementation of corporate governance mechanisms in the U.S. market, culminating in an unprecedented regulatory response in the form of the Sarbanes-Oxley Act in 2002. The accompanying proliferation in the corporate governance literature sought to address a number of issues, none more so than the relationship between governance and firm performance.

The collapses of OneTel and HIH in 2001 served to highlight comparable weaknesses in the governance structures of Australian firms, and in March 2003 the Australian Securities Exchange (ASX) released a document entitled "Principles of Good Corporate Governance and Best Practice Recommendations." These principles provide a set of guidelines for sound corporate governance practices in ASX-listed firms and are enforced, as in other countries, on a "comply or explain" basis. According to the ASX, "good corporate governance structures encourage companies to create value through entrepreneurism, innovation, development and exploration" (ASX (2003), p3) and, since its introduction, Australian firms have made substantial progress towards ensuring they have better governance mechanisms in place.[1] If the ASX is correct, it is reasonable to expect better corporate governance is associated with better performance. Despite the abundance of literature investigating such a relationship in the U.S. (see, for example, Gompers, Ishii and Metrick (2003); Brown and Caylor (2006)), restrictions on the availability of comprehensive and reliable data concerning the corporate governance attributes of Australian firms have prevented a detailed analysis of this association in Australia. An exception is Henry (2008), who suggests compliance with the ASX guidelines does enhance firm value.

We fill this gap in by combining the governance literature with the extensive body of research documenting the long-term underperformance of firms conducting seasoned equity offerings in the U.S. (see Bayless and Jay (2008) amongst others) and Australia (Brown, Gallery and Goei (2006)). We then explore the empirical relationship between corporate governance and the long-term performance of seasoned issuers, to determine whether good quality corporate governance might mitigate the underperformance that typically follows a seasoned equity offering (SEO). In other words, we investigate the benefits of better corporate governance in a setting where underperformance can be substantial, so that any connection between corporate governance and performance is more likely to be found.

Our line of reasoning is as follows. The most widely advocated explanation for the long-term underperformance of seasoned issuers contends that managers, acting in the interests of existing shareholders, attempt to time the equity market by issuing stock in transitory periods of overvaluation (see, for example, Loughran and Ritter (1995)), thereby taking advantage of information asymmetry. Underperformance then

[1] See Section 4.1 and Figure 1 (below) for supporting evidence.

ensues as the market re-prices the firm's stock to better reflect the fundamental value of the company. Beekes and Brown (2006) find that better corporate governance leads to more informative disclosures to the market and thus decreases the level of informational asymmetry between managers and investors. It follows that, by reducing the incidence of windows of opportunity whereby overvalued stock can be sold, good quality corporate governance may serve to moderate underperformance following an SEO.

Our analysis is conducted in two stages. First, using a sample of 11,055 private placements, 1,828 rights issues and 511 share purchase plans conducted by Australian firms between 1992 and 2006, we establish that companies raising seasoned equity do indeed underperform over the long term. We employ a long-run event study, using buy-and-hold abnormal returns and calendar-time techniques, to calculate and evaluate abnormal returns against a variety of benchmarks over a three year post-event window. We observe a strong, statistically significant level of underperformance under the majority of the specifications considered, in line with existing literature. The underperformance is greatest for firms conducting private placements, consistent with the market timing, or windows of opportunity, explanation for post-issue underperformance.

In the second stage we use a series of cross-sectional regression models to investigate the relationship between post-issue abnormal returns and firms' corporate governance characteristics, controlling for other company and issue-specific factors as appropriate. We find a significant positive relationship between the quality of SEO firms' corporate governance structures and their post-issue abnormal returns, under a number of specifications. As in the first stage, this effect is demonstrably the strongest for our sample of private placements, with results for firms conducting rights issues and share purchase plans appearing considerably weaker. We find this result to be robust to various estimation methods, alternative model specifications and additional controls.

Our study makes five significant contributions. First, we provide the most comprehensive and in-depth analysis of the relationship between corporate governance and firm performance in the Australian market to date. We differentiate our study from prior Australian literature by developing and employing an extensive, detailed and versatile database of corporate governance attributes of Australian firms. Accordingly, our second contribution extends beyond the confines of this study and has the potential to facilitate other advances in the Australian governance literature in coming years. Third, in the first stage of our analysis we provide a thorough investigation of the long-run performance of firms issuing seasoned equity in the Australian market. Fourth, our study constitutes the first effort to consider the impact of corporate governance practices in the context of post-issue performance. Fifth, since equity raisings are not uncommon events, we identify a plausible channel through which better corporate governance can enhance future performance.

The remainder of the paper is organised as follows. Section 2 reviews the existing literature and develops the two hypotheses. Section 3 outlines the first stage of analysis, which determines whether seasoned issuers underperform a series of return benchmarks over the long run. Section 4 contains a cross-sectional analysis of the relationship between corporate governance and post-issue abnormal returns, and Section 5 contains the principal conclusions.

2 PREVIOUS LITERATURE AND HYPOTHESES

Our research question combines two major streams of the finance literature. The first concerns the evaluation of the long-run performance of firms issuing seasoned equity, wherein several influential studies have revealed systemic market underperformance of issuers over a three to five year post-issue window. The second comprises a substantial body of literature considering the relationship between corporate governance and performance.

2.1 The Long-Term Performance of Seasoned Equity Offerings

The U.S. literature concerning the long-run performance of issuing firms can be traced back to Friend and Longstreet (1967) and to Stigler (1964), who notes that over his sample period, "it was an unwise man who bought new issues of common stock." (p725) Thirty years later Loughran and Ritter (1995) examine in detail the long-run impact of both initial and seasoned offerings, and find both are poor investments over a five year post-issue period. A similar approach is taken by Spiess and Affleck-Graves (1995), who observe much the same pattern, demonstrating that companies that issued seasoned equity subsequently underperformed a sample of size and industry matched firms that did not.

The most commonly advocated explanation for this phenomenon is due to Ritter (1991), who argues that management, acting in the interests of existing owners as in Myers and Majluf (1984), take advantage of windows of opportunity to issue equity when investors are overly optimistic about the value of their stock. Underperformance then follows as the market revises its expectations of future earnings and the firm's stock is downgraded. Further support for this view is provided by Bayless and Chaplinsky (1996), who find that windows of opportunity for equity issuance result, at least partially, from asymmetric information. Similar conclusions are drawn by Jindra (2000) and Baker and Wurgler (2002); and, in a survey of U.S. corporate finance practitioners, Graham and Harvey (2001) reveal that up to two thirds of CFOs admit to timing the market when issuing equity.

Despite a comprehensive body of literature documenting the long-term underperformance of issuing firms, several papers have emerged disputing the existence of such an anomaly. Fama (1998) contends that a series of econometric flaws relating to risk factors, factor models and sample portfolios characterise approaches used in earlier studies. Eckbo, Masulis and Norli (2000) find that issuer underperformance reflects lower systematic risk exposure for issuing firms relative to their matches, concluding that the underperformance effect is driven by exposure to leverage and liquidity factors commonly associated with issuance. Mitchell and Stafford (2000) demonstrate that the use of the calendar-time methodology as advocated by Fama (1998) causes the SEO anomaly to disappear, contending that the misspecification of the buy-and-hold approach used in prior studies is the major cause of the identification of anomalous underperformance.

Several of these matters are addressed by Bayless and Jay (2003), who use a broad sample of issues made between 1971 and 1995 to examine the long-run performance of SEO firms. They conclude that issuers consistently enjoy superior performance except during the five years immediately following the issues. In contrast to the earlier findings of Mitchell and Stafford (2000), these results are found to be robust when models are estimated using a calendar-time approach and the event firms are split into four portfolios based on the time to or from issuance, rather than being grouped into a single portfolio. Eberhart and Siddique (2002) demonstrate the existence of a delayed wealth transfer effect from stockholders to bondholders, consistent with the market timing hypothesis. Finally, Bayless and Jay (2008) employ a multiperiod calendar-time approach, finding that SEO firms exhibit significantly lower systematic risk and risk adjusted returns over a six year post-issue period compared with non-issue periods. Thus, despite some dissenting views, the general consensus is that an underperformance anomaly does exist in U.S. equity markets.

The same anomaly has been found in Australia. Soucik and Allen (1999) study the long-run performance of 137 SEOs made by Australian firms between 1984 and 1993 and report abnormal losses in each of the first five post-issue years. Brown, Gallery and Goei (2006) examine long-run post-SEO performance for a much larger sample of 3,650 rights issues and private placements in Australia. They find that issuing firms underperform common share market benchmarks for up to five years after the announcement, with private placements leading to more severe underperformance than rights issues. They also confirm the existence of a relationship between underperformance and market misvaluation, supporting the notion that managers of Australian companies attempt to time the market with respect to an SEO. In a detailed study of share purchase plans, Brown, Ferguson and Stone (2008) document long-term underperformance of the firms that implemented them.

That the SEO underperformance effect is evident in Australia is unsurprising, considering the observation by Loughran and Ritter (1995) that post-issue underperformance is more pronounced for small firms. Since the Australian market is characterised by an abundance of relatively small firms (Brown, Gallery and Goei (2006)), it seems reasonable to expect a considerable level of underperformance among Australian issuers. This pattern is consistent with windows of opportunity being the key driver of long-term underperformance, as small firms are generally subject to a greater degree of informational asymmetry (Hasbrouck (1991)).

Based on the strength of the U.S. literature and some prior Australian studies, we propose the following hypothesis:

HI: *Firms issuing seasoned equity through private placements, rights issues and share purchase plans will underperform matched firm, matched portfolio and market benchmarks over a three year post-issue window.*

2.2 Corporate Governance and Firm Performance

Corporate governance is defined by the ASX as "the framework of rules, relationships, systems and processes within and by which authority is exercised and controlled in corporations" (ASX (2003), p3). In recent years, an extensive body of empirical research has sought to determine the extent to which governance practices affect the ability of companies to create value and maximise shareholder wealth.

Early research, based predominantly on U.S. markets, focused largely on the relationship between individual elements of firms' corporate governance and their market performance. Evidence surrounding the impact of board composition is mixed and inconclusive (see, for example, Bhagat and Black (1999)), while Yermack (1996) reveals an inverse relationship between board size and corporate value. Other aspects of internal governance considered include the frequency of board meetings (Vafeas (1999)), insider equity ownership (McConnell and Servaes (1990)), blockholder ownership (Bethel, Liebeskind and Opler (1998)) and CEO duality (Brickley, Coles and Jarrell (1997)).[2] A series of studies considers the influence of various individual external governance mechanisms (relating to the market for corporate control) on firm value, commonly by examining market reactions surrounding the announcement of their introduction. These studies find conflicting results in seeking to quantify the impact of a range of anti-takeover provisions (see, for example, DeAngelo and Rice (1983); Linn and McConnell (1983)). As noted below, however, the relevance of such external governance mechanisms in a study of the Australian market is limited.

Following a string of corporate collapses and the 2002 introduction of the Sarbanes-Oxley Act in the U.S., debate has intensified regarding the effectiveness and suitability of standardised corporate governance practices. This has seen the literature concerning the relationship between governance and firm performance propelled to the forefront of contemporary financial thinking, and a body of research on this issue has subsequently been published worldwide. Many of these more recent papers can be differentiated from the earlier literature by their use of composite corporate governance scoring systems to quantify and evaluate the overall governance quality of individual firms, taking into account a range of both internal and external governance factors.

Gompers, Ishii and Metrick (2003) (GIM), in perhaps the most influential of these studies, use a performance-attribution regression approach to demonstrate that firms' equity market performance is significantly and negatively related to an index constructed from 24 external governance policies, primarily anti-takeover provisions (ATPs), which are thought to reduce shareholder rights. GIM conclude by suggesting that weak shareholder rights caused additional agency costs in the 1990s which were initially underestimated, before the importance of governance was recognised and priced by the market. Similar findings emerge in a study by Bebchuk, Cohen and Ferrell (2004).

[2] We follow Cremers and Nair (2005) in defining internal governance as being primarily comprised of blockholders and the board of directors, while external governance relates to the market for corporate control.

To investigate the relative impact of internal and external governance measures, Cremers and Nair (2005) introduce blockholder and pension fund ownership as proxies for internal governance quality into their model alongside GIM's index of external measures. They conclude that internal and external mechanisms are complementary in their association with long-run firm performance. Brown and Caylor (2006) create their own corporate governance index built around 51 firm-specific internal and external governance mechanisms. They show their index, which considers factors such as audit, board/director characteristics, compensation and ownership, can provide more explanatory power for firm value than indices confined to external measures. Larcker, Richardson and Tuna (2007) use principal component analysis to draw 14 governance constructs from a set of 39 structural governance measures relating primarily to board characteristics, stock ownership, institutional ownership, activist stock ownership, debt-holders, executive compensation and ATPs. They find that these constructs have some ability to explain future operating performance and excess stock returns. Thus, there is considerable evidence that internal governance characteristics, as well as external factors, have a significant impact on firm performance in the U.S. market.

Despite a body of literature finding a positive and significant association between governance and performance, several recent papers have questioned the nature of the relationship implied by the above studies. Lehn, Patro and Zhao (2006), Core, Guay and Rusticus (2006) and Chidambaran, Palia and Zheng (2008) suggest that GIM's results can be explained better by managers of low value companies subsequently adopting provisions which reduce shareholder rights in order to entrench themselves, or by the omission of other variables which affect both firm value and corporate governance. Other studies support the view that a firm's governance structure is endogenously determined, whereby factors such as managerial ownership (Himmelberg, Hubbard and Palia (1999)), board characteristics (Hermalin and Weisbach (2003)) and ownership concentration (Bushman, Chen, Engel and Smith (2004)) are products of the firm's organisational and economic environments.

Although a well established body of empirical governance literature has emerged in the U.S., few studies examine the relationship between corporate governance and firm performance in the Australian market. Nevertheless, Australia has seen a comparable community focus on governance emerge in recent years in the wake of the collapses of HIH and OneTel and the introduction of the ASX guidelines. As with the U.S. literature, earlier Australian studies focused mainly on relationships between performance and individual components of corporate governance, and only more recently has the impact of governance been considered on a more comprehensive basis.

