

**THE INFORMATION CONTENT OF
OPEN MARKET SHARE REPURCHASE:
CORPORATE GOVERNANCE OR
EARNINGS MANAGEMENT MATTERS
MORE?**



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Open Market Share Repurchase: Do Corporate Governance and Earnings Management Matter?

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Abstract

In this paper, we investigate whether corporate governance mechanisms, in particular, the market for corporate control, affects shareholder's wealth, both in the short and long run when firms repurchase their shares. Also, we examine whether information content on corporate governance mechanisms subsumes that of earnings management.

We find that repurchasing firms that have less antitakeover provisions (ATPs), being subject more to the disciplinary power of the market for corporate control, experience significantly stronger short run upon and long run abnormal returns after open market share repurchase announcements than those with more ATPs. A zero-investment strategy that buys firms with less ATPs and sells short those with more yields 0.45% (significant at 10%) in the short run and 9.6% per year (significant at 1%) in the long run. The zero-investment alpha that buys firms that manage earnings upwards and sells short those that manage downwards the most is nonetheless insignificant. However, for firms that manage their earnings downwards, the zero-investment alpha on the two extreme ATP portfolio returns a staggering 20.4%

(significant at 0.1%). This paper provides evidence that investors respond more strongly to repurchase announcements by well governed firms, in support of information signaling hypothesis and that corporate governance characteristics subsume information content on earnings management.

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1. INTRODUCTION

Before this new millennium, corporate governance and its relation to shareholder value and shareholder rights are an obscure subject to the mainstream investors. Since then, however, the investing public woke up to the string of corporate scandals in the U.S which caught them off guard. To restore the integrity of the capital market, legislators and regulators rushed to enact corporate governance reforms, which resulted in Sarbanes-Oxley Act of 2002. Whether the reforms achieve their purported benefits remains to be seen, but the impact of these reforms continues to be strongly felt across corporate America.

In a modern capitalistic society, good governance should encourage managers to make decisions in the best interests of the owners of the private companies they lead. A firm's corporate governance structure, which, for instance, can be used to protect managers from what they view as an unwanted takeover attempt, are an integral part of this power struggle between managers and shareholders, and is therefore at the heart of defining good corporate governance. Gompers, Ishii and Metrick (2003), Bebchuk, Cohen and Ferrell (2004), and Chi (2005) examine one imperative facet of corporate governance that is the market for corporate control. Each study finds that firms whose shareholders have more power relative to management, that is, those with fewer protective provisions, tend to have relatively higher market values and long run share return performance.

In this study, we examine investor reaction to open market share repurchase announcements conditional on corporate governance characteristics to distinguish between information signaling and free cash flow as an explanation. We then examine whether earnings management has any bearing on the long run positive abnormal returns holding corporate governance characteristics fixed. Lastly, we test whether information content on corporate governance characteristics subsumes that of earnings management. We find evidence that short and long run share performance for well-governed firms to surpass those of badly-governed firms, in support of information signaling hypothesis. Also, our tests show that corporate governance characteristics pertaining to ATPs matters more than perceived managerial intent attributable to earnings management. Our results are robust to various statistical tests, model specifications and proxies of corporate governance.

2. LITERATURE REVIEW

2.1 Share repurchase as signaling?

It is well documented that the share market reacts positively to a company's announcement of its intention to repurchase a portion of its outstanding shares through the open market (Peyers and Vermaelen, 2006; Ikenberry, Lakonishok, and Vermaelen, 1995). For instance, Ikenberry, Lakonishok and Vermaelen (1995) document an average abnormal buy-and-hold return of 12.1% over the four years following open market share repurchase announcements. Peyers and Vermaelen (2006) find the post-repurchase long run abnormal returns continue to persist though many well documented anomalies seem to have disappeared in recent years (see Schwert 2003). These authors ascribe the positive market reactions to signaling effect whereby managers engage in share repurchases to signal to the lesser-informed outside investors that the firm is undervalued or that the firm's future prospects are improving. In support of this hypothesis, Dann (1991) finds that the repurchasing companies exhibit abnormally high earnings during the five years following share repurchases. Furthermore, Lie (2005) documents that repurchasing firms record significant improvement in operating profitability relative to their peers after open market repurchase announcements. He concludes that managers undertake repurchases because they expect future operating performance to be better than what the capital market expects.

However, Grullon and Michaely (2004) find no significant increase in abnormal earnings two years after share buyback, something that one would expect if managers have inside information about future earnings. Thus, they argue that excess returns are not signal of future cash flows, but future risk changes. However, Vermaelen and Peyer (2006) argued that this proposition is inconsistent with the excess returns they obtain with Ibbotson's RATS methodology of which risk changes each month post-repurchase are adjusted. If risk indeed systematically varies post-repurchase, then the month-by-month coefficients on the factors will mirror such changes in risk. Therefore, the long run excess returns they find cannot be attributed to an under-reaction to risk changes. Instead, Vermaelen and Peyer (2006) conjecture that long term excess returns are a correction of an over-reaction to bad news prior to repurchases. They find that one such bad news is analyst forecast downgrades prior to repurchase announcements. The authors also find strong evidence that stocks experience the most significant positive long-run excess returns if share repurchase is triggered by a severe stock price decline during the previous six months.

The information signaling explanation for share repurchases is also substantiated by a survey of 384 financial executives. The survey asks the respondents their opinions and motives underlying their firms' payout policies. One key explanation for which there is significant agreement among respondents is that repurchase is undertaken when their shares are undervalued (Brav, Graham, Harvey and Michaely, 2005). They also report that nearly 90% of firms with low P/E ratios indicate that undervaluation may lead to repurchases. This view is consistent with what Wansley, Lane and Sarkar (1989) find that managers use share repurchases to

signal their confidence in the company, which management believes is not being incorporated in share prices.

2.2 Agency theoretic view of share repurchase

On the other hand, the free cash flow hypothesis (Jensen, 1986; Easterbrook, 1984) posits that corporate payouts reduce the agency costs of free cash flow and therefore minimize managers' incentives to overinvest. Without such payout, managers have incentives to invest excess cash in perquisites, empire building and other negative net present value projects. Stock repurchases allow these excess cash to be distributed to the shareholders and hence eliminate the managers' incentives for wasteful projects which then will increase firm value. Supporting this hypothesis, Stephens and Weisbach (1998) find that repurchases are positively related to levels of cash flow. In fact, Dittmar and Mahrt-Smith (2005) show that excess cash reserves dissipate quicker in the presence of entrenchment. Also, they show that \$1 of cash in a poorly governed company is valued by the market at less than \$1, while this value of cash doubles in well governed company. Furthermore, they document that entrenched managers tend to retain or channel excess cash to inefficient investment projects. Consistent with what Dittmar and Mahrt-Smith (2005) find, Grullon and Michaely (2002) document that market reacts more positively to repurchase announcements among those firms that are more likely to overinvest.

Lang and Litzenberger (1989) discuss these two alternative hypotheses in the context of an alternative form of corporate payout, namely dividends. They use Tobin's q , the ratio of the market value of assets to the replacement cost of assets, as a measure of a firm's investment opportunities, to show that, under certain assumptions,

having a Tobin's q value of less than 1 is a sufficient condition for a firm to be categorized as over-investing. By segmenting their sample into high- q ($q > 1$) and low- q ($q < 1$) firms, the authors show that market reacts more to dividend changes of low- q firms than to those of high- q firms. They conclude that this supports the free cash flow hypothesis. Their conclusions are supported by the recent work of Officer (2006) who uses ATP in place of Tobin's q .

By applying, at least in part, the methodology that Lang and Litzenberger (1989) introduce, Howe, He and Kao (1992) and Perfect, Peterson and Peterson (1995) examine the market reaction to share repurchase tender offer announcements. However, Howe et al. (1992) do not find the abnormal announcement returns between the two groups to be significantly different, albeit the fact that share repurchase is a comparable cash flow event as dividend payment. Howe et al. (1992) conclude that the free cash flow hypothesis is not the motivation behind firms' decisions to repurchase shares. On the other hand, Perfect et al. (1995) argue that Howe et al. (1992) use a flawed measure of Tobin's q , which is the average q -ratio over the three years before repurchase. Perfect et al. (1995) then show that if Tobin's q is measured the year preceding share repurchase, low- q firms do in fact show stronger market reaction to repurchase announcements, supporting free cash flow hypothesis. In line with this finding, Nohel and Tarhan (1998) find that post-repurchase operating performance improves only in low-growth firms on the back of more efficient asset utilization and asset sales, instead of improved growth opportunities.

2.3 Do managers repurchase for themselves or for their shareholders?

Most financial economists agree that open market share repurchases convey information to outside investors, but there is little consensus regarding the nature of the information conveyed. Open market repurchases are simply authorizations, not commitments and thus have long been criticized for their lack of credibility as quality signals ((e.g. Vermaelen (1981) and Comment and Jarrell (1991)). Understanding the managerial intent behind share repurchases holds the key to deciphering the credibility of the signals. Louis and White (2006) attempt to address this issue by examining firms' financial reporting behavior before repurchase tender offers. The authors find that average firms engaging in fixed-price tenders offers report insignificantly positive discretionary accruals in the quarter preceding a repurchase tender offer, contrary to that of Dutch-auction tender offers. They hence conclude that fixed-price tender offers are more likely than Dutch-auction tender offers to be used to signal positive private information. In addition, the authors argue that firms that initiate tender offer share repurchase for purposes other than signaling have incentives to reduce their stock price before share repurchases so to minimize the cost of such corporate payout¹.

Consistent with Louis and White's (2006) finding on Dutch-auction tender offers, Gong, Louis and Sun (2006) find evidence that managers who undertake open market share repurchases tend to deflate pre-repurchase earnings. They argue that post-repurchase long-term abnormal returns and the reported improvement in

¹ Potential non-signaling reasons for repurchases include: distribution of excess cash (Brennan and Thakor 1990), reduction of agency cost (Denis and Denis 1993; Grullon and Michaely 2004), change toward the optimal financial leverage (Dittmar 2000), expropriation of creditors (Maxwell and Stephens 2003), financing of employee stock option plans (Kahle 2002), and maximization of employee stock option value (Jolls 1998).

operating performance documented in the extant studies are partly driven by pre-repurchase downwards earnings management, rather than genuine growth in profitability. They also document that pre-repurchase abnormal accruals are negatively associated with both the future operating performance and future stock performance. Hence, they posit that one reason for the post-repurchase abnormal returns is that post-repurchase realized earnings growth exceeds expectations formed on the basis of pre-repurchase deflated earnings numbers².

In spite of what Gong, Louis and Sun (2006) find, what remains unanswered is the managerial intent behind open market repurchases. Instead of discretionary accrual (Louis and White, 2006), we use a firm's corporate governance characteristics, specifically, ATPs to decipher managerial intent. Earnings management is a means to many ends. On the one hand, managers may use positive discretionary accrual to complement buyback signal. On the other hand, they may do so to mislead investors, particularly to boost share price to their own benefits (Chan, Ikenberry, Lee, and Wang, 2006). Thus, not surprisingly, Chan, Ikenberry, Lee, and Wang (2006) find that earnings quality is a noisy proxy of managerial intent³.

² Prior studies document that firms manage their reported earnings prior to corporate events such as: management buyouts (Perry and Williams 1994), initial public offerings (IPOs) (Teoh, Welch, and Wong 1998a), seasoned public offerings (SEOs) (Teoh, Welch, and Wong 1998b; and Shivakumar 2000), and stock-for-stock mergers (Erickson and Wang 1999; and Louis 2004). The existing literature also finds that long-term abnormal returns are negatively associated with (abnormal) accruals (Sloan 1996; Xie 2001) and that the long-term stock performance after many corporate events is partly driven by pre-event earnings management (Teoh, Welch, and Wong 1998 and 1998b; and Louis 2004).

³ They also show that the two readily evident measures of managerial intent, namely program size and ex-post completion rates, are offer little insight.