Earlier Australian studies reveal evidence of a positive relationship between corporate performance and elements of governance such as board size and independence (Kiel and Nicholson (2003)) and the existence of board committees (Calleja (1999)), although Craswell, Taylor and Saywell (1997) do not find any relationship between the performance of Australian firms and either insider or institutional ownership. In one of the few studies to employ a composite corporate governance scoring system, Linden and Matolcsy (2004) conduct a broader analysis of governance measures using the Horwath-University of Newcastle Corporate Governance

Report (hereafter, the Horwath Report). They conclude there is no reliable evidence that corporate governance is related to operating or financial performance in the Australian market. In another study utilising the same governance dataset, Cui, Evans and Wright (2007) find a positive relation between corporate governance quality and valuation for 100 of the largest ASX-listed firms in 2004, but not in 2001. Their findings suggest that firms adopting the ASX guidelines from 2003 sent a positive signal to the market regarding the quality of their management. Using a self-constructed index comprised of eight internal governance characteristics, Henry (2008) observes a positive, long-term relationship between the implementation of internal governance reform and Tobin's Q for a sample of 116 large firms between 1992 and 2002, implying that compliance with the ASX recommendations could have a real valuation impact for Australian firms.

Two main restrictions have prevented the Australian governance literature from evolving, as in the U.S., towards the wider application of composite scoring systems in evaluating the broader influence of corporate governance. First, and most importantly, the lack of comprehensive and reliable data describing corporate governance attributes of Australian companies prevents the construction and utilisation of the kind of composite corporate governance scoring system that has enabled the U.S. literature to thrive. In addition, while the majority of scoring systems used in U.S. studies have focused on measures of external governance, statutory limitations on ATPs and the relatively subdued nature of the Australian market for corporate control renders these external measures less relevant in the context of the governance structures of Australian firms. As noted by Pham, Suchard and Zein (2008), this may raise issues regarding the comparability of the Australian and U.S. governance literatures. Thus, Australian studies, including ours, are largely based around on role and influence of internal governance characteristics.

2.3 Corporate Governance and SEOs

Beekes and Brown (2006) use a series of indicators relating to how the market responds to information flows from Australian companies to show that higher quality corporate governance is associated with more informative disclosure, thereby reducing informational asymmetry between managers and investors.

It is not unreasonable, therefore, to expect that, by increasing the informational efficiency of the market, corporate governance could go some way towards reducing the incidence of windows of opportunity, whereby information asymmetry leads to periods of market misvaluation and enables managers to time the market with regard to issuing seasoned equity. Thus, high quality corporate governance could mitigate the long-term underperformance observed following an SEO. Since SEOs are not uncommon events, it is possible that this phenomenon explains at least part of a broader relationship between corporate governance and firm performance.

Based on the empirical evidence and theoretical considerations outlined above, we propose:

HII: *A statistically and economically significant negative relationship will be observed between a firm's corporate governance quality and the extent to which its stock underperforms following the issue of seasoned equity.*

3 STAGE I: EVENT STUDY

In addressing Hypothesis I, the first stage of our analysis seeks to establish whether, in Australia, seasoned issuers substantially underperform a variety of return benchmarks over the long run. We begin by describing the SEO database utilised in our analysis, before using both buy-and-hold and calendar-time methods in constructing a long-term event study.

3.1 SEO Database

We assemble a comprehensive database of private placements, rights issues and share purchase plans (SPPs) made by Australian firms between January 1992 and December 2006. In a private placement, ordinary shares are issued by the company to a small number of selected (usually institutional) investors at an agreed price; in a rights issue, all existing shareholders can subscribe for additional shares, in proportion to their holdings, at a price fixed by the company; and in an SPP, all existing shareholders are entitled to subscribe for additional shares in the company up to some fixed amount of cash (currently $5,000),[3] regardless of the number of shares they hold. Private placements are the predominant method of raising seasoned equity in the Australian market followed by rights issues and then SPPs, which have emerged more recently as an alternative to rights issues. We treat the three issue types as separate samples of SEOs.

Data for the private placements and rights issues samples were sourced initially from the ASX's Capital Raisings database, providing data on 58,518 SEOs between 1992 and 2005. This dataset was cross-checked, where possible, using AspectHuntley's Capital History database and SDC Platinum. More recent data (to December 2006) were added from SDC Platinum, after confirmation against Appendix 3B announcements lodged with the ASX.[4] After filtering out the many issues relating to dividend reinvestment plans, bonus plans, conversions, acquisitions, employee grants, options and other non-cash related share issues, the samples comprise 11,055 private placements (made by 1,671 firms) and 1,828 rights issues (made by 919 firms). The SPP data were collected by Brown, Ferguson and Stone (2008) and relate to 511 SPPs instigated by 351 firms.

<Table 1>

Table 1 contains summary statistics for the sample of SEOs. Issuers are predominantly smaller firms, with a mean (median) market capitalisation of $254m ($12.7m) across the entire database, although companies conducting share purchase plans are considerably larger. Companies involved in private placements tend to be younger than those raising equity through rights issues and SPPs and have a higher level of systematic risk than rights issuers, while SPP firms are less volatile. Firms conducting private placements have less gearing (financial leverage) than rights issuers, which is to be expected given the large proportion of resource companies in the sample (54%). Financial companies, typically more reliant on debt funding, make up a small proportion of issuers. Firms making private placements and rights issues are more likely than those conducting SPPs to have issued other equity within the previous year. In both absolute and relative (compared to firm

[3] All amounts are in AUD.
[4] An Appendix 3B form must be lodged with the ASX to apply for the quotation of additional securities when the new issue is announced.

size) terms, rights issues are on average the largest, and although more money is typically raised through SPPs than private placements, SPPs are relatively smaller. Finally, while all issues are typically offered at a discount, the discounts offered to participants in rights issues are the largest, with a mean (median) of 15% (13%).

3.2 Long-Run Event Study

3.2.1 Buy-and-Hold Returns

Three different types of benchmark are used to calculate SEO firms' buy-and-hold abnormal returns (BHARs).

The first type consists of industry and size matched control firms. Each event firm is classified according to its industry grouping on the event date, based on ASX industry groups for SEOs prior to 2003 and (3-digit) GICS industry groups from January 2003 onwards.[5] The firm within that industry and with market capitalisation closest to that of the event firm at the end of the month prior to the event is chosen as the matched control firm. Where an event firm or a control firm ceases to be listed on the ASX, the pair is dropped from the sample from that date onwards.

Given the small size of the Australian share market and the inherent difficulty in finding suitably matched firms, a portfolio benchmark based on the firm's industry is also created. Under this second specification, each issuer is matched to a control portfolio consisting of all firms in the same industry group on the event date. Following Kothari and Warner (1997), returns on each firm in the control portfolio are first compounded over the entire event period and an equal-weighted average is then calculated for the portfolio. This method produces estimates that are less noisy than matched firm BHARs due to the fact that idiosyncratic returns are averaged over all stocks in the portfolio. However, averaging may still result in falsely finding abnormal returns where idiosyncratic price changes within an industry are large. This technique is also contaminated by including the event firm in the benchmark portfolio.

Third, as in Brown, Gallery and Goei (2006), we utilise equal- and value-weighted market index benchmarks which are constructed from the monthly price relatives of all ASX-listed companies recorded in the SPPR database. Given the considerable number of small firms in our samples, the equal-weighted index is more representative and therefore a more appropriate benchmark than the value-weighted index. Thus, while abnormal returns against a value-weighted index are calculated for use later in our study, results from this specification are not reported in detail. Market indexes are, to a lesser degree, subject to the same advantages and disadvantages as industry based portfolios but more importantly, they are subject to rebalancing bias because of the way the indexes are constructed.

[5] The ASX system was discontinued in 2003. Although there are differences between these two industry classification systems, they should not impact materially on their use for the purposes of firm and portfolio matching as applied in this study.

Monthly returns data, for event firms as well as the benchmarks, are sourced from the Centre for Research in Finance's Share Price and Price Relative (SPPR) database, which provides monthly price relatives for all ASX-listed companies since 1973.

Due to the relatively low power associated with event studies considering timeframes beyond three years, especially where small firms are involved (Ang and Zhang (2004)), we restrict the analysis to post-event windows of up to three years. In order to exclude announcement effects, each event window begins with (the return in) month +2. Thus, we consider event windows of one year [+2,+13], two years [+2,+25] and three years [+2,+37]. Prior to the calculation of test statistics, the impact of extreme values is mitigated by winsorising observations at the 2nd and 98th percentiles, as in Cowan and Sergeant (2001). Table 2 presents results from an analysis of mean and median BHARs for each sample, evaluated against the three alternative benchmarks over one, two and three year event windows. In line with Hypothesis I, the BHARs clearly indicate a systemic long-term underperformance anomaly for firms issuing seasoned equity in the Australian market.

<Table 2>

For the sample of private placements, a statistically significant (at 1%) level of underperformance is documented for issuing firms against each benchmark specification across one, two and three year event windows, with a magnitude in line with prior studies using similar methods (Loughran and Ritter (1995); Brown, Gallery and Goei (2006)). Under each specification, the level of underperformance becomes greater as the timeframe under examination is increased. Issuing firms are shown to underperform by a mean (median) of -8.9 to -17.7% (-6.1 to -30.8%) when evaluated against various benchmarks over a one year window, increasing to -30.4 to -50.4% (-13.5 to -88.4%) over three years. Underperformance is most severe when evaluated against the equal-weighted index, followed by the matched portfolio benchmark. As one would expect, the skewed distribution of the BHARs results in a larger level of underperformance documented using sign tests rather than *t*-tests in the majority of cases.

Similar results emerge for rights issues, although the magnitude of underperformance is less severe than for private placements under all specifications. When evaluated against a matched firm benchmark, rights issuers do not exhibit a statistically significant level of underperformance until the third year after the issue, with a sign test revealing that issuers may even outperform in the first year. Over a three year window, issuers underperform their matched firm counterparts by a mean (median) of -14.4% (-5.1%). Against matched portfolio and index benchmarks, a more marked level of underperformance is revealed, with mean (median) underperformance of -4.5 to -7.6% (-16.2 to -19.4%) over one year and -36.2 to -42.9% (-48.7 to -75.1%) over three years, depending on the benchmark in question.

Despite their values becoming increasingly negative as the event window lengthens, mean and median BHARs based on a matched firm benchmark do not reveal a statistically significant level of underperformance for SPP firms. Against portfolio and index benchmarks, however, SPPs underperform by a statistically significant mean (median) level of -7.2 to -13.2% (-19.8 to -22.1%) over one year, and -41.9 to -68.8% (-75.3

to -79.8%) over three years. The magnitude of underperformance for these latter specifications is similar to that documented by Brown, Ferguson and Stone (2008), and implies that SPP firms underperform by less than firms conducting private placements, but by more than firms conducting rights issues.[6]

As a further robustness check, we re-evaluate mean and median BHARs for samples consisting of offerings with above and below median values for each of the firm and issue-specific factors outlined in Table 1.[7] We find a statistically and economically significant level of underperformance under most buy-and-hold specifications for samples of issues/issuers comprising above and below median market capitalisation, firm age, beta, volatility, net gearing, relative issue size, discount and issue proceeds, for firms classified in both resource and non-resource sectors, and for frequent and infrequent issuers. The level of underperformance observed in each case is similar to that presented in Table 2. We also partition each sample into two equal groups according to the date of issue, and observe a similar pattern in the BHARs for each of these sets. However, for firms classified as banks, we observe insignificant abnormal returns in the majority of cases. We also calculate value-weighted BHARs for each of our samples based on firms' market capitalisation, as in Brav, Geczy and Gompers (2000).[8] For the private placements and rights issues samples, such an approach yields a similar pattern to that observed using an equal-weighting process, although the magnitude of underperformance is considerably reduced. For SPPs, the underperformance effect disappears under this specification, although it should be noted that ten issues conducted by just three companies explain over 50% of this result.

3.2.2 Calendar-Time Returns

The calendar-time technique is advocated by Fama (1998) as a method of eliminating the cross-correlation problem and mitigating the bad model problem inherent in the BHAR process. Equal-weighted monthly returns are calculated based on portfolios containing, in any one month, all firms that have issued seasoned equity within one, two and three year windows prior to that month.[9] Using weighted least squares (WLS), the resulting time series of returns is then tested against the Fama and French (1993) (FF) three-factor (Equation 1) and Carhart (1997) four-factor (Equation 2) asset pricing models, in order to determine whether abnormal returns have been earned by the calendar-time portfolio:[10]

$$R_{pt} - R_{ft} = \alpha + b\left(R_{mt} - R_{ft}\right) + sSMB_t + hHML_t + \varepsilon_t \quad (1)$$

$$R_{pt} - R_{ft} = \alpha + b\left(R_{mt} - R_{ft}\right) + sSMB_t + hHML_t + mMOM_t + \varepsilon_t \quad (2)$$

[6] The slight discrepancy between our results and those of Brown, Ferguson and Stone (2008) is most likely due to the considerable amount of returns data that has become available since their analysis was conducted, allowing us to include a larger number of SPPs in our calculation of BHARs.
[7] Full results from this analysis are available from the corresponding author. A more complete analysis of the determinants of post-SEO BHARs is reported in Section 4.
[8] Results are available from the corresponding author on request.
[9] Firms conducting multiple issues within the event window may be included more than once.
[10] Mitchell and Stafford (2000) advocate WLS to mitigate the effect of heteroskedasticity, and involves weighting each observation by the number of firms in the event portfolio for that month.

where R_{pt} is the return to the event portfolio in month t, R_{ft} is the one-month risk-free rate observed at the beginning of the month, SMB_t and HML_t are the monthly returns on zero investment portfolios for the size and book-to-market factors respectively, and MOM_t represents the momentum factor. Under the assumption that the asset pricing model fully describes expected stock returns, the intercept term, α, is the average monthly abnormal return to event firms and is predicted to be zero under the null hypothesis of no abnormal performance. In constructing the factor portfolios for the Australian market, the procedures outlined in FF and Carhart (1997) are followed except (1) the book value of equity is not adjusted for tax-effect accounting, (2) portfolios are formed in June rather than December, and (3) future price relatives are tracked beginning four (rather than seven) months from the formation date.[11] Market data are sourced from the SPPR database and accounting data from AspectHuntley.

<Table 3>

Results from the analysis of calendar-time returns are presented in Table 3, where underperformance is evaluated using a one tailed *t*-test of the alternative hypothesis that the average monthly abnormal return to the event portfolio, given by α, is negative. Confirming the results of the earlier analysis using BHARs, the private placements sample, when considered against the three-factor model, earns a negative and significant alpha of 69, 70 and 59 basis points over one, two and three year windows. This corresponds to underperformance of 8.63%, 18.49% and 23.69% over one, two, and three year windows respectively. When the momentum term is added to the asset pricing model, the level of underperformance becomes even more pronounced, rising to 31.17% over three years. Although underperformance pervades the entire post-event window, the average monthly abnormal return is shown to contract slightly in the three year sample, suggesting that the underperformance of issuing firms is not as severe in the third year.