We posit that corporate governance characteristics shed more light into managerial intent than earnings management. In other words, we hypothesize that governance characteristics subsume information on earnings management. We conjecture that well-governed companies are more likely than badly-governed companies to initiate open market repurchases in the interest of the shareholders. Consistent with our conjectures, we find that well-governed firms (those with less ATPs) have significantly higher abnormal announcement returns and post-repurchase cumulative abnormal returns than those badly-governed firms (those with many ATPs). A zero-investment strategy that buys firms with less ATPs and sells short those with more yields 0.45% (significant at 10%) in the short run and 9.6% per year (significant at 1%) in the long run. Among firms that manage their earnings downwards the most, such strategy yields an astonishing 20.4% per year. The best performing firms are those well-governed firms that manage their earnings downwards generating as much as 45.74% three years after open market repurchase announcements. None of the zero investment strategy that buys firms that manage earnings upwards and sells short those that manage earnings downwards conditional on governance portfolios yields statistically significant returns. Also, other than badly governed firms, this strategy yields negative return conditional on other corporate governance characteristics; this weakly supports Gong, Louis and Sun's (2006) finding.

3. HYPOTHESES

Our study is related to Howe, He and Kao (1992). The key difference is that we use BCF and GIM, instead of Tobin Q, to stratify our sample to investigate how abnormal announcement returns and post-repurchase future stock performance behave conditional on governance characteristics and earnings management. Governance characteristics such GIM and BCF provide a crucial link to uncover the nature of the information conveyed by share repurchases: managerial intent. These governance measures are indicators of how well governed is a company and good governance encourages managers to make decisions in line with shareholders' interest. On the contrary, the managers entrenched with many ATPs may possibly entrench themselves further through share repurchase making it even harder for shareholders to exercise their rights⁴.

Are BCF and GIM which look only at ATPs good proxies for corporate governance? Despite criticism⁵, BCF and GIM are widely accepted measures for corporate governance to date. For instance, Masulis, Wang and Xie (2006) find that acquirers with more ATPs experience significantly lower announcement-period abnormal returns. Goh and Caton (2006) document that firms with the least ATPs experience significantly positive abnormal returns upon poison pill adoption. Officer

⁴ Billett and Xue (2007) document that firms' repurchase activities increase when they face a high takeover probability.

⁵ Larcker, Richardson and Tuna (2004) argue that typical structural indicators of corporate governance used in academic research and institutional rating services have very limited ability to explain managerial decisions and firm valuations.

(2006) finds that firms with more ATPs tend to have higher dividend initiation announcement abnormal returns. Klock, Mansi and Maxwell (2005) document that strong (weak) ATPs are associated with lower (higher) cost of debt financing, suggesting that bondholders view ATPs favourably, unlike shareholders. These results suggest that investors react differently to corporate events and in different asset classes, conditional on ATPs.

3.1 Short run abnormal announcement returns by corporate governance

ATPs measure the balance of power between shareholders and management and hence how well governed a firm is, therefore managers of firms with less ATPs are more likely to initiate share repurchase in the interests of shareholders. As such, market participants are likely to view share repurchases by these firms more favorably than those of many ATPs. Additionally, the market may even perceive unfavorably share repurchases initiated by entrenched managers as their intent is questionable because they may possibly repurchase to further entrench themselves at the expense of the shareholders. This view is consistent with what Chan, Ikenberry, Lee, and Wang (2006) find that some managers may potentially mislead investors for short term gain. In other words, the credibility and therefore the signal strength emanating from share repurchase initiated by well-governed firms is stronger than badly-governed firms. Consequently, this stronger signal translates into higher abnormal announcement returns. Hence, our first hypothesis is as follows:

H1a: There will be no significant difference in abnormal announcement returns around share repurchases announcements conditional on governance characteristics.

H1b: Firms with strong governance will have significantly more positive share repurchase announcement returns than will firms with weak governance.

3.2 Long run abnormal returns by corporate governance

While announcement returns reflect expectations about the changes firms will undergo as a result of repurchases, long-run returns capture how investors revise their expectations due to realizations. There is prior evidence that investors revise their expectations upward following repurchases. In particular, using the sample period from 1991 to 2001, Peyers and Vermaelen (2006) document significant abnormal returns from the first month after the announcement onwards; the cumulative average abnormal return over 36 months is as high as 18.6% significant at 1% level. Furthermore, the authors find ‘value’ stocks (highest book-to-market ratio) to outperform by 28.89% over 48 months, while ‘glamour’ stocks outperform only by 14.87%. If signaling by well-governed firms is indeed genuine, then their long run cumulative abnormal returns are likely to outperform those of badly-governed firms. Therefore, our second hypothesis is as follows:

H2a: There will be no significant difference in long run cumulative abnormal announcement returns after share repurchases announcements conditional on governance characteristics.

H2b: Firms with strong governance will have significantly more positive long run cumulative abnormal returns after share repurchase announcement than will firms with weak governance.

3.3 Abnormal discretionary accruals

Gong, Louis and Sun (2006) find that the average firms report significantly negative abnormal accruals prior to open market share repurchases. Chan, Ikenberry, Lee, and Wang (2006) suggest that some managers, particularly those whose firms experience lagging share price performance, are under pressure to boost their stock prices. Consequently they employ both open-market repurchases and aggressive discretionary accruals with the intent to mislead investors. However, Nanda and Wysocki (2003) find that strong shareholder protection limits insiders' ability to acquire private control benefits. As such, managers of well governed companies are likely to find it more costly to expropriate wealth from outside shareholders. Furthermore, Lara, Osma and Penalva (2005) show that firms with strong governance exhibit higher degree of accounting conservatism. So, we expect the abnormal accruals for shareholder to be significantly lower than management friendly firms. Our third hypothesis is as follows:

H3a: There will be no significant difference in abnormal accruals between shareholder and management friendly firms during the year of share repurchase announcements.

H3b: Shareholder friendly firms' abnormal accruals are significantly more negative than those of management friendly firms during the year of share repurchase announcements.

3.4 Long run abnormal returns by discretionary current accruals

Gong, Louis and Sun (2006) find a significantly negative association between pre-repurchase abnormal accruals and post-repurchase operating performance improvement and long-term abnormal stock returns. They argue that the market is surprised by the subsequent improvement in operating performance which explains the subsequent positive abnormal stock returns. This result nonetheless is largely driven by those firms that report the most negative abnormal accruals before the repurchases. This view is consistent with Louis' (2004) argument that investors are likely to be surprised when realized growth fall short or exceed what they expect on the basis of manipulated earnings figures due to the intricacies of earnings management and the difficulty to observe certain managerial actions. In support of this, Chan, Ikenberry, Lee, and Wang (2006) find that the market fails to sort out differences in earnings quality across buyback programs. Therefore, it is not surprising that the subsequent state realizations, which are partly driven by pre-repurchase earnings management, differ from what the market expects. Therefore, our fourth hypothesis is as follows:

H4a: There will be no significant difference in the post-repurchase cumulative abnormal returns between firms that manage earnings upwards and those that manage downwards.

H4b: The post-repurchase cumulative abnormal returns among firms that manage earnings upwards are significantly lower from those that manage downwards.

3.5 Long run abnormal returns by corporate governance and discretionary current accruals

Earnings management is an elusive notion to the investors, prior studies find that investors fail to completely undo the stock price effects of earnings management around various corporate events ((e.g., Teoh, Welch, and Wong 1998a and 1998b; Louis 2004). As Louis (2004) shows, pre-event earnings management will be associated with post-event abnormal returns as long as investors cannot observe directly managers' actions. On the other hand, BCF and GIM are easily measurable and available to the investing public. Furthermore, the usefulness of these proxies has been proven empirically in various corporate actions and asset classes (See Masulis, Wang and Xie, 2006; Goh and Caton, 2006; Officer, 2006; Klock, Mansi and Maxwell, 2005). Therefore, we posit that corporate governance characteristics subsume information on earnings management. Specifically, holding abnormal accruals constant, a zero-investment strategy that buys firms with less ATPs and sells short those with more, will yield significantly positive returns. On the contrary, we hypothesize that, with corporate governance characteristics fixed, a zero-investment strategy that buys firms with the most negative abnormal accruals and sell short firms with the most positive abnormal accruals will yield insignificantly negative returns.

H5a: The long run cumulative abnormal returns for firms that manage earnings downwards are significantly higher than those that manage them upwards, holding corporate governance characteristics constant.

H5b: There will be no significant difference in long run cumulative abnormal returns after share repurchases announcements conditional on earnings management, holding corporate governance characteristics constant.

H6a: The long run cumulative abnormal returns for firms with less ATPs are significantly higher than those with more, holding earnings abnormal accruals constant.

H6b: There will be no significant difference in long run cumulative abnormal announcement returns after share repurchases announcements conditional on corporate governance characteristics, holding abnormal accruals constant.

This paper is organized as follows: Chapter 4 discusses our data collection, while chapter 5 lays out our methodology for data analysis. Chapter 6 discusses the results and finally chapter 7 summarizes our work.

4. SAMPLE SELECTION

The beginning points for sample selection are the Securities Data Corporation database. Our sample covers the period 1989 to 2002. We require that the event firms have available Center for Research in Securities Prices data. In addition, we require that event firms are included in the Investor Responsibility Resource Center's (IRRC) database of antitakeover provisions. This results in 2,755 events.

The IRRC published six volumes in years 1990, 1993, 1995, 1998, 2000, and 2002. They include detailed information on antitakeover provisions at approximately 1,500 firms during each of the six publication years, with more firms covered in the more recent volumes. As GIM point out, these firms comprise members of the S&P 500 index and the annual lists of the largest corporations published by Fortune, Forbes, and BusinessWeek. The IRRC expanded the sample in 1998 to include smaller firms and firms with high levels of institutional ownership. In each of the six years, firms in the IRRC database represent more than 90% of the U.S. stock market capitalization (Bebchuk, Cohen, and Ferrell, 2004). Following GIM, we assume that during the years between two consecutive publications, firms have the same governance provisions as in the previous publication year.

Table 1 Panel A reports distribution of open market repurchase across time. The peak year is 1998 with 484 events, followed by 1999 with 417, and 2000 with 415. Also, repurchases have decreased to only 80 announcements in 2002. Panel B indicates a little industry clustering for our sample. The industry with the largest representation is the computer hardware and software with 381 companies, which represents 13.87 percent of the sample.

Place Table 1 About Here

Table 2 shows the descriptive statistics by the entrenchment index. We find a significant positive average abnormal return in the three days around the announcement, consistent with earlier findings (e.g., Vermaelen, 1981; Peyers and Vermaelen, 2006). What is surprising, however, is the negative short term return observed for the highest G group. This suggests that market participants react negatively to repurchase announcements by companies with the most antitakeover protection. In addition, over the years, low number of events seems to correspond to high book-to-market ratios. Also, prior six-month compounded returns seem to be negatively related to post six-month compounded returns. Interestingly, the negative-to-positive reversal pattern appears to cluster among better governed companies. We will investigate these further in our test of short run and long run abnormal returns by stratifying our samples by governance portfolio.

Place Table 2 About Here

5. METHODOLOGY

5.1 Measuring corporate governance

To study whether corporate governance affects market participants' expectations when firms undertake share repurchases we need a measure of corporate governance. Gompers, et al (2003) analyze the effect of a firm's corporate governance structure on firm value. Using data from the IRRC's Corporate Takeover Defenses, Gompers, et al simply count the number of twenty-four governance provisions (See Appendix C) employed by each of some 1,500 companies. Each of these provisions is characterized as providing protection to incumbent management, and the final tally is their corporate governance index, denoted by "G". Companies with a relatively low G have relatively low numbers of protective provisions, which allows shareholders to exercise more power over their firms. We characterize such firms as being shareholder friendly. Conversely, companies with a relatively high G have a relatively high number of protective measures, which gives shareholders less relative power. We characterize these firms as being management friendly. Gompers, et al (2003) find that companies ruled more democratically tend to have significantly higher firm value than those ruled more autocratically. Although GIM do not provide any direct evidence to support their hypothesis that ATPs cause higher agency, Chi (2005) presents evidence indicating that causality runs in one direction only – from governance structure to firm value and concludes that firms can reduce agency costs and thereby enhance value by granting more rights to shareholders.

Bebchuk et al (2004) argue that all of the twenty-four protective provisions listed by the IRRC may not have an equal effect on shareholder value, and that some may have no effect at all. In fact, their main result indicates that just six provisions drive the valuation effects found by Gompers, et al (2003). These six include two that Bebchuk, et al term “takeover readiness” provisions, which include (1) poison pills and (2) golden parachutes; and four they term “constitutional” provisions, which include (1) staggered boards, (2) limits to shareholder bylaw amendments, (3) supermajority voting requirements for mergers, and (4) supermajority voting requirements for charter amendments. Firms can have any combination of these six provisions including none, and the sum of the provisions employed at any given firm is termed the entrenchment index, denoted by “E”. Similar to the findings of Gompers, et al (2003) using G, Bebchuk, et al (2004) find that firm value is negatively related to E. That is, firms that are governed more democratically and whose managers are less entrenched, tend to have higher market values. Furthermore, they report evidence indicating that the other eighteen governance provisions included in G appear to have no systematic relationship to firm value. Because of this last finding we focus our attention on E as our primary measure of good corporate governance. We do a parallel analysis with G in place. Generally, the results and related implications are closely identical for the two methods.