For the rights issues sample, small positive alphas are estimated for the one year portfolios, becoming increasingly negative thereafter, and corresponding to -3.40% and -6.66% underperformance over the three year window when evaluated against the three-factor and four-factor models respectively. However, these alpha coefficients are not statistically significant at the 5% level. Similarly, negative but insignificant alphas are recorded for each window when the sample of SPP firms is considered against both asset pricing models. The magnitude of the alphas is shown, as in the placements sample, to be decreasing with the length of the calendar-time window.

To ensure the findings are robust, models are estimated using OLS rather than WLS and a value-weighted market index. They yield substantively the same results as those in Table 3.[12]

3.2.3 Discussion

As predicted by Hypothesis I, there is considerable evidence that firms issuing seasoned equity underperform a variety of benchmarks over the subsequent three year period. This result is in line with the weight of U.S.

[11] The majority of Australian listed companies end their financial year on 30 June.
[12] Results are available from the corresponding author.

and other Australian evidence and is relatively robust to a variety of benchmarks and methodological approaches.

While this finding is supported by results emerging from a number of variations in the buy-and-hold technique, it is not confirmed by the calendar-time approach in the cases of rights issues and SPPs. The calendar-time analysis, if anything, suggests issuing firms underperform rather than outperform the market, but the estimates are not uniformly statistically reliable. In supporting these conclusions, we note that simulation studies have found the buy-and-hold technique has more desirable statistical properties (Lyon, Barber and Tsai (1999)), due primarily to the low power associated with the calendar-time approach (Ang and Zhang (2004)). As argued by Loughran and Ritter (2000) in relation to SEO underperformance, "the usual implementation of the three-factor model is biased towards finding zero abnormal returns." (p387) Fama (1998) acknowledges that heteroskedasticity caused by the tendency of events to cluster in calendar time may lead to the understatement of any anomaly under investigation.

If issuing firms take advantage of information asymmetry to exploit windows of opportunity and issue overvalued equity, one might expect the level of underperformance associated with rights issues (offered to all shareholders) to be greater than that surrounding private placements, which tend to be offered to more experienced institutional investors. However, firms conducting placements exhibit larger negative abnormal returns than those making rights issues. This result is consistent with Brown, Gallery and Goei (2006), who suggest that according to a self-selection rationale, differences in the nature of the issuers that select the different SEO types have an overriding impact on long-run returns, whereby the size and profitability of firms using rights issues outweighs the effect of informational discrepancies between investor types.

An alternative explanation is that since rights issues typically take longer to arrange than other types of issue and involve a delay of up to two months between announcement and receipt of funds, rights issues are less attractive to the issuer who wishes to take advantage of a transitory overvaluation. SPPs also take time to complete (Brown, Ferguson and Stone (2008)). Private placements, on the other hand, can be arranged and finalised in a matter of days, providing a more appropriate tool for opportunistic managers to take advantage of periodic market misvaluation and raise equity funding at attractive rates. Therefore, our findings are consistent with the widely advocated market timing hypothesis for SEO underperformance.

4 STAGE II: CROSS-SECTIONAL ANALYSIS

In the second part we examine Hypothesis II and ask whether, by reducing the level of information asymmetry between managers and investors, higher quality corporate governance could help reduce the ability of managers to time the equity market, thereby mitigating the share price underperformance that typically follows an SEO. We begin by describing the data, and then fit cross-sectional regression models to evaluate the relationship between post-issue performance and corporate governance quality. Each model relates a measure of long-run post-issue performance to an indicator of corporate governance quality and controls for other firm-specific and issue-specific factors, as appropriate.

4.1 Corporate Governance Data

Until now, the most extensive, readily available Australian dataset has been the Horwath Report, published annually since 2002.[13] Unfortunately, the Horwath dataset imposes considerable restrictions on a study of this nature. Consequently, we extend and then employ a unique and more transparent corporate governance database that includes a much larger set of firms over a narrower time frame and a smaller set of firms over a wider timeframe than the Horwath Report. This process yields two additional datasets, which are employed alongside the Horwath Report as measures of governance quality.

4.1.1 The Horwath Report

The Horwath Report provides, for each year, an independent assessment of the corporate governance structures of Australia's largest 250 listed companies by market capitalisation. Each report assigns an overall score (ranking out of 250) and a "star" rating (out of five) to firms based on their disclosures in the previous financial year.[14] First published in 2002, the Horwath Report provides annual data from 2001 to 2007 inclusive. Although the way in which the Horwath score is determined is not disclosed, the principal areas considered are reported to be the board of directors and its committees, auditor independence and policy disclosures of the firm under evaluation. Later reports note that a high ranking typically means the company has complied with most of the ASX guidelines.

The scope and nature of the Horwath dataset restrict its utility. By selecting the largest 250 companies for each year under examination, the Horwath Report avoids any explicit survival bias. But the range of firms covered is relatively small (11% of ASX-listed firms in 2007), and each report is susceptible to a considerable degree of size bias. The well documented direct relationship between firm size and the quality of corporate governance may greatly reduce the within-sample variability in governance characteristics that would be evident in a broader sample. Furthermore, the effects of this restriction are magnified in a study focused on SEOs, which are instigated most commonly by smaller firms. Another limitation imposed by the Horwath Report stems from the lack of data for financial years before 2001, an important factor considering our SEO database begins almost ten years earlier. Finally, the scores and rankings provided in these reports emerge effectively from a "black box" process, limiting our ability to break down and further investigate the drivers of any observed relationship between governance and performance.

In untabulated results we calculate statistics for the Horwath Report's star ratings. They reveal that the quality of the corporate governance structures of the largest 250 Australian companies has increased markedly since 2001 and especially over the period surrounding the introduction of the ASX corporate governance guidelines in 2003. The mean rating rises from 3.16 'stars' in 2001 to 3.72 in 2006, before falling back slightly to 3.66 in 2007. Over this period there is a corresponding decrease in the standard deviation of scores as firms became increasingly homogenous in their governance practices, most likely as a result of the adoption of the ASX guidelines. In 2007, standard deviation increased and there was a slight reduction in the average star rating,

[13] We are indebted to Jim Psaros, of The University of Newcastle, for providing the Horwath Report data.
[14] A higher star rating implies better corporate governance.

perhaps as firms began to question the suitability of the prescriptive, one-size-fits-all guidelines to their respective business structures. The 2008 report points out that a number of industry sectors stagnated or moved backwards with regard to the quality of their governance structures in the 2007 financial year.

The company's overall ranking is used for the Horwath data rather than its star rating, as the latter measure is just a coarser measure of the former. Within-year rankings are used rather than raw governance scores, to mirror the fact that BHARs inherently reflect relative performance rather than absolute returns. Furthermore, failure to use within year rankings may lead to any changes in the nature and magnitude of long-term post-issue performance that have occurred over time to be spuriously attributed to the governance measure, given that most firms have seen considerable improvement in their governance structures over the past 15 years. We re-rank and reverse each year's rankings, so that tied observations each receive an average rank over all such observations and a higher ranking represents better corporate governance.[15] Within each year, rankings are then standardised by subtracting the mean ranking from each observation and dividing by the standard deviation for that year.

4.1.2 The UNSW/UWA Corporate Governance Database

In order to circumvent the restrictions imposed by the lack of comprehensive governance data for Australian firms, we construct, in conjunction with a team of associates at The University of New South Wales and The University of Western Australia, our own corporate governance database. Based on the ASX Corporate Governance Principles and Recommendations, 29 scoring criteria are the foundation of a composite scoring system.[16] All data are hand-collected from the corporate governance statements, directors' profiles, directors' reports and notes to the financial statements found in 4,439 company annual reports lodged with the ASX between 1995 and 2007, yielding scores for 1,370 individual companies. From this process, we construct two individual datasets. The first, the "complete" dataset, consists of scores for 1,095 ASX-listed firms for the 2003 and 2004 financial years. The other, the "dynamic" dataset, contains a diversified sample of between 143 and 203 firms, and covers the 13 financial years from 1995 to 2007.

<Table 4>

The scoring criteria correspond to the ASX guidelines, and reflect a firm's board and committee structure, auditor independence, and aspects of policy and disclosure, as set out in Table 4. Each scoring factor is coded as a binary variable, whereby "1" signifies the firm satisfied that criterion in that year.[17] Where a firm does not satisfy the relevant criterion, or fails to disclose enough information to determine whether the factor was satisfied, a "0" is coded for that factor. To ensure consistency in data collection, a set of company-years was

[15] For example, 1, 2, 2, 4, 5 is replaced with 5, 3.5, 3.5, 2, 1.
[16] The scoring system was devised in 2006 by three students at The University of Western Australia. See Section 4.1.2 for further details.
[17] Although our system, where possible, adopts a substance over form approach, it should be noted that for certain aspects of governance it can prove difficult to differentiate between substantive adoption of ASX guidelines and a mere exercise in "ticking the boxes."

selected and all were coded by each contributor to the database, following clearly defined protocols. The codings were checked against a master list and feedback was provided to the coder. As in the majority of the existing literature using composite corporate governance scoring systems (Gompers, Ishii and Metrick (2003); Brown and Caylor (2006)), scores are formed based on an equal-weighted aggregate of the values assigned to these variables, resulting in a score for each firm-year of between 0 and 29. A correlation of over 70% is observed between our governance rankings and rankings in the Horwath Reports, suggesting the two datasets share a similar focus and construction method.

A series of subindices is also created based on the categories outlined in Table 4. Thus, in addition to the primary governance score, scores are calculated based on board characteristics (*Board*, maximum value 4), committee structure (*Committee*, maximum value 15), policy and disclosure (*Policy*, maximum value 8), and audit (*Audit*, maximum value 2). A variable proxying for blockholder ownership, *Blockholder*, is also created, calculated as the cumulative percentage shareholding of all shareholders holding greater than five percent of a company's outstanding ordinary shares.

The first of the two individual self-constructed datasets utilised in this study, the "complete" dataset (CGov), provides governance scores for 1,095 companies for the 2003 and 2004 financial years. This is equivalent to coverage of over 75% of all firms listed on the ASX over those years, and excludes only those firms for which insufficient data could be located to form a reliable score for either year. This dataset is relatively free from both size and survival biases. However, CGov covers a short timeframe. As with the Horwath data, the scores are reverse-ranked and standardised within each year before use in the regression models outlined in Section 4.3.

Untabulated results show a significant improvement in corporate governance quality for Australian firms between 2003 and 2004. Specifically, the primary governance score rises from 14.66 in 2003 to 16.39 in 2004.[18] This is not surprising considering that from March 2003 conformity with the ASX best practice recommendations was enforced on a "comply or explain" basis. Improvement is evident in each governance subindex except *Board*. This might suggest that the importance of a strong, independent board was well recognised before the guidelines were introduced. The standard deviation of the governance score increased slightly, possibly reflecting a situation where firms began to adopt the new principles at different speeds.

Pairwise correlations are calculated between the various scoring metrics constructed as at 2004, as well as a ranked and standardised *Blockholder* variable. Since 15 of the 29 factors constituting the primary governance score are based on committee structure, it is unsurprising to see a very strong correlation (92.9%) between the main score and the *Committee* subindex. Similarly, high correlations are observed between the governance score and both *Board* (56.5%) and *Policy* (53.2%) subindices. Firms with favourable board characteristics and policy/disclosure practices are likely to have good committee structures. Smaller positive correlations are observed between *Audit* and each other subindex. *Blockholder* is inversely correlated with *Board*, implying

[18] Between 2003 and 2004, the *Board* score remains unchanged at 2.16 and the *Blockholder* score remains unchanged at 0.40, while the *Committee* score rises from 6.50 to 7.19, the *Policy* score from 4.65 to 5.66 and the *Audit* score from 1.35 to 1.37.

blockholder ownership may substitute for the monitoring role traditionally provided by active, independent boards.

The second dataset we construct, the "dynamic" dataset (DGov), relates to a diversified sample ranging from 143 to 203 firms from 1995 to 2007. Beginning with the components of the All Ordinaries index as at November 2007, firms are included if they are listed continuously over that period. Although this sample selection process introduces a survival bias and an associated size bias, it does yield a dynamic sample of companies from different industries with varying characteristics and greater variation by firm size than the Horwath data. Finally, and most importantly, it offers data spanning a timeframe almost equivalent to the SEO database, enabling us to explore the relationship between governance and post-issue performance for SEOs occurring as far back as 1995. This includes a period before corporate governance achieved the level of prominence it holds today, and prior to the associated increase in homogeneity in firms' governance structures.

Between 1995 and 2004, the number of firms in the sample fluctuates slightly based on data availability, before dropping to 143 from 2005 onwards, which reflects the impact of time constraints on the data collection process.[19] Although the companies excluded from 2005 follow no systematic pattern (data were collected in alphabetical order based on company tickers) and should not therefore impose a bias once scores have been ranked and standardised within each year, SEOs for firms falling within financial years 2005-07 are excluded from our cross-sectional regression models to ensure consistency in our methodology. As with the other governance datasets, DGov scores are reverse-ranked and standardised within each year for use in cross-sectional regression models.

<Figure 1; Figure 2>

Figure 1 reveals that sample firms had, on average, governance structures that improved consistently from 1995 to 2007, as reflected in all governance subindices, while blockholder ownership decreased between 1995 and 2001 before rising markedly through to 2007. As reported earlier in our analysis of the Horwath dataset, governance improved substantially between 2003 and 2004. Figure 1 suggests that this trend may have begun in 2002, perhaps as the market reacted to the renewed push for corporate governance reform following the string of high profile corporate collapses in Australia and elsewhere, and even pre-empted the introduction of the ASX principles following the U.S. Sarbanes-Oxley legislation. Trends observed in standard deviations, depicted in Figure 2, tell a similar story, with increasing variation in corporate governance occurring between firms as some reacted to changing market conditions and the recently introduced governance requirements before others. Further convergence is observed in later years as conformity with the ASX principles led to greater homogeneity in internal governance structures.

[19] The construction of the database is ongoing.

4.1.3 Governance Scores of SEO Firms

When the governance datasets are merged with the SEO database, ranked and standardised scores for each dataset and for each subindex are matched to SEOs occurring within the corresponding financial year for that company, taking into account that a number of Australian companies do have year-end dates in months other than June. The underlying rationale is that, since data found in a firm's annual report should be based on conditions prevailing in that financial year, year-end data should reflect a firm's corporate governance structure at the time of any SEO conducted within that timeframe.

<Figure 3>

Figure 3 depicts the coverage of each of the three governance datasets. 1,713 SEOs occurring between April 2002 and December 2004 are matched to governance scores from the CGov dataset, while the DGov dataset provides us with scores for 1,314 issues taking place from July 1994 to December 2004. Data from the Horwath Report are used to describe the governance characteristics of 657 firms issuing equity between July 2000 and December 2006. Untabulated results show that SEO issuers typically have lower than average corporate governance quality as measured using each governance scoring system and each subindex therein, with mean (ranked and standardised) governance scores of -0.21, -0.27 and -0.54 according to the Horwath, CGov and DGov datasets respectively. This is unsurprising considering the fact that issuers tend to be smaller firms.