We assign our sample companies to one of four portfolios based on their E. Firms whose E equals two or three are assigned to separate portfolios, while firms with E equal to zero or one and four, five, or six are combined into separate portfolio respectively due to the small number of firms on the extreme ends. Table 2 shows the

frequency distribution of E for our sample. Note that the governance portfolios are about equally sized.

5.2 Measuring short run market reaction

To measure short run market reaction, we use standard event study methodology and data from CRSP to measure the average abnormal stock returns of repurchasing companies. Day 0 is defined as the event date. The market model defines the expected return for each company. We estimate market model parameters using daily returns over the 255 trading days from day 91 to day 345. The estimation period and the event period do not overlap, so that parameter estimation is not biased towards the direction of event effect. We assume that security returns follow a single factor market model,

$$R_{i,t} = \alpha_i + \beta_i R_{m,t} + \varepsilon_{i,t}, \quad (1.1)$$

where $R_{i,t}$ is the rate of return of the common stock of the j^{th} firm on day t . $R_{m,t}$ is the return on the equally-weighted CRSP index on day t . $\varepsilon_{i,t}$ is a random variable that have an expected value of zero. It is assumed to be uncorrelated with $R_{m,t}$, uncorrelated with $R_{k,t}$ for $k \neq i$, not autocorrelated and homoscedastic. β_i measures the sensitivity of $R_{i,t}$ to the market index.

Abnormal return for the common stock of the j^{th} firm on day t is defined as,

$$A_{i,t} = R_{i,t} - (\alpha_i + \beta_i R_{m,t}), \quad (1.2)$$

where the coefficients α_j and β_j are ordinary least squares estimates of α_j and β_j .

The average abnormal return AAR_t is therefore,

$$AAR_t = \frac{\sum_{j=1}^N A_{i,t}}{N}, \quad (1.3)$$

where t is defined as trading days relative to share repurchase announcement (e.g. $t = -1$ means 1 trading day before the event).

Cumulative average abnormal return over an event window (T_1, T_2) is hence,

$$CAAR_{T_1|T_2} = \frac{1}{N} \sum_{j=1}^N \sum_{t=T_1}^{T_2} A_{i,t}, \quad (1.4)$$

Prior studies (Vermaelen and Peyers, 2006; Ikenberry, Lakonishok, and Vermaelen, 1995) have documented that share prices tend to drift upwards for as long as four years post-repurchase. As such, parameter estimates for equation (1.2) may be biased. To test the robustness of our findings, we repeat the above tests using market adjusted returns model. It is computed by subtracting the returns on the market index from the returns of a common stock of a firm,

$$A_{i,t} = R_{i,t} - R_{m,t}, \quad (1.5)$$

Then we use equation (1.4) to compute the corresponding cumulative abnormal return over the respective event window of interest.

5.3 Measuring long run share performance

Then, we investigate whether the long-run abnormal returns after the announcement of open market share repurchases are similar conditional upon governance characteristics. We start by using Ibbotson's (1975) regression across time and security (RATS) method to compute abnormal returns. This method has been applied in several papers, including a recent paper by Peyer and Vermaelen (2006). In this approach, security excess returns are regressed on the three Fama-

French factors for each month in event time, and the estimated intercept represents the monthly average abnormal return for each event month. We consider long-run abnormal returns between 1 and 36 months (j) after the announcement of the open market repurchase program.

The following cross-sectional regression is run each event month j ($j=0$ is the event months in which the open market repurchase is announced):

$$R_{i,t} - R_{f,t} = a_j + b_j(R_{m,t} - R_{f,t}) + c_jSMB_t + d_jHML_t + \varepsilon_{i,t}, \quad (2.1)$$

where $R_{i,t}$ is the monthly return on security i in calendar month t corresponding to event month j . $R_{f,t}$, $R_{m,t}$, SMB_t , and HML_t are the risk-free rate, the return on the equally weighted CRSP index, the monthly return on the size and book-to-market factor in calendar month t corresponding to event month j , respectively. The coefficient a_j is the result of a monthly (in event time) cross-sectional regression. The cumulative abnormal return (CAR) numbers reported in Table 4 are sums of the intercepts a_j over the relevant event-time window. The standard error (denominator of the t-statistic) for a given event window is the square root of the sum of the squares of the monthly standard errors. We use ordinary least squares to estimate the model and test the significance of mean cumulative abnormal return assuming time-series independence.

This methodology takes into account changes in the riskiness of the equity from before to after the buyback, e.g., due to changes in leverage. The reason is that month-by-month post-repurchase factor loadings are allowed to change – albeit only in the cross-sectional average, not for each firm individually.

To test the robustness of our finding, we run an additional test of the long-run abnormal performance, designed to alleviate the problem of clustering of events in calendar time and the associated cross-correlation problems. We implement the Fama-French calendar-time portfolio approach as advocated by Fama (1998) and Mitchell and Stafford (2000). The Fama-French calendar-time portfolio methodology does also not rely on an estimation period prior to the event to compute the abnormal returns. Portfolios are formed by event month but in calendar time. The portfolio in calendar month t contains all the stocks of firms that had an event in the prior 12 (24 or 36) calendar months. A single regression is then run where the dependent variable is the time series of calendar portfolio returns. The intercept represents the mean monthly excess return in the event period (e.g, $[+1, +24]$ for the average excess return over the 24 months after the repurchase announcement month), where month 0 is the announcement month of the repurchase.

5.4 Measuring abnormal accruals

First of all, because we examine changes in discretionary accruals over a seven-year sample period centered on share repurchase, we exclude share repurchases by the same firm during the three years after such event in our sample to reduce dependence for our statistical tests. Therefore, once a firm has a share repurchase, that firm cannot reenter the sample until three years after the repurchase date. Lastly, we

exclude financial institution and regulated utility offerings⁶. Table 7 shows the frequency distribution by governance portfolios and abnormal accruals⁷.

There are various accounting methods a manager can employ to manage earnings (See Appendix B for details). These encompass the use of accruals, changes in accounting methods and changes in capital structure (e.g. debt-equity swaps). Reported earnings comprise of cash flows from operations and accounting adjustments called accruals. In this study, we focus on current accruals as the source of earnings management because managers have more discretion over short term than over long-term accruals (e.g. Guenther (1994)). Current accrual adjustments involve short-term assets and liabilities that sustain daily operations of a firm. Managers can increase accruals, for instance, by deferring recognition of expenses when cash is advanced to suppliers, by recognizing earlier revenues with credit sales (before cash receipt) or by deferring recognition of expenses through lower provision for bad debts. As such, accrual adjustment, which is dependent on managerial discretion, may reflect managers' desire to manage earnings opportunistically, instead of the economic realities of the mismatch between actual accounting events and the timing of cash flows. Hence, not surprisingly, Chan, Ikenberry, Lee, and Wang (2006) document that investors have difficulty deciphering the differences in earnings quality across buyback programs.

As firms in the same industry typically experience the same business conditions, certain level of accrual adjustments are necessary and appropriate, and so are expected by investors. Therefore, we need a model to decompose accruals into

⁶ These industries have unique disclosure requirements. Also, financial institutions have high leverage ratios that may distort our results.

⁷ We re-run our long run stock return tests on this reduced sample, the results are qualitatively similar. See Table 8 for details.

two components, one that is driven by the firm and industry conditions and the other is presumably managed by managers. Following Teoh, Welch and Wong (1998), we use an extension of the cross-sectional Jones (1991) model to measure earnings management. Firstly, to reduce the influence of nonstandard classification of certain items, we define current accruals (CA) as

$$CA = \Delta [accounts\ receivables\ (\#2) + inventory\ (\#3) + other\ current\ assets\ (\#68)] - \Delta [accounts\ payable\ (\#70) + tax\ payable\ (\#71) + other\ current\ liabilities\ (\#72)]. \quad (3.1)$$

Nondiscretionary variables are the expected accruals from a cross-sectional modification of the Jones (1991) model. The expected current accruals for a repurchasing firm are estimated from a cross-sectional regression of any given year of current accruals on the change in sales (#12) using control samples of all two-digit SIC peers (repurchasing companies are excluded from the estimation). Also, to reduce heteroskedasticity in the data, all variables in the regression are scaled by beginning assets in the year. Hence, the regression run is as follows:

$$\frac{CA_{j,t}}{TA_{j,t-1}} = \alpha_0 \left(\frac{1}{TA_{j,t-1}} \right) + \alpha_1 \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}} \right) + \varepsilon_{j,t}, \quad (3.2)$$

where $j \in$ estimated samples, $\Delta Sales_{j,t}$ is the change in sales, and TA_j is total assets (#6). The expected accruals represented by nondiscretionary current accruals are calculated as follows:

$$NDCA_{i,t} = \alpha_0 \left(\frac{1}{TA_{i,t-1}} \right) + \alpha_1 \left[\frac{(\Delta Sales_{i,t} - \Delta TR_{i,t})}{TA_{i,t-1}} \right], \quad (3.3)$$

where α_0 is the estimated intercept and α_1 is the slope coefficient for repurchasing firm i in year t , and $\Delta TR_{i,t}$ is the change in trade receivables (#151) in year t for issuer i . The increase in trade receivables is subtracted from the change in sales to allow for the possibility of credit sales manipulation by the repurchasing firm (for instance, repurchasing firms may allow loose credit sale policy to aggressively push for more sales prior to repurchase). Using the expected accruals from the model in Equation (3.3), abnormal accruals (AA) are defined as follows,

$$AA_{i,t} = DCA_{i,t} = \frac{CA_{i,t}}{TA_{i,t-1}} - NDCA_{i,t}, \quad (3.4)$$

where $DCA_{i,t}$, discretionary current accruals, is abnormal accruals represented by $AA_{i,t}$ for repurchasing firm i in year t .

6. RESULTS

6.1 Short term stock return

Table 3 presents the results of our analysis of abnormal stock returns over the seven days surrounding share repurchase. Day 0 represents the share repurchase date. Portfolios of sample firms are arranged across the columns of the table containing results for each entrenchment portfolio in order from the shareholder friendly firms to the management friendly firms. Single-day abnormal returns are in the main body of the table. Note that over the seven days of the announcement period the only statistically significant abnormal returns appear on days 0 and +1 across the portfolios.

We cumulate abnormal returns (CAR) over the three-day (-1,+1) and two-day announcement window (0, +1), average the CAR for each of the E portfolios, and report the average CAR near the bottom of table 4. Note first the positive and significant CAR across the samples, consistent with the extant literature. Then, we stratify the full sample into respective governance portfolios. The CAR (-1,+1) and CAR (0,+1) for the shareholder friendly portfolio are 0.70% and 1.13% respectively, which are about twice those of management friendly portfolio at 0.47% and 0.65%. Also, the 0.48% difference in the CAR (0,+1) between the two extreme governance portfolios is statistically different at the 10% level. The result is even stronger using G index; the difference is 0.64% (significant at 5%). Apparently, the market responds more favorably to share repurchase announcement by companies with the most

shareholder friendly governance structure. This suggests that investors price share repurchase announcements conditional on a firm's governance characteristics.

Place Table 3 About Here

6.2 Long term stock return

For the full sample of 2,755 events in 1989-2002, we find significant abnormal returns from the first month after the announcement onwards. For example, over 12 (24, 36) months we find cumulative average abnormal returns of 3.99% (7.47%, 11.28%), all significant at the 1% level or better, as reported in Panel A of Table 4, consistent with Vermaelen and Peyers' (2006) findings.

The results of the calendar time approach are shown in Panel C of table 4. This table reports the time-series regression of equally weighted repurchase portfolio returns for 12 (24, 36) months starting the month after the buyback announcement. For the full sample of 2,755 events, we find highly significant average monthly abnormal returns of 0.82% (0.69%, 0.63%) using 12- (24-, 36-) month event windows in line with those of Vermaelen and Peyers (2006).

If corporate governance matters for firm performance and this relationship is fully incorporated by the market, then stock price should quickly adjust to stock repurchase announcement. In other words, the expected returns on the stock would be unaffected beyond the short run event window. If, however, governance matters but is not incorporated immediately into stock prices, then price will drift after repurchase announcement. In this section, we analyze whether such drift exists and how long does it persist, conditional on governance characteristics.

Table 4 Panel A shows the results of our test of long run market performance over three years. Shareholder friendly portfolio outperforms management friendly portfolio. For example, after 36 months, the shareholder friendly firms display a positive and significant cumulative abnormal return of 20.09% (significant at the 0.1% level), while the management friendly firms display a positive but insignificant abnormal return of 2.89%. Using the Fama-French calendar-time approach, reported in Panel C of Table 4, we find that the average monthly abnormal return is 0.87% (significant at the 0.1% level) for shareholder friendly stocks. Management friendly stocks, on the other hand, display a significant but much lower average monthly abnormal return of 0.46%.

Panel B of Table 4 shows the results of estimating (1) where the dependent variable, R_t , is the monthly return difference between the shareholder and management friendly portfolios. The alpha in this estimation can be interpreted as the abnormal return on a zero-investment strategy that buys the shareholder friendly portfolio and sells short the management friendly portfolio. Under this specification, the alpha is 80 basis points (bp) per month, or about 9.6 percent per year (significant at 0.1%). Thus, very little of the difference in raw returns can be attributed to style differences between the two portfolios. Using Fama-French calendar-time approach, alpha is 40 bp per month or about 4.8% per year. The returns across all governance portfolios are loading positively on SMB factor and HML factor. This suggests that long term abnormal return is negatively associated with firm market capitalization and positively associated with book-to-market ratio. In support of this, Vermaelen (1981) documents that firm size is negatively associated to announcement returns, while Peyers and Vermaelen (2006) find that “value” stocks (high book-to-market ratio)

outperform “glamour” stocks in long run. In other words, the market seems to under-react to buyback announcements, in particular to those made by shareholder-friendly, value and small firms.

Place Table 4 About Here

As a robustness check, we modify RATS model to accommodate Carhart’s (1997) four-factor model. The following regression is run:

$$R_{i,t} - R_{f,t} = a_j + b_j(R_{m,t} - R_{f,t}) + c_jSMB_t + d_jHML_t + e_jUMD_t + \varepsilon_{i,t}, \quad (4.1)$$

In Table 5, Panel A, we find that the abnormal returns are basically unaffected by the inclusion of the momentum factor. If anything, the cumulative abnormal returns are stronger. The average monthly abnormal returns remain statistically and economically significant, as shown in Panel C, using the calendar-time approach with the four factors. Also, the alpha of monthly return difference between the shareholder and management friendly portfolios remains statistically significant and economically important at 8.4% annualized (Table 5 Panel B). The returns across all governance portfolios are loading negatively on momentum factor. This suggests that the long run abnormal returns for shareholder friendly stocks after share repurchases may be attributable to market overreaction to some bad news which is subsequently corrected. In fact, Vermaelen and Peyers (2006) find that firms that were beaten up the most prior to share repurchase announcement experience the most post-repurchase long run cumulative abnormal returns.

Place Table 5 About Here

An alternative explanation for the abnormal returns could be caused by an omitted, priced factor. Barclay and Smith (1988) and Brockman and Chung (2001) find that stocks are less liquid after repurchases. Since Pastor and Stambaugh (2003) find that their liquidity factor is priced, it is possible that the abnormal returns are due to this omitted liquidity factor. However, the effect of share repurchases on liquidity is a controversial issue. Wiggins (1994), Singh et al. (1994), and Miller and McConnell (1995) conclude that repurchases do not affect liquidity, while Cook, Krigman and Leach (2004), and Franz, Rao, and Tripathy (1995) find increased liquidity. Furthermore, Grullon and Michaely (2002) find that share repurchases improve liquidity by increasing depth on the sell-side of the market. They argue that companies, to some extent, support market makers and add downside liquidity in falling stock markets. In order to test whether our results are robust to liquidity factor, we run the following regression:

$$R_{i,t} - R_{f,t} = a_j + b_j(R_{m,t} - R_{f,t}) + c_j SMB_t + d_j HML_t + e_j LIQ_t + \varepsilon_{i,t}, \quad (4.2)$$

In Table 6, Panel A, we find that the cumulative abnormal returns are basically unaffected by the inclusion of the liquidity factor. The average monthly abnormal returns are still statistically and economically significant, as shown in Panel C, using the calendar-time approach with the four factors. Also, the alpha of monthly return

difference between the shareholder and management friendly portfolios remains statistically significant and economically important at 4.8% per year. We conclude that the long run abnormal returns for shareholder friendly stocks after share repurchases are not a compensation for a decline in liquidity.

Place Table 6 About Here

In short, firms with strong governance have significantly more positive long run cumulative abnormal returns after share repurchase announcement than will firms with weak governance. This finding is robust to various model specifications and the use of G index.

6.3 Earnings management

First of all, we examine how shareholder and management friendly firms will use their discretion in financial reporting. Table 8 Panel A shows abnormal accruals across for the portfolios. The finding that well-governed firms tend to be conservative in their reporting (abnormal negative accruals) is consistent with our hypothesis. Also, we find that managers that subject to market disciplinary action the least are more likely to manage their earnings upwards the two years before repurchase announcement year. However, the abnormal accruals between shareholder and management friendly portfolios are not significantly different from two years before to two years after repurchase announcement (Table 8 Panel B). Consistent with Gong, Louis and Sun (2006), all repurchasing firms tend to manage downwards their earnings around repurchase announcement year. One possibility is that all managers

that undertake share repurchases have incentives to deflate share prices, so that they can minimize the cost of open market share repurchases (Gong, Louis and Sun , 2006).

Place Table 9 About Here

Having an idea of how the two different governance portfolios will manage their earnings, now we examine whether earnings management affects future stock performance. Table 9 Panel A shows the cumulative returns after repurchase. Not only do the cumulative returns grow over time, so do their statistical significance. At a glance, the negative abnormal accrual seems to outperform marginally the positive abnormal accrual portfolio across all time horizons. For example, after 12-, 24- and 36-month, the negative abnormal accrual portfolios display a positive and significant abnormal cumulative return of 6.37%, 14.28% and 21.51% respectively (all significant at 1% level), while positive accrual portfolios only display a positive and significant abnormal cumulative return of 5.65%, 10.77% and 17.83% (significant at 1% level).

Panel B of Table 9 shows the abnormal return on a zero-investment strategy that buys the positive abnormal accrual portfolio and sells short the negative abnormal accrual portfolio. Under this specification, the alpha is -10 basis points (bp) per month, or about -1.2 percent per year. This point estimate is not statistically significant. our result reveals that whether or not a firm engages income-increasing or -decreasing accruals, it makes little difference. Next we will explore whether corporate governance characteristics subsume information on earnings management.

Place Table 10 About Here

6.4 Earnings management and corporate governance

The previous section shows that market reaction is significantly and economically different conditional on corporate governance characteristics, but not dissimilar conditional on abnormal accruals. We now examine how long run abnormal returns behave conditional on abnormal accruals and corporate governance characteristics. Table 10 Panel A shows cumulative abnormal returns by governance portfolio and abnormal accruals across 12-, 24- and 36-month. The subgroup with the highest cumulative abnormal stock return is the shareholder portfolio with the most negative abnormal accrual (downwards earnings management) over 36-month period, which yields 45.74%. In stark contrast, management portfolio with the most negative abnormal accrual occupies the other end, losing 13.9%. The abnormal return on a zero-investment strategy that buys the former and sells the latter yields an astonishing 20.4% per year (Table 10 Panel B). This alpha (bivariate setting) is much larger than the alpha (univariate setting) between the two ends of governance portfolios (10.8%) and the two ends of abnormal accrual portfolios (1.2%).

In addition, Table 10 Panel C shows that the alpha between high positive and low negative accrual subgroup is insignificant at 10% across all governance portfolio. The sign of the zero-investment strategy is negative across the governance portfolios, except for the management portfolio. In fact, within the management portfolio, there is weak evidence that firms that manage earnings upwards experience more favorable long run stock returns. In short, our results suggest that earnings management does

not matter much; earnings management only has explanatory value conditional on corporate governance characteristics. More importantly, we provide evidence that suggests that bulk of the long run positive abnormal returns that the extant literature documents are driven by firms with the least antitakeover provisions which manages their earnings downwards the most.

Place Table 11 About Here

7. CONCLUSION

Following Bebchuk, Cohen and Ferrell (2004), we consider companies with relatively fewer protective governance provisions to be governed more democratically and in the interest of shareholders, while companies with relatively more governance provisions are governed more autocratically and in the interest of management. Then, we develop hypotheses that firms with different level of governance provisions have different motives behind share repurchase. We investigate whether corporate governance mechanisms, in particular, the market for corporate control, affect shareholder's wealth, both in the short and long run when firms repurchase their shares. We find that repurchasing firms that have less antitakeover provisions (ATPs), being subject more to the disciplinary power of the market for corporate control, experience significantly higher short run and long run abnormal returns upon and after open market share repurchase announcements than those with more ATPs respectively, in support of information signaling hypothesis. We also find that earnings management does not seem to have any bearing on the long run stock performance. Furthermore, there is evidence that corporate governance characteristics subsume information on earnings management. These results are robust to various model specifications, alternative test of long-run abnormal performance and different proxies of corporate governance.

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TABLE 1

Descriptive Statistics of Open Market Share Repurchases across time

Distribution of firms undertaking open market share repurchases from 1989 through 2002. Our sample contains all companies in the Securities Data Corporation database announcing open market share repurchases. To be included in the final sample reported below announcing firms must have data available on the Investors Responsibility Resource Center, and the Center for Research in Securities Prices. CAR [-1, +1] is the cumulative abnormal return over the three days around the repurchase announcement date using the market model with an equally weighted CRSP index. The market capitalization is the market value of equity at the fiscal year end prior to announcement. The book-to-market ratio is calculated as the book value of equity from Compustat divided by the market value of equity at the fiscal year end prior to the repurchase announcement. Prior and post six-month compounded returns are the compounded raw return of a company in the six months before and after the repurchase announcement respectively.

Panel A: Sample Statistics

Year	Frequency	Percent	CAR[+1,-1]	Market Capitalization (MM\$)	Book-to- Market ratio	Prior six-month compounded returns	Post six-month compounded returns
1989	6	0.22	1.07	1,311.53	0.481	14.40	6.44
1990	13	0.47	3.79	1,259.85	0.888	-13.65	25.89
1991	8	0.29	1.72	1,056.81	0.718	-6.64	43.70
1992	16	0.58	1.18	3,049.95	0.470	2.96	22.95
1993	34	1.23	0.83	3,244.70	0.476	10.09	9.18
1994	200	7.26	0.89	4,058.11	0.547	-0.17	5.02
1995	217	7.88	1.23	5,471.35	0.493	8.46	17.13
1996	321	11.65	0.90	5,714.99	0.479	4.28	11.80
1997	357	12.96	0.77	7,176.03	0.441	12.99	20.17
1998	484	17.57	0.73	5,780.44	0.501	-8.41	3.81
1999	417	15.14	0.59	9,856.74	0.585	1.08	6.41
2000	415	15.06	1.29	10,031.46	0.559	-4.52	7.08
2001	187	6.79	0.78	17,320.28	0.400	-3.08	8.22
2002	80	2.90	1.62	10,061.06	0.435	2.57	-7.42
All Sample	2,755	100	0.92	7,856.71	0.507	0.81	9.27

Panel B: Industry Statistics

Industry	2 Digit SIC	Frequency	Percent	Cumulative Frequency
Oil and Gas	13, 29	61	2.22	61
Food Products	20	89	3.24	150
Paper and Paper Products	24, 25, 26, 27	153	5.57	303
Chemical Products	28	153	5.57	456
Manufacturing	30, 31, 32, 33, 34	138	5.03	594
Computer Hardware and Software	35, 73	381	13.87	975
Electronic Equipment	36	191	6.96	1,166
Transportation	37, 39, 40, 41, 42, 44, 45	140	5.1	1,306
Specific Instruments	38	98	3.57	1,404
Communications	48	27	0.98	1,431
Electric and Gas Services	49	93	3.39	1,524
Durable Goods	50	53	1.93	1,577
Retail	53, 54, 56, 57, 59	164	5.97	1,741
Eating and Drinking Establishments	58	66	2.4	1,807
Financial Services	61, 62, 64, 65	109	3.97	1,916
Entertainment Services	70, 78, 79	42	1.53	1,958
Health	80	35	1.27	1,993
All Others	0, 1, 7, 10, 12, 14, 15, 16, 17, 21, 22, 23, 46, 47, 51, 52, 55, 60, 63, 67, 72, 75, 76, 82, 83, 87, 89, 99	753	27.42	2,755

TABLE 2

Entrenchment index frequency distribution

Frequency Distribution of the entrenchment index, E, for firms undertaking open market share repurchases. E is developed by Bebchuk, Cohen and Ferrell (2004) and is simply a tally of the total number of six different protective governance provisions a company contains. The original data is published by the Investor Responsibility Research Center in their Corporate Takeover Defenses. Sample firms are assigned a corporate governance portfolio based on their value for E. CAR [-1, +1] is the cumulative abnormal return over the three days around the repurchase announcement date using the market model with an equally weighted CRSP index. The market capitalization is the market value of equity at the fiscal year end prior to announcement. The book-to-market ratio is calculated as the book value of equity from Compustat divided by the market value of equity at the fiscal year end prior to the repurchase announcement. Prior and post six-month compounded returns are the compounded raw return of a company in the six months before and after the repurchase announcement respectively.