<Table 5>

Table 5 presents summary statistics for all issues and issuers matched to each governance dataset, and *t*-tests and Mann-Whitney tests to assess whether the differences in SEO and issuer characteristics across governance datasets are statistically significant. By construction, firms in the Horwath dataset are the largest, while the DGov dataset contains the oldest companies, many of which are resource firms. Although the proceeds of issues by Horwath firms are the largest, the relative sizes of the issues conducted by the predominantly smaller, less geared companies constituting the CGov database tend to be greater. Issuers from the Horwath dataset have the highest levels of systematic risk, despite having lower volatility than CGov or DGov firms, and are less likely to be repeat issuers.

4.2 Control Variables

When examining the relationship between post-issue performance and corporate governance quality, we control for factors other than governance that may also affect the long-run performance of issuing firms. They include the firm's age, size and beta. *AGE* is defined as the natural logarithm of the number of years from the firm's listing date to the SEO issue date, based on listing dates sourced from SPPR. Spiess and Affleck-Graves (1995) find that younger companies experience a more pronounced level of underperformance over the long run following an SEO. As in Gompers, Ishii and Metrick (2003), we take the natural logarithm of our firm age variable to soften the impact of extreme values. *MCAP* proxies for firm size, and is measured by the natural logarithm of the issuer's market capitalisation (sourced from SPPR) as at the end of the month prior to

announcement of the issue. Loughran and Ritter (1995) note that the underperformance anomaly is more severe for smaller firms. *BETA* is used to control for a firm's level of systematic risk, which Soucik and Allen (1999) suggest may favourably affect the long-run performance of issuers. *BETA* is calculated using a standard single index model over a 52 week period ending on the last trading day of the month prior to the announcement of the SEO, using weekly (log) holding period returns sourced from the SIRCA ASX Daily Database and daily returns on the ASX All Ordinaries Accumulation Index sourced from Datastream. *BETA* is winsorised at the 2% and 98% levels, in order to mitigate any undue influence of outliers.

We also include control variables representing the discount offered to investors and the relative size of the offering. *DISC* is defined as the SEO issue price, divided by the stock's closing price (from SPPR) at the end of the month before the announcement of the issue, minus one, and proxies the discount (or premium) offered to investors. Brown, Gallery and Goei (2006) find a significant negative relationship between the size of the discount offered and long-term post-issue performance. This empirical observation is in line with the theoretical model proposed by Heinkel and Schwartz (1986) whereby large discounts convey negative information regarding the true value of the issue.[20] *ISIZE* represents the relative size of the SEO, and is calculated as the number of shares issued divided by the number of shares outstanding at the end of the month prior to the announcement of the issue (from SPPR). Bayless and Chaplinsky (1996) suggest that an offer of larger relative size provides a stronger negative signal to the market, a notion confirmed empirically by Brown, Gallery and Goei (2006) in a long-term context. Both *DISC* and *ISIZE* are winsorised at the 2% and 98% levels.

We calculated pairwise correlations between our main governance metrics and the control variables used in our primary cross-sectional models, as well as a number of additional firm characteristics, for issuers contained in our SEO database.[21] Larger firms have higher governance scores, are less volatile and more highly levered, and are more likely to be in the banking industry while resource firms are more frequent issuers and have lower governance scores.

4.3 Cross-Sectional Model

In order to evaluate whether a relationship exists between long-term post-issue performance and corporate governance quality, a series of cross-sectional models are estimated by ordinary least squares (OLS). Various measures of post-issue performance are regressed on a number of corporate governance metrics, controlling for issue-specific and firm-specific factors as outlined above. The primary models are specified in Equation 3:

$$BHAR_i = \beta_0 + \beta_1 CG_i + \beta_2 AGE_i + \beta_3 BETA_i + \beta_4 MCAP_i + \beta_5 ISIZE_i + \beta_6 DISC_i + \varepsilon_i, \quad (3)$$

where β_0 and ε_i are the constant and error terms, $BHAR_i$ is a measure of buy-and-hold abnormal return (refer to Section 3.2.1), and *CG* is a corporate governance score. For each of our three samples (placements, rights and

[20] In the context of our study, such an argument would rely on the concept of bounded rationality or the existence of market frictions delaying arbitrage behaviour, leading to a delayed market reaction to information conveyed by the issue.
[21] Results are available from the corresponding author.

SPPs), we estimate models using three different BHAR benchmarks (matched firms, industry portfolios and market indexes) and scoring systems from three different governance databases (DGov, CGov, and Horwath). Each model is estimated over one, two and three year windows, giving a total of 81 permutations. For index based buy-and-hold benchmarks, we use abnormal returns against an equal-weighted index for regressions involving the DGov and CGov datasets and a value-weighted index benchmark when evaluating the Horwath dataset. This distinction is created in order to reflect the composition of each sample: DGov and CGov consist of a broader selection of firms and the Horwath dataset is characterised by large firms.

We originally included, as an additional firm-specific control, a dummy variable that takes the value of "1" if the issuer is classified as a resource/exploration firm as at the SEO issue date, where inclusion is defined as falling within ASX industry sub-groups one, two, three or four (prior to 2003), or GICS sector 101 or industry group 15104 (from 2003 onwards). This variable was included because Owen and Suchard (2008) found issuers within the resource industry experience greater announcement losses than industrial issuers. Coefficients on this variable in early models exhibited frequently changing signs and significance levels, implying an unstable relationship or substantial volatility in the resource sector. This would also suggest that the determinants of abnormal returns for resource firms in the post-issue period could be significantly different from those of non-resource firms, despite the fact that, as demonstrated in Section 3.2.1, resource firms exhibit a similar level of post-issue long-run underperformance. Therefore, we conduct analyses for resource firms separately, and our primary models do not consider SEOs conducted by them.

A diagnostic analysis of the OLS regression models reveals them to be well specified, with no significant levels of heteroskedasticity or multicollinearity and 'close to' normally distributed residuals in almost all cases. Overall model fit is relatively weak in most permutations, with adjusted *R*-squared values below 0.1 and large and highly significant constant terms in most models.[22] This, however, is not surprising when we consider that the very existence of our left hand side variable has been the subject of considerable debate (see Section 2.1), and that relatively few studies have considered the empirical determinants of cross-sectional differences in long-run post-issue abnormal returns. Nevertheless, the *F*-statistics for the majority of models reveal the right-hand-side variables are jointly significant at the 5% level.

<Table 6>

Table 6 presents the results from cross-sectional models fitted to the private placements sample. As predicted by Hypothesis II, there is a consistently positive coefficient on the corporate governance score as measured using all three datasets. Furthermore, many coefficients are significant at the 5% level, suggesting that, for firms conducting private placements, there is a significant and positive relationship between corporate governance and relative post-issue performance across a number of specifications. The largest and most significant positive coefficients occur when measuring corporate governance quality using DGov, suggesting that the observed relationship may have been stronger in earlier years (1995-2000). This period represents a

[22] For brevity, *R*-squared and Adjusted *R*-squared figures for our primary models are not tabulated, but are available on request.

time before corporate governance reached its current level of prominence within the Australian corporate environment and before the introduction of the ASX guidelines.

The positive, significant relationship between firm age and post-issue abnormal returns observed in the majority of the CGov regressions is in line with expectations. However, coefficients on *AGE* for the DGov and Horwath regressions are mostly negative and insignificant, which is unsurprising considering that these databases primarily comprise older firms. The negative *BETA* coefficient appearing under most specifications contrasts with Soucik and Allen (1999), although it is significant in only six regressions. For the broadly based CGov dataset, coefficients on *MCAP* are mostly positive as predicted in the existing literature, but they are rarely statistically significant. However, for the DGov and Horwath datasets, which comprise larger companies, *MCAP* has a negative and significant impact. This implies that, while small firms experience a greater degree of long-term underperformance, the largest firms exhibit worse post-issue performance when compared with other, slightly smaller companies. This may suggest that for the largest firms, which are typically mature and have correspondingly relatively fewer growth opportunities, new funding requirements that cannot be cash funded are indicative of negative longer-term prospects. In most models, *ISIZE* is not statistically significant, although positive and intermittently significant coefficients are observed when using the CGov data, implying that larger issues produce stronger post-issue performance, in contrast to the findings of Brown, Gallery and Goei (2006). If correct, this may indicate that, for small firms making placements with experienced and informed institutional investors, the largest placements are subject to greater scrutiny and can only be implemented when firms' prospects are strong. Finally, *DISC* is found to provide little explanatory power for post-issue abnormal returns, with few statistically significant coefficients emerging.

<Table 7>

Similar results appear in an analysis of firms conducting rights issues. In Table 7, positive coefficients on *CG* are observed for all but one model, although fewer variables are significant than for the placements sample. These results provide further, albeit weaker, support for Hypothesis II. As expected, the coefficient on *BETA* is positive and statistically significant in a number of the CGov and DGov regressions. For the Horwath dataset, however, a similar pattern is observed as for the placements sample. *MCAP* behaves similarly in our sample of rights issues as for private placements. *ISIZE* is insignificant in the CGov and DGov regressions, but positive and significant in a number of the Horwath regressions, as in the CGov regressions for the placements sample. This may suggest that sizeable rights issues conducted by the largest ASX-listed firms are less subject to market timing effects due to the increased informational efficiency surrounding their stock. *DISC* and *AGE* follow no distinct pattern, and are statistically insignificant in almost all cases.

<Table 8>

Results in Table 8 for the SPPs sample provide some support for Hypothesis II and no evidence to the contrary, although the results are weaker than for the other samples. For the CGov and DGov regressions, all except two of the *CG* coefficients are positive, few are significant at the 5% level, and no similar pattern is observed for the Horwath dataset. Considering SPP firms are generally much larger than firms issuing

seasoned equity through private placements or rights issues, the control variables behave similarly in the sample of SPPs as in the Horwath regressions for the other samples. *AGE* is insignificant in all cases, and *BETA*, as expected, is positive in the CGov regressions, but insignificant for regressions using other governance measures. *MCAP* is negative and significant in the majority of models, supporting our earlier observation that, in a sample of large firms, the largest issuers experience greater post-issue underperformance. *ISIZE* is positive and often significant for the Horwath regressions, as in the rights issues sample, and *DISC* again provides little explanatory power for abnormal post-issue returns.

To provide an indication of the economic significance of the observed relationship between corporate governance and abnormal post-issue performance, a separate set of OLS models is estimated whereby each variable is standardised, resulting in standardised coefficients for the independent variables. Coefficients on the *CG* variables are found to be economically significant for all samples. Interestingly, the sizes of the *CG* coefficients are the largest for the rights issues sample, with a mean (median) value of 0.215 (0.191), implying that, for a one standard deviation increase in *CG*, the corresponding measure of long-run post-issue abnormal returns increases by 0.215 (0.191) standard deviations. For the SPPs and private placements samples, a one standard deviation increase in *CG* results in a mean (median) increase in post-SEO BHARs of 0.120 (0.172) and 0.102 (0.091) standard deviations respectively. Standardised *CG* coefficients are as high as 0.725, 0.350 and 0.204 for the rights issues, SPPs and private placements samples respectively.

<Table 9>

Having been excluded from the primary regression models, resource firms are in the subject of a separate set of regressions. For brevity, Table 9 reports only the coefficients on *CG* for these models.[23] Resource firms yield very different results. The coefficient on *CG* is negative in the majority of cases, and significant in many of the CGov sample regressions, which relate to smaller companies. It seems that for resource firms, especially smaller ones, better governance according to the ASX principles is associated with worse, not better, post-issue performance. The implications of this seemingly perverse outcome are important in the context of the prescriptive corporate governance guidelines enforced by the ASX. The ASX guidelines, and therefore our governance scoring system, focus on board and committee characteristics with a strong emphasis on the independence of directors. The evidence is that resource firms with a high proportion of independent directors and comprehensive committee structures actually perform worse in the post-issue period.

Thus it seems that, as hypothesised by Boone, Field, Karpoff and Raheja (2007), a prescriptive one-size-fits-all approach to corporate governance may in fact destroy shareholder value in some companies. For resource firms in particular, it is likely to be the case that, as in Coles, Daniel and Naveen (2008), the firm-specific knowledge of inside directors may outweigh the benefits of objectivity and independence contributed by outside directors. Alternatively, as suggested by Lawrence and Stapledon (1999), the benefits of additional compliance, including the impact of improved transparency on information asymmetry, might simply not outweigh the associated costs for these firms.

[23] There are too few resource firms in the Horwath dataset to provide meaningful estimates so they are excluded.

To examine the robustness of the above findings, we estimate models taking account of a variety of alternative econometric specifications and theoretical considerations.[24] All models are re-run with White's standard errors, producing almost identical inferences and thereby confirming the absence of a significant level of heteroskedasticity. Following Gompers, Ishii and Metrick (2003), we also estimate the models using a robust estimator, where greater weightings are assigned to observations with smaller absolute residuals. Again, the inferences are substantively the same as those obtained using OLS, indicating the results are not driven by outliers. To restrict the analysis to SEOs considered material to the issuer, the primary cross-sectional models are re-run, excluding issues constituting less than 5% of issued capital (2% for SPPs, which tend to be conducted by larger firms), revealing substantively similar results. The results are also robust to the inclusion of additional control variables, including blockholder ownership, share price volatility, net gearing, whether the issuer is classified within the banking industry and whether it makes SEOs frequently. Using monthly time dummies, we find our principal results pervade the entire sample period, suggesting they are not subject to significant time effects. By replacing the contemporaneous governance measure with lagged measures, to ensure that the governance structure described was in place before the issue was announced, we examine whether a reverse-causality scenario may explain our results. Again, the conclusions are similar to those from the primary models.

4.4 Discussion

Results from the above cross-sectional models are consistent with those found in Section 3 and are broadly in line with Hypothesis II.

For the sample of private placements, which are found to exhibit the greatest degree of post-issue underperformance, there is considerable evidence to support the notion that good quality corporate governance can mitigate the poor abnormal returns experienced by issuing firms. As proposed in Section 3.2.3, the flexibility and speed with which private placements can be arranged and executed make them an ideal instrument for timing the market during transitory periods of overvaluation. It follows that, by reducing the level of informational asymmetry between managers and investors, corporate governance can help to prevent this pattern of behaviour and thereby alleviate post-issue, long-term underperformance.