Entrenchment index frequency distribution

E Index	Frequency	Percent	Governance Portfolio	CAR[+1,-1]	Market Capitalization (MM\$)	Book-to-Market ratio	Prior six-month compounded returns	Post six-month compounded returns
0	280	10.2	1	0.53%	5,980.22	0.48311	-1.17%	9.94%
1	502	18.2	1	0.80%	6,656.13	0.51056	0.40%	10.91%
2	646	23.5	2	1.46%	8,613.00	0.50938	2.00%	9.49%
3	735	26.7	3	1.04%	9,056.79	0.50756	0.05%	9.31%
4	485	17.6	4	0.41%	7,908.88	0.50959	1.06%	7.09%
5	92	3.34	4	0.63%	6,441.26	0.53799	3.66%	6.76%
6	15	0.54	4	1.43%	2,224.19	0.57967	9.03%	-8.12%

TABLE 3

Average abnormal returns surrounding the open market share repurchase

We estimate average abnormal returns based on the market model around the announcement day (Day 0) of open market share repurchase. The market model is estimated over a 255-day (91, 345) period. The sample includes 2,755 open market share repurchase announcements between 1989 and 2002. We assign sample firms to an E portfolio based on their Entrenchment Index, E. E is a measure of corporate governance developed by Bebchuk, Cohen and Farrell (2004). Firms in the Lowest E Portfolio have an E value of 0 or 1, while firms in the Highest E Portfolio have an E value of 4, 5 or 6. Firms in the lower E portfolio and upper E portfolio have E values of 2 and 3, respectively. G is a measure of corporate governance developed by Gompers, Ishii and Metrick (2003). Firms in the Lowest G Portfolio have a G value of less than 7, while firms in the Highest E Portfolio have a G value greater than 11. Firms in the lower G portfolio and upper G portfolio have G values between 7 and 8 and between 9 and 11, respectively.

Panel A: Market Model, Equally Weighted Index

Portfolio	SH friendly		Lower E Portfolio		Upper E Portfolio		MGM friendly	
	Ab Rtn (%)	T stats	Ab Rtn (%)	T stats	Ab Rtn (%)	T stats	Ab Rtn (%)	T stats
Day								
-3	-0.32	-1.152	-0.05	0.024	-0.2	-0.495	-0.2	-0.509
-2	-0.14	-0.507	-0.17	-1.316	-0.28	-1.087	-0.09	-0.015
-1	-0.42	-1.295*	0	0.695	-0.1	0.17	-0.18	-0.755
0	0.77	6.009***	1.03	7.467***	0.66	6.116***	0.4	3.440*
1	0.35	2.500**	0.43	2.427**	0.48	3.900***	0.25	1.630*
2	0.33	1.712*	0.01	0.774	0.22	1.242	0.05	-0.426
3	0.02	-0.722	0.23	2.585**	0.04	-0.457	0.13	0.808
Window								
-1,+1	0.70	5.507***	1.46	7.782***	1.04	6.485***	0.47	3.769***
0,+1	1.13	7.297***	1.45	8.412***	1.14	7.740***	0.65	4.262***
Obs	782		646		735		592	

*, **, and *** denote statistical significance at the 0.05, 0.01, and 0.001 levels, respectively, using a one-tailed test.

Two-Sample Test	
Window	T-test (2-tail)
-1,+1	0.4466
0,+1	0.0848

Panel B: Market Adjusted Return, Equally Weighted Index

Portfolio		SH friendly		Lower E Portfolio		Upper E Portfolio		MGM friendly	
Day	Ab Rtn (%)	T stats	Ab Rtn (%)	Ab Rtn (%)	T stats	Ab Rtn (%)	T stats	Ab Rtn (%)	T stats
-3	-0.4	-3.123***	-0.1	-0.25	0.032	-0.25	-1.693*	-0.24	-0.724
-2	-0.2	-1.714*	-0.24	-0.36	-1.546*	-0.36	-2.136*	-0.23	-0.148
-1	-0.47	-4.367***	-0.06	-0.15	0.073	-0.15	-0.436	-0.21	-0.477
0	0.69	8.107***	0.94	0.56	7.324***	0.56	6.328***	0.33	3.308***
1	0.36	3.438***	0.38	0.42	2.989**	0.42	3.668***	0.2	1.992*
2	0.26	2.994**	-0.03	0.15	0.231	0.15	0.786	0.03	0.017
3	-0.03	-0.676	0.19	-0.03	2.044*	-0.03	0.121	0.11	1.004
Window									
-1,+1	0.58	4.568***	1.25	0.83	5.827***	0.83	5.811***	0.31	3.308***
0,+1	1.05	6.789***	1.32	0.98	7.718***	0.98	7.584***	0.52	4.214***
Obs		782		646		735		592	

***, **, and * denote statistical significance at the 0.05, 0.01, and 0.001 levels, respectively, using a one-tailed test.

Two-Sample Test	
Window	T-test (2-tail)
-1,+1	0.4953
0,+1	0.1124

TABLE 4

Long-Run Abnormal Return after Open Market Repurchase Announcements

Panel A reports monthly cumulative average abnormal returns (CAR) in percent using with the Fama-French (1993) three-factor model for the sample of 2,755 firms that announced an open market share repurchase across various governance subsamples.

The following regression is run each event month j :

$$R_{i,t} - R_{f,t} = a_j + b_j(R_{m,t} - R_{f,t}) + c_jSMB_t + d_jHML_t + \varepsilon_{i,t},$$

where $R_{i,t}$ is the monthly return on security i in calendar month t that corresponds to the event month j , with $j=0$ being the month of the repurchase announcement. $R_{f,t}$ and $R_{m,t}$ are the risk-free rate and the return on the equally weighted CRSP index, respectively. SMB_t and HML_t are the monthly return on the size and book-to-market factor in month t , respectively. The numbers reported are sums of the intercepts at of cross-sectional regressions over the relevant event time periods expressed in percentage terms. The standard error (denominator of the t -statistic) for a window is the square root of the sum of the squares of the monthly standard errors. Abnormal returns are reported for subsamples based on E and G portfolios, respectively. Panel B reports the average monthly regression estimates of 36 monthly regressions. The first row contains the results of the difference between shareholder friendly subgroup and management friendly subgroup. Panel C reports abnormal returns (AR) of equally weighted calendar-time portfolios using the Fama-French (1993) three-factor model. In this method, event firms that have announced an open market repurchase in the past 12 (24, 36) calendar months form the basis of the calendar month portfolio. A

single time-series regression is run with the excess return of the calendar portfolio as the dependent variable and the return on three factors as the independent variables (the excess market return, a high-minus-low book-to-market and a small-minus-big capitalization factor).

Panel A: Fama-French 3 Factors

Months	All Portfolios		SH friendly		Lower E Portfolio		Upper E Portfolio		MGM friendly	
	CAR	T-statistic	CAR	T-statistic	CAR	T-statistic	CAR	T-statistic	CAR	T-statistic
0,12	3.99%	4.123	9.08%	3.976	2.61%	1.416	3.07%	1.806	-0.74%	-0.451
0,24	7.47%	5.701	12.66%	4.423	8.34%	3.103	6.65%	2.786	0.31%	0.133
0,36	11.28%	7.131	20.09%	5.952	9.85%	3.018	9.19%	3.133	2.89%	1.005

Panel B: Average monthly regression estimates of 36 time-series regressions using Fama-French 3 Factors

	Alpha	RMRF	SMB	HML
SH-MGM	0.008	0.001	-0.043	-0.452
	4.509	0.009	-0.640	-4.731
SH	0.008	1.123	0.231	0.422
	3.540	23.234	4.263	6.849
Lower E	0.002	1.070	0.185	0.532
	1.251	25.045	2.997	13.647
Upper E	0.003	1.166	0.301	0.713
	1.508	29.668	8.163	17.421
MGM	-0.001	1.122	0.274	0.874
	-0.402	28.482	5.884	13.130

Panel C: Fama-French Calendar-Time Approach

Months	All Portfolios		SH friendly		Lower G Portfolio		Upper G Portfolio		MGM friendly	
	Monthly Average AR	T-statistic	Monthly Average AR	T-statistic	Monthly Average AR	T-statistic	Monthly Average AR	T-statistic	Monthly Average AR	T-statistic
12 mths	0.82%	9.278	1.11%	27.475	0.54%	14.891	0.66%	23.433	0.52%	27.340
24 mths	0.69%	9.923	0.89%	43.780	0.59%	23.926	0.61%	36.663	0.50%	41.017
36 mths	0.63%	10.437	0.87%	58.817	0.47%	32.283	0.56%	49.820	0.46%	52.317

Panel D: Average monthly regression estimates of 36 time-series regressions using Fama-French Calendar-Time Approach

	Alpha	RMRF	SMB	HML
SH-MGM	0.004	0.084	0.038	-0.376
	3.593	3.043	1.132	-9.256
SH	0.009	1.138	0.284	0.357
	9.552	58.817	11.557	12.567
Lower G	0.005	1.064	0.237	0.509
	3.832	32.283	12.702	19.799
Upper G	0.006	1.051	0.218	0.585
	7.429	49.820	10.705	22.050
MGM	0.005	1.054	0.245	0.733
	4.796	52.317	11.035	24.671

TABLE 5

Long-Run Abnormal Returns Including the Momentum Factor

Panel A reports monthly cumulative average abnormal returns (CAR) in percent using with the Fama-French (1993) three-factor model augmented with momentum factor for the sample of 2,755 firms that announced an open market share repurchase across various governance subsamples. The following regression is run each event month j :

$$R_{i,t} - R_{f,t} = a_j + b_j(R_{m,t} - R_{f,t}) + c_jSMB_t + d_jHML_t + e_jUMD_t + \varepsilon_{i,t},$$

where $R_{i,t}$ is the monthly return on security i in calendar month t that corresponds to the event month j , with $j=0$ being the month of the repurchase announcement. $R_{f,t}$ and $R_{m,t}$ are the risk-free rate and the return on the equally weighted CRSP index, respectively. SMB_t and HML_t are the monthly return on the size and book-to-market factor in month t , respectively. UMD_t is the monthly return on Jegadeesh and Titman (1993) momentum factor. The numbers reported are sums of the intercepts at of cross-sectional regressions over the relevant event time periods expressed in percentage terms. The standard error (denominator of the t-statistic) for a window is the square root of the sum of the squares of the monthly standard errors. Abnormal returns are reported for subsamples based on E and G portfolios, respectively. Panel B reports the average monthly regression estimates of 36 monthly regressions. The first row contains the results of the difference between shareholder friendly subgroup and management friendly subgroup. Panel C reports abnormal returns (AR) of equally weighted calendar-time portfolios using the Fama-French (1993) three-factor model augmented with momentum factor. In this method, event firms that have announced

an open market repurchase in the past 12 (24, 36) calendar months form the basis of the calendar month portfolio. A single time-series regression is run with the excess return of the calendar portfolio as the dependent variable and the return on four factors as the independent variables (the excess market return, a high-minus-low book-to-market, a small-minus-big capitalization factor and a momentum factor).

Panel A: Fama-French 3 Factors augmented with momentum factor

Months	All Portfolios		SH friendly		Lower E Portfolio		Upper E Portfolio		MGM friendly	
	CAR	T-statistic	CAR	T-statistic	CAR	T-statistic	CAR	T-statistic	CAR	T-statistic
0,12	8.19%	8.260	15.11%	6.463	6.08%	3.221	7.23%	4.160	1.99%	1.180
0,24	14.61%	10.878	22.32%	7.609	15.01%	5.436	13.93%	5.711	4.59%	1.906
0,36	20.57%	12.740	32.32%	9.376	18.96%	5.669	18.64%	6.242	8.45%	2.873

Panel B: Average monthly regression estimates of 36 time-series regressions using Fama-French 3 Factors augmented with momentum factor

	Alpha	RMRF	SMB	HML	UMD
SH-MGM	0.007	0.044	0.021	-0.391	-0.132
	4.972	1.286	0.707	-8.502	-5.389
SH	0.009	1.055	0.339	0.381	-0.247
	7.856	53.920	13.458	12.054	-11.216
Lower E	0.005	1.004	0.281	0.468	-0.181
	4.140	40.128	10.620	16.615	-9.013
Upper E	0.005	1.006	0.317	0.610	-0.196
	5.005	45.538	15.888	21.684	-10.025
MGM	0.002	1.011	0.318	0.772	-0.116
	2.555	42.817	15.422	24.804	-7.393

Panel C: Fama-French Calendar-Time Approach augmented with momentum factor

Months	All Portfolios		SH friendly		Lower G Portfolio		Upper G Portfolio		MGM friendly	
	Monthly Average AR	T-statistic	Monthly Average AR	T-statistic	Monthly Average AR	T-statistic	Monthly Average AR	T-statistic	Monthly Average AR	T-statistic
12 mths	1.12%	12.381	1.56%	10.100	0.82%	4.114	0.95%	6.130	0.77%	4.499
24 mths	0.93%	12.193	1.24%	10.944	0.84%	4.658	0.85%	7.935	0.66%	5.261
36 mths	0.85%	13.291	1.19%	11.685	0.72%	5.285	0.79%	9.271	0.61%	6.390

Panel D: Average monthly regression estimates of 36 time-series regressions using Fama-French Calendar-Time Approach augmented with momentum factor

	Alpha	RMRF	SMB	HML	UMD
SH-MGM	0.006	0.033	0.059	-0.410	-0.129
	4.564	1.249	1.707	-9.986	-4.392
SH	0.012	1.038	0.323	0.292	-0.244
	11.685	54.201	12.872	9.691	-10.552
Lower E	0.007	0.985	0.271	0.457	-0.187
	5.285	29.211	15.305	17.031	-9.716
Upper E	0.008	0.970	0.249	0.532	-0.181
	9.271	45.481	12.221	19.052	-8.958
MGM	0.006	1.006	0.264	0.702	-0.115
	6.390	50.641	11.818	24.266	-5.996

TABLE 6

Long-Run Abnormal Returns Including the Liquidity Factor

Panel A reports monthly cumulative average abnormal returns (CAR) in percent using with the Fama-French (1993) three-factor model augmented with momentum factor for the sample of 2,755 firms that announced an open market share repurchase across various governance subsamples. The following regression is run each event month j :

$$R_{i,t} - R_{f,t} = a_j + b_j(R_{m,t} - R_{f,t}) + c_jSMB_t + d_jHML_t + e_jLIQ_t + \varepsilon_{i,t},$$

where $R_{i,t}$ is the monthly return on security i in calendar month t that corresponds to the event month j , with $j=0$ being the month of the repurchase announcement. $R_{f,t}$ and $R_{m,t}$ are the risk-free rate and the return on the equally weighted CRSP index, respectively. SMB_t and HML_t are the monthly return on the size and book-to-market factor in month t , respectively. LIQ_t is the monthly return on Pastor and Stambaugh (2003) value-weighted liquidity factor. The numbers reported are sums of the intercepts at of cross-sectional regressions over the relevant event time periods expressed in percentage terms. The standard error (denominator of the t-statistic) for a window is the square root of the sum of the squares of the monthly standard errors. Abnormal returns are reported for subsamples based on E and G portfolios, respectively. Panel B reports the average monthly regression estimates of 36 monthly regressions. The first row contains the results of the difference between shareholder friendly subgroup and management friendly subgroup. Panel C reports abnormal returns (AR) of equally weighted calendar-time portfolios using the Fama-French (1993) three-factor model augmented with Pastor and Stambaugh (2003) value-

weighed liquidity factor. In this method, event firms that have announced an open market repurchase in the past 12 (24, 36) calendar months form the basis of the calendar month portfolio. A single time-series regression is run with the excess return of the calendar portfolio as the dependent variable and the return on three factors as the independent variables (the excess market return, a high-minus-low book-to-market a small-minus-big capitalization factor and a liquidity factor).

Panel A: Fama-French 3 Factors augmented with liquidity factor

Months	All Portfolios		SH friendly		Lower E Portfolio		Upper E Portfolio		MGM friendly	
	CAR	T-statistic	CAR	T-statistic	CAR	T-statistic	CAR	T-statistic	CAR	T-statistic
0,12	3.52%	3.290	9.02%	3.606	2.95%	1.447	0.77%	0.410	-0.60%	-0.330
0,24	6.28%	4.301	12.59%	3.971	8.09%	2.697	2.50%	0.942	0.51%	0.196
0,36	8.79%	4.916	19.06%	5.036	7.61%	2.061	1.97%	0.592	4.32%	1.323

Panel B: Average monthly regression estimates of 36 time-series regressions using Fama-French 3 factors augmented with liquidity factor

	Alpha	RMRF	SMB	HML	LIQ
SH-MGM	0.004	0.108	-0.002	-0.333	-0.019
	2.649	2.895	-0.0792	-7.2852	-1.0505
SH	0.005	1.161	0.2873	0.4642	-0.0073
	4.011	49.4066	10.8888	15.6953	-0.5013
Lower E	0.002	1.089	0.247	0.522	-0.016
	1.759	42.7606	8.452	18.436	-1.059
Upper E	0.001	1.119	0.278	0.691	-0.056
	0.476	50.336	13.173	26.744	-4.347
MGM	0.001	1.053	0.290	0.797	0.012
	1.070	44.221	14.021	25.204	0.842

Panel C: Fama-French Calendar-Time Approach augmented with liquidity factor

Months	All Portfolios		SH friendly		Lower G Portfolio		Upper G Portfolio		MGM friendly	
	Monthly Average AR	T-statistic	Monthly Average AR	T-statistic	Monthly Average AR	T-statistic	Monthly Average AR	T-statistic	Monthly Average AR	T-statistic
12 mths	1.12%	12.381	1.10%	6.702	0.65%	5.541	0.47%	3.487	0.56%	3.027
24 mths	0.93%	12.193	0.90%	8.700	0.65%	4.587	0.44%	5.332	0.56%	4.030
36 mths	0.85%	13.291	0.89%	9.739	0.50%	4.171	0.40%	4.549	0.52%	4.912

Panel D: Average monthly regression estimates of 36 time-series regressions using Fama-French Calendar-Time Approach augmented with liquidity factor

	Alpha	RMRF	SMB	HML	LIQ
SH-MGM	0.004	0.088	0.038	-0.374	-0.009
	3.031	2.864	1.1399	-9.3694	-0.4639
SH	0.009	1.135	0.2827	0.3549	0.0069
	9.739	54.1864	11.5392	12.9152	0.4901
Lower E	0.005	1.059	0.236	0.505	0.009
	4.171	30.0506	12.571	18.749	0.583
Upper E	0.004	1.074	0.221	0.598	-0.051
	4.549	46.883	10.940	22.584	-4.194
MGM	0.005	1.047	0.244	0.729	0.016
	4.912	49.485	11.183	24.823	1.132

TABLE 7**Frequency distribution by governance portfolios and abnormal accruals**

Frequency Distribution of the entrenchment index, E, for firms adopting poison pill plans. E is developed by Bebchuk, Cohen and Ferrell (2004) and is simply a tally of the total number of six different protective governance provisions a company contains. The original data is published by the Investor Responsibility Research Center in their Corporate Takeover Defenses. Sample firms are assigned a corporate governance portfolio based on their value for E. Abnormal accruals are estimated using the methodology developed by Teoh, Welch and Wong (1998) where current accruals are regressed on the change in sales in a cross-sectional regressions using all firms with the same two-digit SIC code. The regression estimates are non-discretionary current accruals, the level necessary to support the business. Abnormal accrual is the difference between total current accruals for a company and non-discretionary current accruals of the industry the company belongs to.

Portfolio	High Positive	Low Positive	High Negative	Low Negative	Total
SH	78	67	91	99	335
Upper	64	52	61	73	250
Lower	54	71	79	63	267
MGM	45	51	63	59	218
Total	241	241	294	294	1070

TABLE 8

Robustness check: Long-Run Abnormal Returns Including the Momentum

Factor by Corporate Governance Characteristics

Panel A reports monthly cumulative average abnormal returns (CAR) in percent using with the Fama-French (1993) three-factor model augmented with momentum factor for the sample of 1,070 firms that announced an open market share repurchase across various governance subsamples. The following regression is run each event month j :

$$R_{i,t} - R_{f,t} = a_j + b_j(R_{m,t} - R_{f,t}) + c_jSMB_t + d_jHML_t + e_jUMD_t + \varepsilon_{i,t},$$

where $R_{i,t}$ is the monthly return on security i in calendar month t that corresponds to the event month j , with $j=0$ being the month of the repurchase announcement. $R_{f,t}$ and $R_{m,t}$ are the risk-free rate and the return on the equally weighted CRSP index, respectively. SMB_t and HML_t are the monthly return on the size and book-to-market factor in month t , respectively. UMD_t is the monthly return on Jegadeesh and Titman (1993) momentum factor. The numbers reported are sums of the intercepts at of cross-sectional regressions over the relevant event time periods expressed in percentage terms. The standard error (denominator of the t -statistic) for a window is the square root of the sum of the squares of the monthly standard errors. Abnormal returns are reported for subsamples based on E and G portfolios, respectively. Panel B reports the average monthly regression estimates of 36 monthly regressions.

Panel A: Fama-French 3 Factors augmented with momentum factor

Months	SH friendly		Lower E Portfolio		Upper E Portfolio		MGM friendly	
	CAR	T-statistic	CAR	T-statistic	CAR	T-statistic	CAR	T-statistic
0,12	12.90%	2.854	3.73%	1.145	8.33%	2.944	-4.22%	-1.469
0,24	26.17%	4.858	6.38%	1.299	14.45%	3.545	-1.47%	-0.356
0,36	36.82%	6.022	13.46%	2.269	19.97%	3.821	4.75%	0.921

Panel B: Average monthly regression estimates of 36 time-series regressions using Fama-French 3 Factors augmented with momentum factor

	Alpha	RMRF	SMB	HML	UMD
SH-MGM	0.009	0.005	-0.015	-0.442	-0.121
	3.962	0.093	-0.237	-5.434	-2.282
SH	0.01	1.083	0.38	0.282	-0.283
	4.837	33.738	8.855	5.072	-9.718
Lower E	0.004	1.033	0.417	0.398	-0.26
	1.897	25.152	9.305	6.831	-7.955
Upper E	0.006	0.979	0.46	0.516	-0.257
	3.349	31.54	10.017	9.089	-6.957
MGM	0.001	1.078	0.395	0.723	-0.161
	0.957	25.814	9.035	13.349	-4.427

TABLE 9

Abnormal accruals by governance characteristics

Abnormal accruals are estimated using the methodology developed by Teoh, Welch and Wong (1998) where current accruals are regressed on the change in sales in a cross-sectional regressions using all firms with the same two-digit SIC code. The regression estimates are non-discretionary current accruals, the level necessary to support the business. Abnormal accrual is the difference between total current accruals for a company and non-discretionary current accruals of the industry the company belongs to.