Rights issues and SPPs, which necessitate greater time to arrange, implement and finalise, are less attractive than private placements as market timing tools, and therefore are subject to a smaller degree of post-issue underperformance. Nevertheless, given control considerations associated with private placements and restrictions on their size and frequency imposed by the Australian Securities and Investments Commission (ASIC), placements may not be a feasible choice for many, predominantly larger companies. Thus, some firms may still utilise rights issues and SPPs to exploit windows of opportunity when their shares are overvalued. Consequently, we observe a significant, if weaker, positive relationship between governance and post-issue abnormal returns following these types of issue.

[24] Results from these alternative specifications are available from the corresponding author on request.

5 CONCLUSION

In our first stage of analysis, we conduct a long-run event study to determine whether, in an Australian context, firms conducting SEOs underperform a variety of benchmarks over the long term. Using a cross-sectional regression framework, we then consider whether a relationship exists between measures of long-run abnormal returns and the quality of firms' corporate governance structures. From this process, several key findings emerge, with important implications for researchers, corporations, investors and regulators alike. First, we find strong evidence that firms issuing seasoned equity are subject to a significant degree of long-run underperformance. Second, we identify the existence of informational asymmetry surrounding seasoned issuers as a channel through which governance and performance are related. Finally, we find evidence of a relationship between corporate governance and firm performance in the Australian market.

While a wide body of U.S. literature has developed surrounding the long-run performance of SEO firms (see Loughran and Ritter (1995); Bayless and Jay (2008) among others), relatively few studies have considered this matter within the Australian market. Those that have done so (Soucik and Allen (1999); Brown, Gallery and Goei (2006); Brown, Ferguson and Stone (2008)) conclude that firms involved in seasoned issues underperform over the long term. Using a much larger sample than previous studies, examining SEOs conducted over a wider timeframe and employing more rigorous econometric procedures, we document a statistically and economically significant level of underperformance experienced by firms conducting private placements, rights issues and share purchase plans over a three year post-issue window. Consistent with the market timing theory for SEO underperformance, we find that private placements, which can be arranged and finalised quickly in order to take advantage of transitory windows of overvaluation, experience the greatest degree of underperformance under all specifications. With observed underperformance for seasoned issuers of up to 88.4% over three years, this finding has major implications for both firms' capital financing decisions and investors' evaluation of the prospects of issuing firms.[25]

In our second stage of analysis, we use a set of regression models to assess whether the quality of firms' corporate governance structures has any bearing on long-run abnormal share market returns following an SEO. Consistent with our second hypothesis, we generally observe a positive relationship between the two. This finding is robust to alternative estimation methods, the omission of immaterial issues, inclusion of additional controls, addition of monthly time dummies and the use of lagged governance variables to control for reverse causality. In support of the windows of opportunity hypothesis for long-term SEO underperformance, the association between corporate governance and post-issue performance is strongest for private placements. For rights issues and SPPs, instruments less suited to taking advantage of windows of opportunity, we observe a weaker relationship.

[25] 88.4% denotes the median underperformance of private placements as measured against an equal-weighted market index.

Our third main finding is that, as in the majority of the U.S. and international literature (see, for example, Brown and Caylor (2006); Renders and Gaeremynck (2006)), there is a relationship between corporate governance and firm performance in Australia. Thus far, studies examining this relationship within an Australian context (Linden and Matolcsy (2004); Cui, Evans and Wright (2007); Henry (2008)) have been limited by the lack of comprehensive governance data for Australian firms, and have returned mixed and largely inconclusive results. We circumvent this problem by constructing a comprehensive corporate governance database, allowing us to explore the impact of governance across a wide range of firms and over an extensive timeframe. The results observed indicate that this process has proven successful in quantifying elements of firms' internal governance structures that are valued by the market, while accurately representing the principles espoused by the ASX guidelines.

Our results imply that post-SEO underperformance is at least in part driven by information asymmetry. By reducing the level of asymmetry through improving the quality of firms' disclosures (Beekes and Brown (2006)), and thereby constraining managers' market timing opportunities, good quality corporate governance can go some way towards mitigating the level of underperformance experienced by issuing firms. SEOs, a not uncommon event, are one channel through which corporate governance can drive firm performance, consistent with the suggestion by Gompers, Ishii and Metrick (2003), amongst others, that agency costs constitute the key conduit through which good governance practices influence corporate valuation. Thus we have gained a deeper understanding of the dynamics of both the relationship between governance and performance, and the SEO underperformance anomaly itself.

The effectiveness and suitability of prescriptive, one-size-fits-all corporate governance guidelines has been the subject of considerable debate (Coles, Daniel and Naveen (2008); Henry (2008)). At face value, the observation that an index based closely around compliance with the ASX guidelines is positively related to firm performance would suggest that such initiatives are beneficial to markets in which they are introduced. However, there is some doubt as to whether the adoption of a standardised set of guidelines is indeed beneficial to all firms within those markets. Small resource companies conducting SEOs apparently are better off with governance structures that are weaker according to the guidelines. Thus our research findings have implications for regulators.

In interpreting our results, two important caveats should be kept in mind. First, while reverse causality does not seem to drive our results, we acknowledge the possibility that the relationship between governance and post-issue performance is endogenously determined, which might be captured by a third, unidentified variable omitted from our primary models. Second, since we examine the interaction between governance and performance in the context of SEOs, and observe firm performance solely within a specified post-issue window, we do not attempt to separate the influence of governance on post-issue abnormal returns from the broader governance/performance relationship evident in the returns of all firms. Consequently, the association we have observed might simply reflect a relationship between governance, agency costs and resource allocation generally, rather than being a fundamental driver of that more general relationship.

REFERENCES

Ang, J., and S. Zhang, 2004, An evaluation of testing procedures for long horizon event studies, *Review of Quantitative Finance and Accounting* 23, 251-274.

ASX, Corporate Governance Council, 2003, Principles of good corporate governance and best practice recommendations.

Baker, M., and J. Wurgler, 2002, Market timing and capital structure, *The Journal of Finance* 57, 1-32.

Bayless, M., and S. Chaplinsky, 1996, Is there a window of opportunity for seasoned equity issuance?, *Journal of Finance* 51, 253-278.

Bayless, M., and N. Jay, 2003, Is the performance of firms following seasoned equity issues anomalous?, *Journal of Banking and Finance* 27, 1273-1296.

Bayless, M., and N. Jay, 2008, A multiperiod evaluation of returns following seasoned equity offerings, *Journal of Economics and Business* 60, 291-311.

Bebchuk, L., A. Cohen, and A. Ferrell, 2004, What matters in corporate governance?, Working Paper, Harvard Law School.

Beekes, W., and P. Brown, 2006, Do better governed Australian firms make more informative disclosures?, *Journal of Business Finance & Accounting* 33, 422-450.

Bethel, J., J. Liebeskind, and T. Opler, 1998, Block share purchases and corporate performance, *The Journal of Finance* 53, 605-634.

Bhagat, S., and B. Black, 1999, The uncertain relationship between board composition and firm performance, *Business Lawyer* 54, 921-963.

Boone, A, ., L. Field, J. Karpoff, and C. Raheja, 2007, The determinants of corporate board size and composition: An empirical analysis, *Journal of Financial Economics* 85, 66-101.

Borsch-Supan, A., and J. Koke, 2002, An applied econometricians' view of empirical corporate governance studies, *German Economic Review* 3, 295-326.

Brav, A., C. Geczy, and P. Gompers, 2000, Is the abnormal return following equity issuances anomalous?, *Journal of Financial Economics* 56, 209-249.

Brickley, J., J. Coles, and G. Jarrell, 1997, Leadership structure: Separating the CEO and chairman of the board, *Journal of Corporate Finance* 3, 189-220.

Brown, L., and M. Caylor, 2006, Corporate governance and firm valuation, *Journal of Accounting and Public Policy* 25, 409-434.

Brown, P., A. Ferguson, and K. Stone, 2008, Share purchase plans in Australia: Issuer characteristics and valuation implications, Forthcoming, Australian Journal of Management.

Brown, P., G. Gallery, and O. Goei, 2006, Does market misvaluation help explain share market long-run underperformance following a seasoned equity issue?, *Accounting and Finance* 46, 191-219.

Bushman, R., Q. Chen, E. Engel, and A. Smith, 2004, Financial accounting information, organizational complexity and corporate governance systems, *Journal of Accounting and Economics* 37, 167-201.

Calleja, N., 1999, To delegate or not to delegate: Board committees and corporate performance in Australia's top 100 companies, *Sydney Law Review* 21, 5-35.

Carhart, M., 1997, On persistence in mutual fund performance, *The Journal of Finance* 52, 57-82.

Chidambaran, N., D. Palia, and Y. Zheng, 2008, Corporate governance and firm performance: Evidence from large governance changes, Working Paper, Rutgers Business School.

Coles, J., N. Daniel, and L. Naveen, 2008, Boards: Does one size fit all, *Journal of Financial Economics* 87, 329-356.

Core, J., W. Guay, and T. Rusticus, 2006, Does weak governance cause weak stock returns? An examination of firm operating performance and investors' expectations, *The Journal of Finance* 61, 655-687.

Cowan, A., and A. Sergeant, 2001, Interacting biases, non-normal return distributions and the performance of tests for long-horizon event studies, *Journal of Banking & Finance* 25, 741-765.

Craswell, A., S. Taylor, and R. Saywell, 1997, Ownership structure and corporate performance: Australian evidence, *Pacific-Basin Finance Journal* 5, 301-323.

Cremers, K., and V. Nair, 2005, Governance mechanisms and equity prices, *The Journal of Finance* 60, 2859-2894.

Cui, T., E. Evans, and S. Wright, 2007, Have the objectives of the ASX recommendations on good corporate governance been achieved?, Working Paper, Macquarie University.

DeAngelo, H., and E. Rice, 1983, Antitakeover charter amendments and stockholder wealth, *Journal of Financial Economics* 11, 329-359.

Eberhart, A., and A. Siddique, 2002, The long-term performance of corporate bonds (and stocks) following seasoned equity offerings, *The Review of Financial Studies* 15, 1385-1406.

Eckbo, B., R. Masulis, and O. Norli, 2000, Seasoned public offerings: Resolution of the new issues puzzle, *Journal of Financial Economics* 56, 251-291.

Fama, E., 1998, Market efficiency, long-term returns, and behavioral finance, *Journal of Financial Economics* 49, 283-306.

Fama, E., and K. French, 1993, Common risk factors in the returns on stocks and bonds, *Journal of Financial Economics* 33, 3-56.

Friend, I., and J. Longstreet, 1967. *Price experience and return on new stock issues* (World Publishing Co., Cleveland).
Gompers, P., J. Ishii, and A. Metrick, 2003, Corporate governance and equity prices, *Quarterly Journal of Economics* 118, 107-155.
Graham, J., and C. Harvey, 2001, The theory and practice of corporate finance: evidence from the field, *Journal of Financial Economics* 60, 187-243.
Hasbrouck, J., 1991, Measuring the information content of stock trades, *The Journal of Finance* 46, 179-207.
Heinkel, R., and E. Schwartz, 1986, Rights versus underwritten offerings: An asymmetric information approach, *The Journal of Finance* 41, 1-18.
Henry, D., 2008, Corporate governance structure and the valuation of Australian firms: Is there value in ticking the boxes?, *Journal of Business Finance and Accounting* 35, 912-942.
Hermalin, B., and M. Weisbach, 2003, Boards of directors as an endogenously determined institution: A survey of the economic literature, *Economic Policy Review* 9, 7-26.
Himmelberg, C., R. Hubbard, and D. Palia, 1999, Understanding the determinants of managerial ownership and the link between ownership and performance, *Journal of Financial Economics* 53, 353-384.
Jindra, J., 2000, Seasoned equity issues, overvaluation and timing, Working Paper, Ohio State University.
Kiel, G., and G. Nicholson, 2003, Board composition and corporate performance: How the Australian experience informs contrasting theories of corporate governance, *Corporate Governance* 11, 189-205.
Kothari, S., and J. Warner, 1997, Measuring long-horizon security price performance, *Journal of Financial Economics* 43, 301-339.
Larcker, D., S. Richardson, and I. Tuna, 2007, Corporate governance, accounting outcomes, and organizational performance, *Accounting Review* 82, 963-1031.
Lawrence, J., and G. Stapledon, 1999, Is board composition important? A study of listed Australian companies, Working Paper, University of Melbourne.
Lehn, K., S. Patro, and M. Zhao, 2006, Governance indices and valuation: Which causes which?, Working Paper, University of Pittsburgh.
Linden, P., and Z. Matolcsy, 2004, Corporate governance scoring systems: What do they tell us?, *Australian Accounting Review* 14, 9-16.
Linn, S., and J. McConnell, 1983, An empirical investigation of the impact of `antitakeover' amendments on common stock prices, *Journal of Financial Economics* 11, 361-399.
Loughran, T., and J. Ritter, 1995, The new issues puzzle, *The Journal of Finance* 50, 23-51.
Loughran, T., and J. Ritter, 2000, Uniformly least powerful tests of market efficiency, *Journal of Financial Economics* 55, 361-389.
Lyon, J., B. Barber, and C. Tsai, 1999, Improved methods for tests of long-run abnormal stock returns, *The Journal of Finance* 54, 165-201.
McConnell, J., and H. Servaes, 1990, Additional evidence on equity ownership and corporate value, *Journal of Financial Economics* 27, 595-612.
Mitchell, M., and E. Stafford, 2000, Managerial decisions and long-term stock price performance, *The Journal of Business* 73, 287-329.
Myers, S., and N. Majluf, 1984, Corporate financing and investment decisions when firms have informaiton that investors do not have, *Journal of Financial Economics* 13, 187-221.
Owen, S., and J. Suchard, 2008, The pricing and impact of rights issues of equity in Australia, *Applied Financial Economics* 18, 1147 - 1160.
Pham, P., J. Suchard, and J. Zein, 2008, Corporate governance and alternative performance measures: Evidence from Australian firms, Working Paper, University of New South Wales.
Renders, A., and A. Gaeremynck, 2006, Corporate governance and performance: Controlling for sample selection bias and endogeneity, Working Paper, University of Maastricht.
Ritter, J., 1991, The long-run performance of initial public offerings, *The Journal of Finance* 46, 3-27.
Soucik, V., and D. Allen, 1999, Long run underperformance of seasoned equity offerings: Fact or an illusion?, Working Paper, Edith Cowan University.
Spiess, K., and J. Affleck-Graves, 1995, Underperformance in long-run stock returns following seasoned equity offerings, *Journal of Financial Economics* 38, 243-267.
Stigler, G., 1964, Public regulation of the securities markets, *The Business Lawyer* 19, 721-754.
Vafeas, N., 1999, Board meeting frequency and firm performance, *Journal of Financial Economics* 53, 113-142.
Yermack, D., 1996, Higher market valuation of companies with a small board of directors, *Journal of Financial Economics* 40, 185-211.

Table 1

Descriptive Statistics for SEOs and SEO Firms, 1992-2006

Panel A: Private Placements (N=11,055)					
Variable	Mean	Median	Std Dev	Min	Max
Market Capitalisation ($M)	208.00	12.00**	1,780.00	0.01	98,600.00
Firm Age (years)	13.10**	8.46**	15.76	0.00	106.68
Beta	0.72*	0.65**	1.30	-2.50	4.26
Volatility	0.12**	0.11**	0.08	0.00	0.89
Net Gearing	-0.02**	-0.07**	0.69	-1.67	2.63
Relative Issue Size	0.15**	0.09**	0.21	0.00	1.13
Discount	-0.02**	-0.07**	0.49	-0.93	2.33
Proceeds ($M)	5.81**	0.80**	17.30	0.01	117.00
Banking	0.01				
Resource	0.54**				
Multiple	0.70**				
Panel B: Rights Issues (N=1,828)					
Variable	Mean	Median	Std Dev	Min	Max
Market Capitalisation ($M)	171.00**	14.40**	874.00	0.20	27,300.00
Firm Age (years)	15.38**	9.68**	18.56	0.01	106.51
Beta	0.66	0.55	1.21	-2.50	4.26
Volatility	0.12**	0.10**	0.09	0.00	0.83
Net Gearing	0.08	-0.02	0.73	-1.67	2.63
Relative Issue Size	0.35**	0.26**	0.27	0.00	1.13
Discount	-0.15	-0.13	0.45	-0.93	2.33
Proceeds ($M)	16.20**	3.01**	30.30	0.01	117.00
Banking	0.01**				
Resource	0.48**				
Multiple	0.61				
Panel C: Share Purchase Plans (N=511)					
Variable	Mean	Median	Std Dev	Min	Max
Market Capitalisation ($M)	1,580.00**	36.90**	6,800.00	0.77	54,000.00
Firm Age (years)	17.92**	10.71*	21.32	0.41	105.30
Beta	0.69	0.73	1.09	-2.50	4.25
Volatility	0.09**	0.08**	0.08	0.01	0.69
Net Gearing	0.04	-0.05	0.70	-1.67	2.63
Relative Issue Size	0.07**	0.04**	0.09	0.00	1.13
Discount	-0.07**	-0.06**	0.19	-0.93	2.33
Proceeds ($M)	8.57**	1.56**	20.30	0.01	117.00
Banking	0.04**				
Resource	0.37**				
Multiple	0.68**				

This table presents descriptive statistics for each of our SEO samples. *Volatility* is measured as the standard deviation of the issuer's stock price over the 52 weeks prior to announcement of the SEO; *Proceeds* is calculated as the number of shares issued multiplied by the issue price; *Net Gearing* is defined as a firm's level of short and long-term debt, less cash, divided by shareholders' equity; *Banking* takes the value of "1" for firms classified as banks (ASX Industry 16 prior to 2003; GICS Industry Group 401 from 2003); *Multiple* takes the value of "1" where the SEO firm has issued previously within a twelve month period. Descriptions of the other variables are provided in Sections 4.2. Issues comprising shares allocated using more than one issuance mechanism may appear in more than one sample. Some variables have been winsorised, so minimum and maximum values often appear the same across different issue types. As private placements constitute over 80% of all issues, separate statistics for all SEOs are not presented here, but are available on request. This table also displays 2 tailed *p*-values from statistical tests of between-sample differences in the mean and median values of the variables. The statistical tests in Panel A are for the tests of difference between Panel A (private placements) and Panel B (rights issues). The statistical tests in Panel B are for the comparison of Panel B and Panel C (share purchase plans), while those in Panel C compare Panel C and Panel A. *p*-values are calculated using *t*-tests and Mann-Whitney tests for differences in means and medians respectively. Significance at the 1% and 5% levels is denoted by ** and * respectively.

Table 2
Buy-and-Hold Abnormal Returns for Issuing Firms

Panel A: Private Placements					
Benchmark/Timeframe	Mean	*p*(1tail)	Median	*p*(1tail)	N
Matched Firms (1 year)	-0.089**	0.000	-0.061**	0.000	9,785
Matched Firms (2 years)	-0.184**	0.000	-0.117**	0.000	8,340
Matched Firms (3 years)	-0.304**	0.000	-0.135**	0.000	7,011
Matched Portfolios (1 year)	-0.177**	0.000	-0.289**	0.000	9,738
Matched Portfolios (2 years)	-0.348**	0.000	-0.502**	0.000	8,514
Matched Portfolios (3 years)	-0.504**	0.000	-0.676**	0.000	7,379
EW Index (1 year)	-0.118**	0.000	-0.308**	0.000	10,551
EW Index (2 years)	-0.301**	0.000	-0.594**	0.000	9,294
EW Index (3 years)	-0.498**	0.000	-0.884**	0.000	8,146
Panel B: Rights Issues					
Benchmark/Timeframe	Mean	*p*(1tail)	Median	*p*(1tail)	N
Matched Firms (1 year)	0.004	0.555	0.023*	0.950	1,618
Matched Firms (2 years)	0.012	0.612	0.013	0.616	1,402
Matched Firms (3 years)	-0.144**	0.008	-0.051*	0.029	1,172
Matched Portfolios (1 year)	-0.076**	0.000	-0.162**	0.000	1,633
Matched Portfolios (2 years)	-0.181**	0.000	-0.338**	0.000	1,476
Matched Portfolios (3 years)	-0.362**	0.000	-0.487**	0.000	1,290
EW Index (1 year)	-0.045*	0.011	-0.194**	0.000	1,746
EW Index (2 years)	-0.180**	0.000	-0.476**	0.000	1,579
EW Index (3 years)	-0.429**	0.000	-0.751**	0.000	1,389
Panel C: Share Purchase Plans					
Benchmark/Timeframe	Mean	*p*(1tail)	Median	*p*(1tail)	N
Matched Firms (1 year)	0.009	0.582	0.008	0.574	463
Matched Firms (2 years)	-0.085	0.159	-0.031	0.298	430
Matched Firms (3 years)	-0.144	0.150	-0.082	0.117	310
Matched Portfolios (1 year)	-0.132**	0.000	-0.221**	0.000	487
Matched Portfolios (2 years)	-0.339**	0.000	-0.516**	0.000	473
Matched Portfolios (3 years)	-0.688**	0.000	-0.753**	0.000	371
EW Index (1 year)	-0.072*	0.016	-0.198**	0.000	493
EW Index (2 years)	-0.201**	0.000	-0.528**	0.000	479
EW Index (3 years)	-0.419**	0.000	-0.798**	0.000	377

This table displays mean and median BHARs for issuing firms. 1 tailed *p*-values for mean and median estimates are based on 1 tailed Student's *t*-tests and sign tests respectively. Significance at the 1% and 5% levels is denoted by ** and * respectively. Abnormal returns are equal-weighted.

Table 3
Calendar-Time Abnormal Returns

Panel A: Fama-French 3-Factor Model

Sample/Timeframe	α	*p*(1tail)	R_m-R_f	SMB	HML	Adj-R^2	Prob>*F*	N
Placements (1 year)	-0.0069**	**	1.339**	0.122	-0.203**	0.929	0.000	159
	(0.000)	0.000	(0.000)	(0.052)	(0.003)			
Placements (2 years)	-0.0071**	**	1.328**	0.118*	-0.167**	0.943	0.000	159
	(0.000)	0.000	(0.000)	(0.026)	(0.004)			
Placements (3 years)	-0.0059**	**	1.317**	0.125*	-0.142*	0.947	0.000	159
	(0.000)	0.000	(0.000)	(0.015)	(0.011)			
Rights (1 year)	0.0012		1.236**	0.189*	-0.124	0.892	0.000	159
	(0.607)	0.696	(0.000)	(0.011)	(0.143)			
Rights (2 years)	-0.0000		1.248**	0.111	-0.150*	0.921	0.000	159
	(0.986)	0.493	(0.000)	(0.067)	(0.025)			
Rights (3 years)	-0.0009		1.223**	0.076	-0.133*	0.938	0.000	159
	(0.565)	0.283	(0.000)	(0.139)	(0.019)			
SPPs (1 year)	-0.0037		0.970**	0.053	0.119	0.740	0.000	109
	(0.279)	0.140	(0.000)	(0.626)	(0.370)			
SPPs (2 years)	-0.0024		0.925**	0.022	-0.123	0.790	0.000	121
	(0.373)	0.186	(0.000)	(0.800)	(0.207)			
SPPs (3 years)	-0.0021		0.904**	0.034	-0.112	0.798	0.000	125
	(0.400)	0.200	(0.000)	(0.668)	(0.197)			

Panel B: Carhart 4-Factor Model

Sample/Timeframe	α	*p*(1tail)	R_m-R_f	SMB	HML	Mom	Adj-R^2	Prob>*F*	N
Placements (1 year)	-0.0093**	**	1.338**	0.166**	-0.190**	0.175**	0.941	0.000	159
	(0.000)	0.000	(0.000)	(0.004)	(0.002)	(0.000)			
Placements (2 years)	-0.0090**	**	1.338**	0.150**	-0.153**	0.127**	0.953	0.000	159
	(0.000)	0.000	(0.000)	(0.003)	(0.005)	(0.000)			
Placements (3 years)	-0.0076**	**	1.327**	0.154**	-0.126*	0.111**	0.952	0.000	159
	(0.000)	0.000	(0.000)	(0.002)	(0.019)	(0.000)			
Rights (1 year)	0.0007		1.234**	0.196**	-0.123	0.037	0.891	0.000	159
	(0.759)	0.621	(0.000)	(0.009)	(0.147)	(0.345)			
Rights (2 years)	-0.0011		1.250**	0.126**	-0.146*	0.074*	0.923	0.000	159
	(0.592)	0.296	(0.000)	(0.037)	(0.027)	(0.019)			
Rights (3 years)	-0.0018		1.226**	0.088	-0.128*	0.061*	0.939	0.000	159
	(0.275)	0.137	(0.000)	(0.085)	(0.022)	(0.024)			
SPPs (1 year)	-0.0020		0.965**	-0.019	0.092	-0.148	0.746	0.000	109
	(0.563)	0.281	(0.000)	(0.866)	(0.486)	(0.056)			
SPPs (2 years)	-0.0013		0.922**	-0.018	-0.142	-0.083	0.791	0.000	121
	(0.640)	0.320	(0.000)	(0.842)	(0.148)	(0.197)			
SPPs (3 years)	-0.0010		0.905**	-0.001	-0.134	-0.077	0.799	0.000	125
	(0.686)	0.343	(0.000)	(0.986)	(0.129)	(0.197)			

This table presents WLS regression estimates based on the FF and Carhart models outlined in Equation 2. Significance at the 1% and 5% levels is denoted by ** and * respectively. Two tailed *p*-values are reported in parentheses, except in the *p*(1tail) column where one-sided *p*-values are given. N represents the number of months over which abnormal returns are estimated. Fewer monthly observations are available for SPPs, as this dataset covers a shorter timeframe.

Table 4
Corporate Governance Scoring System

Panel A: Scoring Variables

Variable	Description	Category
1	Majority of directors are independent	Board
2	Chairman of the board is independent	Board
3	Chairman is not the CEO (CEO duality)	Board
4	Separately constituted nomination committee	Committee
5	At least three directors on the nomination committee	Committee
6	Majority of directors on the nomination committee are independent	Committee
7	Chairman of nomination committee is independent	Committee
8	Separately constituted audit committee	Committee
9	At least three directors on the audit committee	Committee
10	Majority of directors on the audit committee are independent	Committee
11	Chairman of audit committee is independent	Committee
12	Chairman of audit committee is not the chairman of the board	Committee
13	Audit committee consists of only non-executive directors	Committee
14	Audit committee charter exists	Committee
15	Separately constituted remuneration committee	Committee
16	At least three directors on the remuneration committee	Committee
17	Majority of directors on the remuneration committee are independent	Committee
18	Chairman of remuneration committee is independent	Committee
19	CEO and CFO (or equivalents for both) attest that the integrity of the financial statements is founded on a system of risk management	Policy/Disclosure
20	CEO and CFO (or equivalents for both) attest that the company's risk management is operating efficiently and effectively	Policy/Disclosure
21	All directors attend at least 75% of meetings, unless valid excuse is given	Board
22	Respective roles of board and management disclosed	Policy/Disclosure
23	Code of conduct exists for directors and key executives	Policy/Disclosure
24	Policy exists for trading in company securities for senior employees	Policy/Disclosure
25	Access to independent advice available at company expense	Policy/Disclosure
26	Non-executive officers do not receive options or bonus payments	Policy/Disclosure
27	Equity-based remuneration scheme exists or has been approved by shareholders	Policy/Disclosure
28	Majority of fees paid to auditors are for audit services	Audit
29	Brand name auditor (i.e. Deloitte, PWC, KPMG or Ernst & Young)	Audit

Panel B: Director Independence Criteria

Criterion	Description
1	Not a current executive director
2	Did not hold a past executive position with the company within three years prior to appointment
3	Is not a relative of a current executive director
4	Has not served on the board for more than ten years
5	Not an officer of, or related to, a current substantial (>5%) shareholder
6	No related party transactions
7	No personal loans to or from the company
8	Not a substantial (>5%) shareholder

This table describes the variables used to construct our corporate governance scores. All references to independence in Panel A are based on the guidelines in Panel B. To qualify as independent, a director must satisfy all eight criteria, which are consistent with the definition of independence as per the ASX principles. Categories used to group these variables are based on the broader aspect of internal governance on which they are based.