Panel A: Time series abnormal accruals by governance characteristics

Event Year	Year -2			Year -1			Year 0			Year 1			Year 2		
	All	SH	MGM	All	SH	MGM	All	SH	MGM	All	SH	MGM	All	SH	MGM
Portfolio															
N	1043	328	208	1062	331	208	1070	335	218	1051	327	216	999	310	204
Median	-0.010	0.000	0.002	-0.002	-0.002	0.002	-0.018	-0.024	-0.014	-0.001	-0.012	0.000	-0.010	-0.006	0.000
Signed Rank	0.000	0.001	0.060	0.000	0.001	0.060	0.000	0.000	0.001	0.000	0.003	0.113	0.000	0.002	0.105

Panel B: Two-sample Wilcoxon test between shareholder and management friendly portfolio

	Year -2	Year -1	Year 0	Year 1	Year 1
T Approximation					
One-Sided $\Pr > Z$	0.2803	0.3426	0.2647	0.2395	0.2734
Two-Sided $\Pr > Z $	0.5606	0.6852	0.5294	0.479	0.5467

TABLE 10

Long-Run Abnormal Returns Including the Momentum Factor by abnormal accrual portfolios

Panel A reports monthly cumulative average abnormal returns (CAR) in percent using with the Fama-French (1993) three-factor model augmented with momentum factor for the sample of 1,070 firms that announced an open market share repurchase across various governance subsamples. The following regression is run each event month j :

$$R_{i,t} - R_{f,t} = a_j + b_j(R_{m,t} - R_{f,t}) + c_jSMB_t + d_jHML_t + e_jUMD_t + \varepsilon_{i,t},$$

where $R_{i,t}$ is the monthly return on security i in calendar month t that corresponds to the event month j , with $j=0$ being the month of the repurchase announcement. $R_{f,t}$ and $R_{m,t}$ are the risk-free rate and the return on the equally weighted CRSP index, respectively. SMB_t and HML_t are the monthly return on the size and book-to-market factor in month t , respectively. UMD_t is the monthly return on Jegadeesh and Titman (1993) momentum factor. The numbers reported are sums of the intercepts at of cross-sectional regressions over the relevant event time periods expressed in percentage terms. The standard error (denominator of the t-statistic) for a window is the square root of the sum of the squares of the monthly standard errors. Abnormal returns are reported for subsamples based on positive or negative abnormal accrual portfolios, respectively. Panel B reports the average monthly regression estimates of 36 monthly regressions. The first row contains the results of the difference between the two abnormal accrual portfolios.

Panel A: Fama-French 3 Factors augmented with momentum factor

Abnormal Accruals	Months	CAR	tstats
Positive	12	5.65%	2.712
	24	10.77%	3.574
	36	17.83%	4.816
Negative	12	6.37%	2.190
	24	14.28%	3.911
	36	21.51%	5.015

Panel B: Average monthly regression estimates of 36 time-series regressions

	Alpha	T-statistic	MKTRF	T-statistic	SMB	T-statistic	HML	T-statistic	UMD	T-statistic
Positive-Negative	-0.001	-0.570	0.023	0.563	-0.140	-4.038	-0.072	-1.589	0.005	0.146
Positive	0.005	4.427	1.061	41.985	0.334	12.970	0.429	13.043	-0.236	-11.100
Negative	0.006	4.025	1.039	39.050	0.475	14.413	0.501	13.764	-0.241	-9.666

TABLE 11

Long-Run Abnormal Returns Including the Momentum Factor by abnormal accrual and governance portfolios

Panel A reports monthly cumulative average abnormal returns (CAR) in percent using with the Fama-French (1993) three-factor model augmented with momentum factor for the sample of 1,070 firms that announced an open market share repurchase across various governance subsamples. The following regression is run each event month j :

$$R_{i,t} - R_{f,t} = a_j + b_j(R_{m,t} - R_{f,t}) + c_jSMB_t + d_jHML_t + e_jUMD_t + \varepsilon_{i,t},$$

where $R_{i,t}$ is the monthly return on security i in calendar month t that corresponds to the event month j , with $j=0$ being the month of the repurchase announcement. $R_{f,t}$ and $R_{m,t}$ are the risk-free rate and the return on the equally weighted CRSP index, respectively. SMB_t and HML_t are the monthly return on the size and book-to-market factor in month t , respectively. UMD_t is the monthly return on Jegadeesh and Titman (1993) momentum factor. The numbers reported are sums of the intercepts at of cross-sectional regressions over the relevant event time periods expressed in percentage terms. The standard error (denominator of the t-statistic) for a window is the square root of the sum of the squares of the monthly standard errors. Abnormal returns are reported for subsamples based on abnormal accrual and E portfolios, respectively. Panel B reports the average monthly regression estimates of 36 monthly regressions containing the results of the difference between shareholder friendly subgroup and management friendly subgroup across different abnormal accrual subgroups. Panel C reports the average monthly regression estimates of 36 monthly regressions

containing the results of the difference between high positive subgroup and low negative subgroup across different governance subgroups.

Panel A: Fama-French 3 Factors augmented with momentum factor

Portfolio	Months	High Positive	T- statistic	Low Positive	T- statistic	High Negative	T- statistic	Low Negative	T- statistic
SH	12	6.96%	1.290	10.85%	1.778	6.26%	1.132	17.82%	1.199
	24	18.95%	2.384	16.36%	1.866	18.70%	2.421	36.93%	2.288
	36	34.35%	3.576	16.34%	1.529	36.10%	3.725	45.74%	2.662
Upper	12	0.42%	0.065	3.63%	0.569	-10.25%	-1.526	19.08%	2.894
	24	4.41%	0.465	-0.92%	-0.093	4.02%	0.360	17.09%	1.808
	36	15.84%	1.391	-3.19%	-0.273	12.95%	0.989	18.93%	1.591
Lower	12	-5.85%	-0.841	14.79%	2.911	11.33%	2.033	5.82%	0.978
	24	2.92%	0.281	20.29%	2.782	16.40%	2.113	9.03%	1.053
	36	11.05%	0.840	22.02%	2.372	22.86%	2.324	20.87%	1.832
MGM	12	-10.74%	-1.817	1.96%	0.333	-4.83%	-0.781	-5.94%	-1.078
	24	-3.31%	-0.400	3.01%	0.377	0.73%	0.083	-7.87%	-0.944
	36	11.75%	1.166	12.07%	1.162	7.18%	0.684	-13.90%	-1.308

Panel B: Average monthly regression estimates of 36 time-series regressions for the difference between shareholder friendly subgroup and management friendly subgroup across different abnormal accrual subgroups

Abnormal Accrual Portfolio	Alpha	T- statistic	Mktrf	T- statistic	SMB	T- statistic	HML	T- statistic	UMD	T- statistic
High Positive	0.006	1.585	0.009	0.076	0.108	1.143	-0.462	-2.781	-0.040	-0.366
Low Positive	0.001	0.283	-0.122	-1.188	0.008	0.055	-0.347	-2.553	-0.214	-1.954
High Negative	0.008	2.833	0.060	0.708	-0.159	-1.384	-0.448	-3.442	-0.169	-1.773
Low Negative	0.017	3.080	0.040	0.261	-0.037	-0.313	-0.486	-3.488	0.001	0.011

Panel C: Average monthly regression estimates of 36 time-series regressions for the difference between high positive subgroup and low negative subgroup across different governance subgroups.

Governance Portfolio	Alpha	T- statistic	Mktrf	T- statistic	SMB	T- statistic	HML	T- statistic	UMD	T- statistic
SH	-0.003	-0.665	0.038	0.272	-0.234	-2.250	0.026	0.199	-0.131	-1.453
Upper	-0.001	-0.146	0.170	1.877	-0.236	-1.860	-0.361	-2.102	0.105	0.934
Lower	-0.003	-0.504	0.211	1.685	-0.144	-1.308	0.227	1.312	0.095	0.813
MGM	0.007	1.534	0.069	0.484	-0.378	-2.935	0.002	0.011	-0.090	-0.793

APPENDIX A: Results using Gindex

Corporate governance index (G) frequency distribution

The G is developed by Gompers, Ishii and Metrick (2003) and is simply a tally of the total number of 24 different antitakeover provisions a company contains. The original data is published by the Investor Responsibility Research Center in their Corporate Takeover Defenses. $G = 2$ indicates a sample company with just two antitakeover provisions, while $G = 16$ indicates a company with a slate of sixteen such provisions. We split our sample into four roughly equal groups. Sample firms are assigned a corporate governance portfolio based on their value for G. CAR [-1, +1] is the cumulative abnormal return over the three days around the repurchase announcement date using the market model with an equally weighted CRSP index. The market capitalization is the market value of equity at the fiscal year end prior to announcement. The book-to-market ratio is calculated as the book value of equity from Compustat divided by the market value of equity at the fiscal year end prior to the repurchase announcement. Prior and post six-month compounded returns are the compounded raw return of a company in the six months before and after the repurchase announcement respectively.

Corporate governance index (G) frequency distribution

G Index	Frequency	Percent	Governance Portfolio	CAR [+1,-1]	Market Capitalization (MM\$)	Book-to-Market ratio	Prior six-month compounded returns	Post six-month compounded returns
2	2	0.07	1	0.70%	5,510.16	0.616	6.39%	-8.67%
3	18	0.65	1	1.91%	2,420.33	0.525	2.18%	16.64%
4	66	2.4	1	0.65%	10,185.04	0.551	-4.35%	7.17%
5	177	6.42	1	1.09%	5,058.72	0.497	-4.19%	7.38%
6	296	10.7	1	1.10%	9,357.33	0.503	-0.87%	8.56%
7	277	10.1	2	0.33%	6,150.99	0.518	-0.52%	15.66%
8	334	12.1	2	0.38%	9,795.66	0.542	-0.01%	8.49%
9	303	11	3	1.58%	6,799.83	0.482	1.85%	7.93%
10	346	12.6	3	1.20%	7,502.37	0.481	0.70%	7.43%
11	310	11.3	3	1.17%	9,084.84	0.505	0.18%	9.13%
12	275	9.98	4	0.56%	6,054.29	0.518	4.35%	7.81%
13	195	7.08	4	0.98%	7,283.12	0.483	6.79%	10.36%
14	80	2.9	4	0.62%	8,441.93	0.497	4.85%	11.65%
15	52	1.89	4	1.30%	12,422.25	0.625	-5.51%	3.17%
16	24	0.87	4	-0.19%	16,297.07	0.494	2.03%	10.58%

Average abnormal returns surrounding the open market share repurchase

Panel A: Market Model, Equally Weighted Index

	SH friendly		Lower G Portfolio		Upper G Portfolio		MGM friendly	
Day	Ab Rtn (%)	T stats	Ab Rtn (%)	T stats	Ab Rtn (%)	T stats	Ab Rtn (%)	T stats
-3	-0.36	-1.157	-0.26	-0.954	-0.16	-0.391	-0.06	0.226
-2	-0.07	-0.565	-0.28	-2.251*	-0.27	0.061	-0.02	-0.414
-1	-0.2	-0.649	-0.45	-0.911	-0.15	0.255	0.03	-0.094
0	0.93	5.110***	0.46	5.568***	0.95	7.141***	0.45	5.105***
1	0.34	1.638*	0.35	2.895**	0.51	4.103***	0.25	1.585*
2	0.2	1.722*	0.26	0.708	0.2	1.905*	0	-1.054
3	0.01	0.283	0.1	-0.911	0.16	1.840*	0.08	0.466
Window								
-1,+1	1.07	5.364***	0.36	4.272***	1.31	8.434***	0.73	5.025***
0,+1	1.2	5.468***	0.66	5.688***	1.33	9.011***	0.56	5.803***
Obs	559		611		959		626	

***, ** and * denote statistical significance at the 0.05, 0.01, and 0.001 levels, respectively, using a one-tailed test.

Two-Sample Test	
Window	T-test (2-tail)
-1,+1	0.2976
0,+1	0.0471*

Panel B: Market Adjusted Return, Equally Weighted Index

	SH friendly		Lower G Portfolio		Upper G Portfolio		MGM friendly	
Day	Ab Rtn (%)	T stats	Ab Rtn (%)	T stats	Ab Rtn (%)	T stats	Ab Rtn (%)	T stats
-3	-0.46	-1.058	-0.28	-1.406*	-0.2	-0.533	-0.13	-0.52
-2	-0.14	-1.058	-0.35	-2.947**	-0.34	-0.403	-0.06	-0.76
-1	-0.26	-0.125	-0.48	-1.362*	-0.21	0.244	-0.01	-0.36
0	0.83	5.044***	0.36	5.526***	0.87	6.941***	0.37	5.322***
1	0.37	1.994*	0.3	3.5***	0.46	4.095***	0.19	1.801*
2	0.12	1.485*	0.22	0.745	0.14	1.895*	-0.03	-1.24
3	-0.02	-0.21	0.01	-0.876	0.12	2.089*	0.04	0.28
Window								
-1,+1	0.94	4.446***	0.19	3.257***	1.12	6.747***	0.56	5.322***
0,+1	1.27	6.211***	0.81	6.539***	1.46	8.951***	0.7	5.825***
Obs	559		611		959		626	

*, **, and *** denote statistical significance at the 0.05, 0.01, and 0.001 levels, respectively, using a one-tailed test.