Table 5

Descriptive Statistics for SEOs and SEO Firms Matched to Corporate Governance Datasets

Panel A: "Complete" Dataset (CGov), N=1,713

Variable	Mean	Median	Std Dev	Min	Max
Market Capitalisation ($M)	320.00**	12.70**	2,260.00	0.05	48,300.00
Firm Age (years)	14.24**	9.73	16.79	0.01	104.38
Beta	0.67**	0.62**	1.34	-2.50	4.26
Volatility	0.12**	0.10**	0.09	0.00	0.79
Net Gearing	-0.04**	-0.06**	0.75	-1.67	2.63
Relative Issue Size	0.16**	0.08**	0.22	0.00	1.13
Discount	-0.07	-0.09	0.44	-0.93	2.33
Proceeds ($M)	8.37**	0.92**	22.50	0.01	117.00
Banking	0.01**				
Resource	0.37**				
Multiple	0.72**				

Panel B: "Dynamic" Dataset (DGov), N=1,314

Variable	Mean	Median	Std Dev	Min	Max
Market Capitalisation ($M)	1,390.00*	36.00**	5,600.00	0.23	54,000.00
Firm Age (years)	23.25**	12.30**	25.90	0.03	104.38
Beta	0.71**	0.60**	1.11	-2.50	4.26
Volatility	0.10**	0.09**	0.08	0.00	0.77
Net Gearing	0.07**	0.00**	0.55	-1.67	2.63
Relative Issue Size	0.12**	0.06	0.18	0.00	1.13
Discount	-0.05	-0.07	0.43	-0.93	2.33
Proceeds ($M)	15.50**	1.75**	30.90	0.01	117.00
Banking	0.04				
Resource	0.54**				
Multiple	0.71**				

Panel C: Horwath Dataset, N=657

Variable	Mean	Median	Std Dev	Min	Max
Market Capitalisation ($M)	2,200.00**	333.00**	7,450.00	14.30	98,600.00
Firm Age (years)	18.58**	9.18**	24.55	0.06	105.83
Beta	0.95	0.81	1.00	-2.50	4.26
Volatility	0.07**	0.05**	0.06	0.01	0.61
Net Gearing	0.26**	0.25**	0.72	-1.67	2.63
Relative Issue Size	0.10**	0.06**	0.15	0.00	1.13
Discount	-0.06	-0.07*	0.38	-0.93	2.33
Proceeds ($M)	34.70**	16.50**	39.70	0.01	117.00
Banking	0.04**				
Resource	0.26**				
Multiple	0.64				

This table presents descriptive statistics for SEOs and SEO firms matched to our governance datasets. *Volatility* is measured as the standard deviation of the issuer's stock price over the 52 weeks prior to announcement of the SEO; *Proceeds* is calculated as the number of shares issued multiplied by the issue price; *Net Gearing* is defined as a firm's level of short and long-term debt, less cash, divided by shareholders' equity; *Banking* takes the value of "1" for firms classified as banks (ASX Industry 16 prior to 2003; GICS

Industry Group 401 from 2003); *Multiple* takes the value of "1" where the SEO firm has issued previously within a twelve month period. Descriptions of the other variables are provided in Sections 4.2. Some variables have been winsorised, so minimum and maximum values often appear the same across different datasets. Some issues have been matched to more than one governance dataset. This table also displays 2 tailed *p*-values from statistical tests of between-sample differences in the mean and median values of the variables. The statistical tests in Panel A are for the tests of difference between Panel A (private placements) and Panel B (rights issues). The statistical tests in Panel B are for the comparison of Panel B and Panel C (share purchase plans), while those in Panel C compare Panel C and Panel A. *p*-values are calculated using *t*-tests and Mann-Whitney tests for differences in means and medians respectively. Significance at the 1% and 5% levels is denoted by ** and * respectively.

Table 6

Cross-Sectional OLS Regression Models - Private Placements

Panel A: "Complete" Dataset (CGov)									
BHARs	CG	AGE	BETA	MCAP	ISIZE	DISC	Constant	N	Prob>*F*
F 1yr	0.006	0.033	0.005	0.023	0.428*	-0.098	-0.606	730	0.102
	(0.894)	(0.338)	(0.844)	(0.276)	(0.017)	(0.191)	(0.099)		
F 2yr	0.051	0.112*	0.016	0.054	0.543	-0.147	-1.542**	677	0.016
	(0.475)	(0.041)	(0.702)	(0.108)	(0.054)	(0.209)	(0.008)		
F 3yr	0.159	0.154	0.017	0.084	0.778	-0.065	-2.455*	614	0.048
	(0.187)	(0.101)	(0.822)	(0.146)	(0.116)	(0.742)	(0.013)		
P 1yr	0.035	0.006	0.001	0.005	0.267*	-0.013	-0.320	804	0.143
	(0.196)	(0.790)	(0.932)	(0.677)	(0.012)	(0.777)	(0.160)		
P 2yr	0.080*	0.064*	-0.006	0.034	0.241	-0.021	-1.109**	776	0.001
	(0.033)	(0.030)	(0.777)	(0.058)	(0.097)	(0.744)	(0.000)		
P 3yr	0.107	0.122**	-0.061	0.012	0.173	0.021	-1.023*	753	0.013
	(0.062)	(0.007)	(0.078)	(0.679)	(0.437)	(0.829)	(0.034)		
I 1yr	0.051	0.015	0.011	-0.009	0.232*	-0.041	-0.131	804	0.110
	(0.069)	(0.497)	(0.520)	(0.504)	(0.033)	(0.394)	(0.573)		
I 2yr	0.109**	0.067*	-0.004	0.041*	0.284	-0.061	-1.410**	776	0.000
	(0.005)	(0.028)	(0.849)	(0.027)	(0.058)	(0.352)	(0.000)		
I 3yr	0.181**	0.107*	-0.078*	0.027	0.254	0.013	-1.619**	753	0.000
	(0.002)	(0.018)	(0.025)	(0.326)	(0.253)	(0.892)	(0.001)		
Panel B: "Dynamic" Dataset (DGov)									
BHARs	CG	AGE	BETA	MCAP	ISIZE	DISC	Constant	N	Prob>*F*
F 1yr	0.074*	-0.034	-0.014	-0.048**	-0.060	-0.012	1.080**	387	0.042
	(0.044)	(0.233)	(0.649)	(0.003)	(0.792)	(0.868)	(0.001)		
F 2yr	0.163*	-0.119*	-0.056	-0.121**	-0.173	0.088	2.840**	372	0.000
	(0.023)	(0.030)	(0.361)	(0.000)	(0.690)	(0.532)	(0.000)		
F 3yr	0.344**	-0.134	-0.238*	-0.142**	0.026	0.223	3.412**	344	0.000
	(0.002)	(0.113)	(0.014)	(0.002)	(0.969)	(0.289)	(0.000)		
P 1yr	0.028	0.007	-0.007	-0.026	0.036	0.062	0.492	383	0.511
	(0.408)	(0.785)	(0.815)	(0.065)	(0.860)	(0.330)	(0.076)		
P 2yr	0.044	-0.000	-0.087	-0.091**	-0.040	0.020	1.881**	383	0.002
	(0.441)	(0.994)	(0.089)	(0.000)	(0.910)	(0.851)	(0.000)		
P 3yr	0.159*	-0.030	-0.083	-0.176**	-0.421	0.304*	3.734**	383	0.000
	(0.045)	(0.611)	(0.243)	(0.000)	(0.387)	(0.042)	(0.000)		
I 1yr	0.084*	-0.018	-0.063*	-0.041**	0.053	0.075	0.847**	423	0.006
	(0.012)	(0.486)	(0.031)	(0.006)	(0.800)	(0.259)	(0.003)		
I 2yr	0.140**	-0.040	-0.128**	-0.105**	-0.117	0.011	2.254**	423	0.000
	(0.010)	(0.328)	(0.007)	(0.000)	(0.731)	(0.919)	(0.000)		
I 3yr	0.279**	-0.082	-0.164*	-0.189**	-0.454	0.272	4.099**	423	0.000
	(0.000)	(0.151)	(0.012)	(0.000)	(0.337)	(0.069)	(0.000)		

Table 6 (continued)

Panel C: Horwath Dataset

BHARs	CG	AGE	BETA	MCAP	ISIZE	DISC	Constant	N	Prob>*F*
F 1yr	0.050	-0.044	-0.075	-0.085**	0.183	0.094	1.888**	314	0.015
	(0.275)	(0.211)	(0.079)	(0.004)	(0.512)	(0.225)	(0.001)		
F 2yr	0.102	-0.084	-0.098	-0.106*	0.730	0.179	2.302*	263	0.047
	(0.200)	(0.148)	(0.184)	(0.031)	(0.151)	(0.171)	(0.020)		
F 3yr	0.220	0.023	-0.117	-0.064	1.623	0.145	1.008	207	0.432
	(0.101)	(0.813)	(0.383)	(0.421)	(0.085)	(0.465)	(0.528)		
P 1yr	0.010	-0.019	-0.070*	-0.102**	0.098	0.089	2.137**	317	0.000
	(0.783)	(0.501)	(0.035)	(0.000)	(0.656)	(0.157)	(0.000)		
P 2yr	0.069	0.031	-0.041	-0.147**	0.420	0.126	2.749**	282	0.001
	(0.222)	(0.471)	(0.436)	(0.000)	(0.221)	(0.216)	(0.000)		
P 3yr	0.170*	0.095	0.026	-0.217**	0.408	0.146	3.859**	231	0.001
	(0.037)	(0.124)	(0.751)	(0.000)	(0.425)	(0.281)	(0.000)		
I 1yr	0.033	-0.019	-0.114**	-0.089**	0.044	0.134*	1.982**	331	0.000
	(0.348)	(0.482)	(0.001)	(0.000)	(0.842)	(0.030)	(0.000)		
I 2yr	0.141**	-0.006	-0.080	-0.146**	0.164	0.124	3.042**	296	0.000
	(0.008)	(0.881)	(0.110)	(0.000)	(0.616)	(0.183)	(0.000)		
I 3yr	0.229**	0.038	-0.044	-0.183**	-0.006	0.092	3.662**	244	0.018
	(0.007)	(0.546)	(0.602)	(0.000)	(0.991)	(0.502)	(0.000)		

This table presents results from an evaluation of the private placements sample using the model outlined in Equation 3. In the "Model" column, F denotes matched firm BHARs; P denotes portfolio matched BHARs and I denotes index matched BHARs, where the index is equal-weighted for DGov and CGov, and value-weighted for Horwath. BHAR specifications are outlined in Section 3.2.1. Significance at the 1% and 5% levels is denoted by ** and * respectively. 2 tailed *p*-values are reported in parentheses. Resource firms are excluded from the sample.

Table 7
Cross-Sectional OLS Regression Models - Rights Issues

Panel A: "Complete" Dataset (CGov)

BHARs	CG	AGE	BETA	MCAP	ISIZE	DISC	Constant	N	Prob>*F*
F 1yr	0.178	-0.005	0.203*	-0.021	-0.304	-0.273	0.222	99	0.299
	(0.248)	(0.957)	(0.028)	(0.792)	(0.517)	(0.492)	(0.875)		
F 2yr	0.299	0.222	0.298*	0.021	0.892	-0.093	-1.445	90	0.057
	(0.148)	(0.100)	(0.014)	(0.843)	(0.171)	(0.857)	(0.437)		
F 3yr	0.483	0.206	0.356	0.022	1.644	0.335	-1.659	78	0.306
	(0.194)	(0.399)	(0.081)	(0.905)	(0.179)	(0.774)	(0.614)		
P 1yr	0.151	0.005	0.060	-0.035	0.089	-0.341	0.378	106	0.375
	(0.104)	(0.929)	(0.281)	(0.472)	(0.749)	(0.164)	(0.671)		
P 2yr	0.169	0.107	0.033	-0.009	0.445	-0.239	-0.517	102	0.307
	(0.132)	(0.149)	(0.631)	(0.880)	(0.201)	(0.424)	(0.633)		
P 3yr	0.169	0.234	0.038	0.034	0.893	0.370	-1.776	98	0.320
	(0.362)	(0.056)	(0.732)	(0.736)	(0.143)	(0.557)	(0.329)		
I 1yr	0.173	-0.010	0.054	-0.030	0.187	-0.342	0.220	107	0.224
	(0.057)	(0.865)	(0.329)	(0.539)	(0.496)	(0.155)	(0.800)		
I 2yr	0.228*	0.098	0.009	0.047	0.540	-0.214	-1.634	103	0.027
	(0.033)	(0.168)	(0.884)	(0.414)	(0.106)	(0.454)	(0.112)		
I 3yr	0.309	0.261*	0.002	0.112	1.110	0.399	-3.534	99	0.022
	(0.094)	(0.032)	(0.984)	(0.266)	(0.069)	(0.529)	(0.051)		

Panel B: "Dynamic" Dataset (DGov)

BHARs	CG	AGE	BETA	MCAP	ISIZE	DISC	Constant	N	Prob>*F*
F 1yr	0.043	0.081	0.097	0.011	0.043	0.010	-0.417	84	0.642
	(0.618)	(0.152)	(0.486)	(0.827)	(0.952)	(0.966)	(0.685)		
F 2yr	0.194	0.085	0.298	-0.124	-0.385	-0.225	2.280	77	0.447
	(0.183)	(0.380)	(0.203)	(0.146)	(0.753)	(0.565)	(0.177)		
F 3yr	0.274	-0.021	0.164	-0.073	-1.667	-0.646	1.818	71	0.645
	(0.192)	(0.881)	(0.621)	(0.538)	(0.343)	(0.231)	(0.443)		
P 1yr	0.018	0.018	0.233*	-0.055	0.107	0.071	0.929	89	0.401
	(0.777)	(0.683)	(0.021)	(0.165)	(0.842)	(0.621)	(0.236)		
P 2yr	0.099	0.054	0.188	-0.113*	0.256	0.092	1.977*	89	0.246
	(0.226)	(0.323)	(0.138)	(0.023)	(0.705)	(0.613)	(0.045)		
P 3yr	0.044	0.011	0.239	-0.166*	-0.524	-0.035	3.288*	89	0.432
	(0.701)	(0.892)	(0.184)	(0.019)	(0.586)	(0.893)	(0.019)		
I 1yr	-0.002	0.049	0.291*	-0.086	0.131	0.109	1.347	89	0.227
	(0.983)	(0.336)	(0.012)	(0.059)	(0.833)	(0.514)	(0.137)		
I 2yr	0.017	0.087	0.364*	-0.142*	0.806	0.245	2.211	89	0.088
	(0.857)	(0.179)	(0.015)	(0.015)	(0.312)	(0.251)	(0.057)		
I 3yr	0.025	0.021	0.341	-0.190*	-0.141	0.064	3.535*	89	0.319
	(0.843)	(0.811)	(0.086)	(0.014)	(0.894)	(0.822)	(0.022)		

Table 7 (continued)

Panel C: Horwath Dataset									
BHARs	CG	AGE	BETA	MCAP	ISIZE	DISC	Constant	N	Prob>*F*
F 1yr	0.126	-0.009	0.015	-0.074	0.915	0.473	1.547	43	0.126
	(0.061)	(0.875)	(0.845)	(0.141)	(0.062)	(0.346)	(0.156)		
F 2yr	0.440*	-0.074	0.033	-0.189	1.209	0.826	4.075	37	0.245
	(0.019)	(0.614)	(0.875)	(0.158)	(0.352)	(0.539)	(0.154)		
F 3yr	0.644**	-0.180	0.155	-0.243	0.515	0.328	5.407	23	0.229
	(0.007)	(0.273)	(0.499)	(0.135)	(0.756)	(0.835)	(0.115)		
P 1yr	0.075	0.038	-0.067	-0.071*	0.636*	-0.318	1.261	50	0.019
	(0.114)	(0.398)	(0.249)	(0.045)	(0.031)	(0.396)	(0.089)		
P 2yr	0.198*	0.073	-0.041	-0.180*	1.425*	-0.624	3.127*	45	0.009
	(0.044)	(0.412)	(0.732)	(0.011)	(0.017)	(0.410)	(0.033)		
P 3yr	0.362**	0.102	-0.068	-0.215*	2.405*	-0.466	3.476	33	0.014
	(0.010)	(0.404)	(0.682)	(0.027)	(0.030)	(0.675)	(0.086)		
I 1yr	0.088	0.008	-0.146*	-0.044	0.353	-0.265	0.953	51	0.112
	(0.122)	(0.881)	(0.036)	(0.300)	(0.318)	(0.544)	(0.282)		
I 2yr	0.182	0.020	-0.145	-0.151	0.731	-0.375	3.083	46	0.122
	(0.091)	(0.840)	(0.263)	(0.050)	(0.263)	(0.640)	(0.055)		
I 3yr	0.375*	-0.026	-0.300	-0.208	1.629	-0.623	4.319	34	0.032
	(0.016)	(0.850)	(0.103)	(0.054)	(0.186)	(0.602)	(0.055)		

This table presents results from an evaluation of the rights issues sample using the model outlined in Equation 3. In the "Model" column, F denotes matched firm BHARs; P denotes portfolio matched BHARs and I denotes index matched BHARs, where the index is equal-weighted for DGov and CGov, and value-weighted for Horwath. BHAR specifications are outlined in Section 3.2.1. Significance at the 1% and 5% levels is denoted by ** and * respectively. 2 tailed *p*-values are reported in parentheses. Resource firms are excluded from the sample.

Table 8
Cross-Sectional OLS Regression Models - Share Purchase Plans

Panel A: "Complete" Dataset (CGov)

BHARs	CG	AGE	BETA	MCAP	ISIZE	DISC	Constant	N	Prob>*F*
F 1yr	0.177	-0.018	0.195*	-0.104	-0.043	0.267	1.860	115	0.114
	(0.138)	(0.839)	(0.025)	(0.072)	(0.972)	(0.428)	(0.060)		
F 2yr	0.370	0.042	0.218	-0.263*	-2.812	-0.392	4.692*	105	0.242
	(0.082)	(0.797)	(0.164)	(0.012)	(0.362)	(0.512)	(0.010)		
F 3yr	0.463	0.133	0.221	-0.357*	-2.899	-0.360	6.057*	96	0.400
	(0.132)	(0.572)	(0.364)	(0.018)	(0.527)	(0.682)	(0.022)		
P 1yr	0.185	0.051	0.116	-0.086	-0.004	0.261	1.256	123	0.212
	(0.056)	(0.481)	(0.100)	(0.064)	(0.997)	(0.344)	(0.115)		
P 2yr	0.372*	0.123	0.230*	-0.210**	-3.004	-0.042	3.368*	120	0.064
	(0.014)	(0.272)	(0.042)	(0.005)	(0.179)	(0.924)	(0.010)		
P 3yr	0.357	0.148	0.084	-0.261*	-1.471	0.330	4.046*	115	0.438
	(0.125)	(0.394)	(0.642)	(0.024)	(0.668)	(0.623)	(0.045)		
I 1yr	0.180	0.066	0.112	-0.098*	-0.283	0.177	1.414	124	0.302
	(0.072)	(0.383)	(0.125)	(0.045)	(0.788)	(0.538)	(0.090)		
I 2yr	0.383*	0.144	0.205	-0.211**	-4.000	-0.176	3.252*	121	0.098
	(0.016)	(0.228)	(0.087)	(0.008)	(0.092)	(0.704)	(0.020)		
I 3yr	0.344	0.188	0.008	-0.246*	-3.736	0.052	3.565	116	0.537
	(0.136)	(0.281)	(0.965)	(0.034)	(0.278)	(0.938)	(0.079)		

Panel B: "Dynamic" Dataset (DGov)

BHARs	CG	AGE	BETA	MCAP	ISIZE	DISC	Constant	N	Prob>*F*
F 1yr	0.315*	0.008	0.004	-0.166**	-2.496	-1.391	3.342**	83	0.015
	(0.019)	(0.910)	(0.967)	(0.001)	(0.420)	(0.056)	(0.001)		
F 2yr	0.479*	0.051	-0.006	-0.305**	5.623	-1.281	5.977**	78	0.001
	(0.040)	(0.686)	(0.968)	(0.000)	(0.279)	(0.308)	(0.001)		
F 3yr	0.591	0.183	-0.108	-0.360**	4.384	-0.245	6.833**	74	0.060
	(0.088)	(0.321)	(0.709)	(0.005)	(0.575)	(0.902)	(0.009)		
P 1yr	0.143	-0.012	0.073	-0.102*	-1.069	-1.289*	1.981*	87	0.044
	(0.261)	(0.845)	(0.392)	(0.026)	(0.706)	(0.048)	(0.035)		
P 2yr	0.121	0.008	-0.026	-0.219**	9.329*	-0.761	4.360**	87	0.000
	(0.543)	(0.932)	(0.843)	(0.002)	(0.035)	(0.456)	(0.003)		
P 3yr	-0.217	0.062	-0.016	-0.221*	10.098	0.442	4.351*	86	0.000
	(0.422)	(0.625)	(0.931)	(0.021)	(0.089)	(0.748)	(0.026)		
I 1yr	0.188	-0.039	0.052	-0.122*	-1.907	-1.485*	2.470*	88	0.019
	(0.141)	(0.535)	(0.557)	(0.010)	(0.506)	(0.028)	(0.011)		
I 2yr	0.178	-0.049	-0.109	-0.236**	6.454	-0.657	4.926**	88	0.000
	(0.406)	(0.641)	(0.462)	(0.003)	(0.181)	(0.563)	(0.002)		
I 3yr	-0.112	0.004	-0.013	-0.237**	3.617	0.343	4.813**	87	0.001
	(0.652)	(0.977)	(0.944)	(0.009)	(0.512)	(0.793)	(0.009)		

Table 8 (continued)

Panel C: Horwath Dataset									
BHARs	CG	AGE	BETA	MCAP	ISIZE	DISC	Constant	N	Prob>*F*
F 1yr	-0.053	-0.001	0.001	-0.044	2.039	-0.207	0.879	94	0.169
	(0.429)	(0.990)	(0.991)	(0.286)	(0.131)	(0.745)	(0.286)		
F 2yr	-0.028	-0.033	-0.068	0.048	4.983*	0.012	-1.147	87	0.327
	(0.794)	(0.634)	(0.583)	(0.459)	(0.013)	(0.990)	(0.377)		
F 3yr	0.073	0.199	-0.349	0.178	6.157*	2.372	-4.535*	67	0.022
	(0.704)	(0.090)	(0.160)	(0.092)	(0.044)	(0.134)	(0.030)		
P 1yr	-0.008	0.009	-0.052	-0.081*	4.120**	0.007	1.556*	97	0.000
	(0.887)	(0.818)	(0.468)	(0.023)	(0.000)	(0.991)	(0.028)		
P 2yr	0.034	0.019	-0.095	-0.083	5.629**	-0.556	1.347	94	0.000
	(0.665)	(0.728)	(0.328)	(0.088)	(0.000)	(0.460)	(0.166)		
P 3yr	0.019	0.083	-0.126	-0.035	5.254*	0.886	0.045	80	0.233
	(0.878)	(0.322)	(0.455)	(0.621)	(0.024)	(0.447)	(0.975)		
I 1yr	-0.027	0.020	-0.020	-0.071*	2.964**	0.298	1.448*	97	0.001
	(0.588)	(0.558)	(0.753)	(0.022)	(0.004)	(0.541)	(0.020)		
I 2yr	0.004	-0.003	-0.119	-0.017	3.773**	0.370	0.323	94	0.065
	(0.948)	(0.954)	(0.151)	(0.677)	(0.006)	(0.564)	(0.697)		
I 3yr	-0.049	0.096	-0.133	0.064	2.731	0.544	-1.733	80	0.305
	(0.601)	(0.126)	(0.293)	(0.234)	(0.115)	(0.532)	(0.106)		

This table presents results from an evaluation of the SPPs sample using the model outlined in Equation 3. In the "Model" column, F denotes matched firm BHARs; P denotes portfolio matched BHARs and I denotes index matched BHARs, where the index is equal-weighted for DGov and CGov, and value-weighted for Horwath. BHAR specifications are outlined in Section 3.2.1. Significance at the 1% and 5% levels is denoted by ** and * respectively. 2 tailed *p*-values are reported in parentheses. Resource firms are excluded from the sample.

Table 9

Cross-Sectional OLS Regression Models - *CG* Coefficients for Resource Firms

Panel A: Private Placements									
Dataset	F 1yr	F 2yr	F 3yr	P 1yr	P 2yr	P 3yr	I 1yr	I 2yr	I 3yr
CGov	-0.070	-0.129	-0.347	-0.120*	-0.316**	-0.723**	-0.087	-0.205*	-0.523**
	(0.446)	(0.391)	(0.176)	(0.042)	(0.001)	(0.000)	(0.139)	(0.023)	(0.000)
DGov	-0.034	0.145	0.079	-0.042	0.099	-0.032	-0.054	0.027	-0.236
	(0.645)	(0.200)	(0.641)	(0.460)	(0.199)	(0.792)	(0.314)	(0.736)	(0.058)
Panel B: Rights Issues									
Dataset	F 1yr	F 2yr	F 3yr	P 1yr	P 2yr	P 3yr	I 1yr	I 2yr	I 3yr
CGov	-0.542	-0.585	-1.471	-0.198	-0.303	-1.049	-0.147	-0.261	-0.917
	(0.058)	(0.166)	(0.121)	(0.287)	(0.324)	(0.058)	(0.426)	(0.348)	(0.066)
DGov	-0.262	0.268	0.286	-0.243	0.057	-0.119	-0.182	0.107	-0.010
	(0.111)	(0.298)	(0.442)	(0.056)	(0.734)	(0.638)	(0.102)	(0.499)	(0.967)
Panel C: Share Purchase Plans									
Dataset	F 1yr	F 2yr	F 3yr	P 1yr	P 2yr	P 3yr	I 1yr	I 2yr	I 3yr
CGov	-0.587**	-0.900**	-1.247	-0.375*	-0.479	-0.944*	-0.354	-0.447	-0.915*
	(0.004)	(0.008)	(0.094)	(0.040)	(0.072)	(0.026)	(0.055)	(0.098)	(0.022)
DGov	-0.049	0.542	4.154*	-0.043	0.521	0.853	-0.161	0.341	0.407
	(0.899)	(0.509)	(0.016)	(0.916)	(0.375)	(0.369)	(0.664)	(0.521)	(0.608)

This table presents the coefficients on the *CG* variables when the model described by Equation 4.1 is estimated for samples of resource firms. Significance at the 1% and 5% levels is denoted by ** and * respectively. 2 tailed *p*-values are reported in parentheses. Horwath models are not provided due to excessively small sample sizes. F denotes matched firm BHARs; P denotes portfolio matched BHARs and I denotes index matched BHARs, where the index is equal-weighted.

Figure 1: Mean Governance and Subindex Scores, 1995-2007

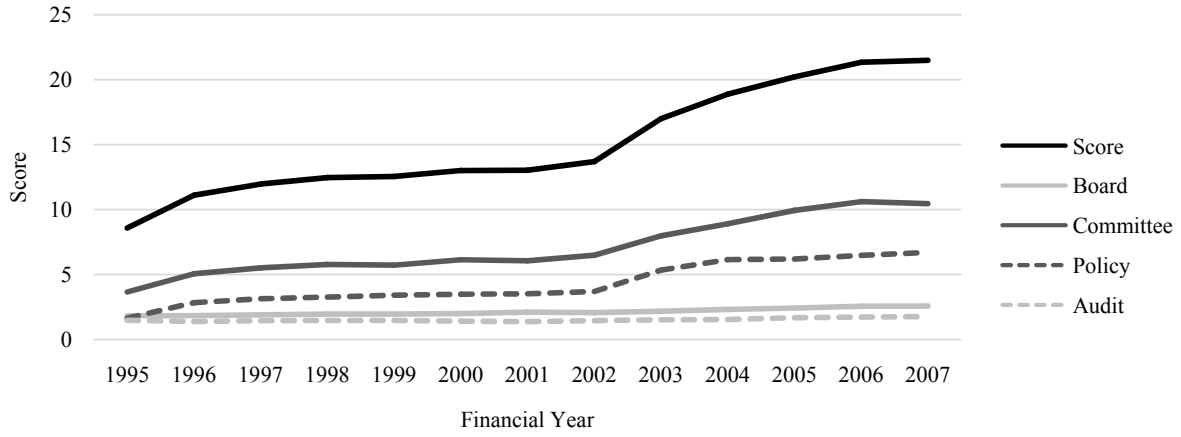

Figure 2: Standard Deviations of Governance and Subindex Scores, 1995-2007

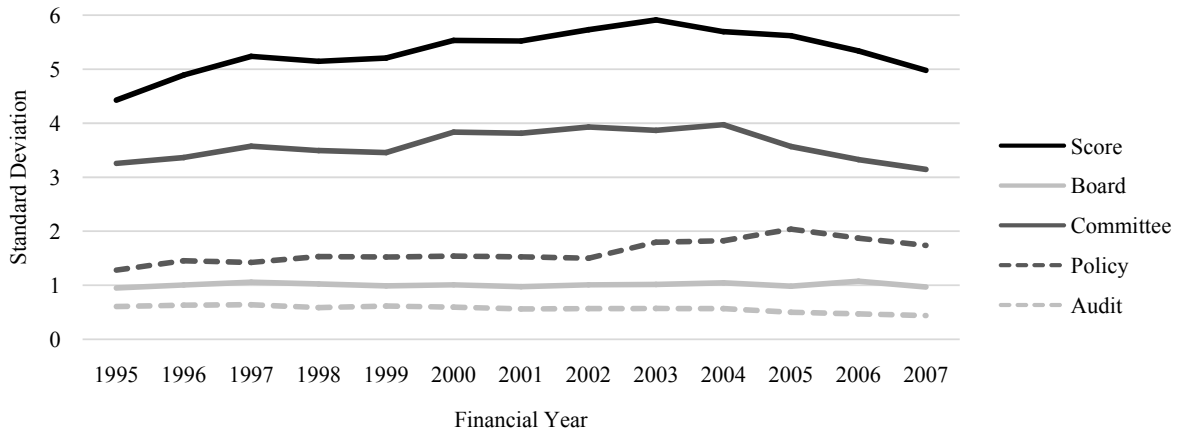

Figure 3: Corporate Governance Datasets