Two-Sample Test	
Window	T-test (2-tail)
-1,+1	0.3557
0,+1	0.0728

Long-Run Abnormal Return after Open Market Repurchase Announcements

Panel A: Fama-French 3 Factors

Months	All Portfolios		SH friendly		Lower G Portfolio		Upper G Portfolio		MGM friendly	
	CAR	T-statistic	CAR	T-statistic	CAR	T-statistic	CAR	T-statistic	CAR	T-statistic
0,12	3.99%	4.123	7.07%	2.401	7.56%	3.669	1.21%	0.818	1.54%	1.032
0,24	7.47%	5.701	8.84%	2.464	13.98%	4.767	4.72%	2.242	3.67%	1.705
0,36	11.28%	7.131	15.41%	3.684	20.39%	5.722	7.14%	2.774	4.49%	1.690

Panel B: Average monthly regression estimates of 36 time-series regressions using Fama-French 3 Factors

	Alpha	RMRF	SMB	HML
SH-MGM	0.005	-0.031	0.053	-0.265
	1.331	-0.455	0.904	-2.963
SH	0.006	1.152	0.187	0.498
	1.864	20.310	4.922	7.595
Lower G	0.006	1.106	0.345	0.484
	3.530	25.365	3.726	6.791
Upper G	0.001	1.085	0.285	0.712
	0.686	24.244	7.987	15.060
MGM	0.001	1.183	0.135	0.762
	0.912	42.741	4.261	17.921

Panel C: Fama-French Calendar-Time Approach

Months	All Portfolios		SH friendly		Lower G Portfolio		Upper G Portfolio		MGM friendly	
	Monthly Average AR	T-statistic	Monthly Average AR	T-statistic	Monthly Average AR	T-statistic	Monthly Average AR	T-statistic	Monthly Average AR	T-statistic
12 mths	0.82%	9.278	1.00%	24.348	0.92%	20.511	0.53%	19.638	0.68%	37.039
24 mths	0.69%	9.923	0.69%	43.487	0.85%	32.599	0.52%	31.221	0.63%	41.633
36 mths	0.63%	10.437	0.72%	52.038	0.84%	41.820	0.45%	44.329	0.49%	55.470

Panel D: Average monthly regression estimates of 36 time-series regressions using Fama-French Calendar-Time Approach

	Alpha	RMRF	SMB	HML
SH-MGM	0.002	0.082	0.191	-0.071
	1.695	2.569	5.863	-1.507
SH	0.007	1.173	0.345	0.579
	5.289	52.038	11.686	15.742
Lower G	0.008	1.081	0.329	0.353
	8.067	41.820	7.964	9.438
Upper G	0.005	0.999	0.207	0.573
	5.944	44.329	10.903	23.723
MGM	0.005	1.091	0.155	0.650
	5.494	55.470	9.564	27.007

Long-Run Abnormal Returns Including the Momentum Factor

Panel A: Fama-French 3 Factors augmented with momentum factor

Months	All Portfolios		SH friendly		Lower G Portfolio		Upper G Portfolio		MGM friendly	
	CAR	T-statistic	CAR	T-statistic	CAR	T-statistic	CAR	T-statistic	CAR	T-statistic
0,12	8.19%	8.260	12.51%	4.165	12.85%	6.115	4.73%	3.117	4.71%	3.070
0,24	14.61%	10.878	18.51%	5.050	22.78%	7.610	11.47%	5.313	7.94%	3.589
0,36	20.57%	12.740	27.09%	6.352	31.43%	8.671	15.80%	6.005	10.65%	3.915

Panel B: Average monthly regression estimates of 36 time-series regressions using Fama-French 3 Factors augmented with momentum factor

	Alpha	RMRF	SMB	HML	UMD
SH-MGM	0.005	0.016	0.158	-0.178	-0.105
	3.091	0.496	3.788	-3.908	-3.075
SH	0.008	1.092	0.376	0.513	-0.231
	5.071	49.604	10.682	13.141	-7.602
Lower E	0.009	0.994	0.372	0.361	-0.232
	7.694	46.021	9.970	9.511	-10.151
Upper E	0.004	0.968	0.307	0.606	-0.176
	6.026	44.902	16.867	24.556	-11.731
MGM	0.003	1.076	0.218	0.690	-0.126
	4.497	59.582	12.987	33.961	-8.320

Panel C: Fama-French Calendar-Time Approach augmented with momentum factor

Months	All Portfolios		SH friendly		Lower G Portfolio		Upper G Portfolio		MGM friendly	
	Monthly Average AR	T-statistic	Monthly Average AR	T-statistic	Monthly Average AR	T-statistic	Monthly Average AR	T-statistic	Monthly Average AR	T-statistic
12 mths	1.12%	12.381	1.44%	5.916	1.23%	6.540	0.81%	6.680	0.89%	7.416
24 mths	0.93%	12.193	1.01%	5.549	1.14%	7.599	0.77%	7.650	0.76%	7.721
36 mths	0.85%	13.291	1.01%	6.640	1.13%	9.676	0.69%	8.555	0.63%	7.148

Panel D: Average monthly regression estimates of 36 time-series regressions using Fama-French Calendar-Time Approach augmented with momentum factor

	Alpha	RMRF	SMB	HML	UMD
SH-MGM	0.004	0.044	0.207	-0.103	-0.105
	2.557	1.389	6.150	-2.163	-3.259
SH	0.010	1.088	0.381	0.518	-0.216
	6.640	46.937	12.968	13.218	-7.894
Lower E	0.011	0.977	0.370	0.288	-0.233
	9.676	37.877	9.407	7.073	-9.655
Upper E	0.007	0.920	0.238	0.520	-0.186
	8.555	39.762	12.018	21.393	-10.773
MGM	0.006	1.044	0.174	0.621	-0.112
	7.148	57.522	10.507	26.391	-7.561

Long-Run Abnormal Returns Including the Liquidity Factor

Panel A: Fama-French 3 Factors augmented with liquidity factor

Months	All Portfolios		SH friendly		Lower G Portfolio		Upper G Portfolio		MGM friendly	
	CAR	T-statistic	CAR	T-statistic	CAR	T-statistic	CAR	T-statistic	CAR	T-statistic
0,12	3.52%	3.290	8.13%	2.513	5.44%	2.388	-0.19%	-0.114	2.29%	1.391
0,24	6.28%	4.301	9.88%	2.483	10.22%	3.117	1.82%	0.775	5.37%	2.253
0,36	8.79%	4.916	15.33%	3.265	14.68%	3.628	1.34%	0.458	7.44%	2.488

Panel B: Average monthly regression estimates of 36 time-series regressions using Fama-French 3 factors augmented with liquidity factor

	Alpha	RMRF	SMB	HML	LIQ
SH-MGM	0.002	0.069	0.143	-0.140	-0.024
	1.147	2.010	3.474	-2.915	-1.117
SH	0.004	1.184	0.332	0.584	0.001
	2.613	49.250	9.143	15.695	0.071
Lower E	0.004	1.118	0.316	0.438	-0.047
	3.654	46.434	8.191	12.414	-3.202
Upper E	0.000	1.064	0.275	0.670	-0.043
	0.346	47.811	15.094	27.118	-2.627
MGM	0.002	1.115	0.189	0.723	0.025
	2.657	54.454	10.716	34.158	1.902

Panel C: Fama-French Calendar-Time Approach augmented with liquidity factor

Months	All Portfolios		SH friendly		Lower G Portfolio		Upper G Portfolio		MGM friendly	
	Monthly Average AR	T-statistic	Monthly Average AR	T-statistic	Monthly Average AR	T-statistic	Monthly Average AR	T-statistic	Monthly Average AR	T-statistic
12 mths	1.12%	12.381	1.09%	5.020	0.72%	3.825	0.46%	4.388	0.80%	5.081
24 mths	0.93%	12.193	0.76%	5.066	0.76%	5.059	0.40%	3.817	0.75%	7.098
36 mths	0.85%	13.291	0.79%	6.169	0.71%	6.231	0.32%	3.335	0.61%	6.550

Panel D: Average monthly regression estimates of 36 time-series regressions using Fama-French Calendar-Time Approach augmented with liquidity factor

	Alpha	RMRF	SMB	HML	LIQ
SH-MGM	0.004	0.088	0.038	-0.374	-0.009
	3.031	2.864	1.1399	-9.3694	-0.4639
SH	0.009	1.135	0.2827	0.3549	0.0069
	9.739	54.1864	11.5392	12.9152	0.4901
Lower E	0.005	1.059	0.236	0.505	0.009
	4.171	30.0506	12.571	18.749	0.583
Upper E	0.004	1.074	0.221	0.598	-0.051
	4.549	46.883	10.940	22.584	-4.194
MGM	0.005	1.047	0.244	0.729	0.016
	4.912	49.485	11.183	24.823	1.132

APPENDIX B: Ways to manage earnings

Managers have considerable discretion to manage reported earnings within the rules of GAAP. This section summarizes some of the widely used earnings management techniques which cover earnings management by choice of accounting methods, application of accounting methods, and timing.⁸

1. *Accounting Method Choice.* The choice of accounting methods decides the timing of revenue and expense recognition. Choices that recognize revenues earlier and expenses later increase reported income. For example, relative to accelerated depreciation method, the straight line depreciation method provides for less depreciation in the early years of a depreciable asset's life, but total depreciation during the asset's life is the same. Also, if price of raw materials are declining, LIFO (last-in-first-out) costs of goods sold (based on later lower prices) are lower than FIFO (first-in-first-out) costs.
2. *Accounting Discretionary Estimates.* Even after an accounting method choice is made, there remains discretion over the application of accounting principles. For instance, writing off long-term assets requires various judgments, many of which offer an opportunity for managers to manage earnings. This includes the write-off period, salvage value and change to non-operating use⁹. The other areas are sales returns and allowances, warranty costs, percentage of

⁸ Managers can also manage earnings with 'real' decisions, for instance the timing and choice of investments that have both accounting and economic repercussions. See Davidson, Stickney and Weil (1986).

⁹ If a long-term asset is changed from operating to non-operating use, no depreciation is necessary. This is nonetheless permissible when a company ceases to utilize the asset for operating purpose.

completion for long-term contracts and the actuarial cost basis for pension liabilities.

3. *Accounting Method Timing.* Discretion over when and how to account for an accounting event is in the hands of the management. One such area is the fair value accounting for investments¹⁰ of which the intent that managers purport affects the recognition of unrealized holding gains or losses. They also decide the classification of an event. For example, a liability even though it is almost certain may be recognized as contingent, thus avoiding recognition of an expense. In addition, they also decide when and how much to write off bad debts and impaired assets.

¹⁰ GAAP requires passive investments (those less than 20% of the stock of another company) to be classified into one of the two portfolio categories, each with different accounting treatment:

- a. “Trading” securities. Any realized or unrealized gains or losses are reported in operating income.
- b. “Available-for-sale” securities. Any change in market value during the fiscal year is reported in “other comprehensive income components” after income statement, not in operating income. However, when the securities are sold, realized gains or losses are reported in the operating earnings.

APPENDIX C: Governance Provisions (Gompers et. al., 2001)

This appendix describes the provisions used as components of the governance index. These descriptions are extracted from Gompers et al (2001).

- 1) Antigreenmail – Greenmail refers to the agreement between a large shareholder and a company in which the shareholder agrees to sell his stock back to the company, usually at a premium, in exchange for the promise not to seek control of the company for a specified period of time. Antigreenmail provisions prevent such arrangements unless the same repurchase offer is made to all shareholders or the transaction is approved by shareholders through a vote. They are thought to discourage accumulation of large blocks of stock because one source of exit for the stake is closed, but the net effect on shareholder wealth is unclear (Shleifer and Vishny (1986a)). Five states have specific antigreenmail laws, and two other states have “recapture of profits” laws, which enable firms to recapture raiders’ profits earned in the secondary market. We consider recapture of profits laws to be a version of antigreenmail laws (albeit a stronger one). The antigreenmail category includes both firms with the provision and those incorporated in states with either antigreenmail or recapture of profits laws.
- 2) Blank check preferred stock – This is preferred stock over which the board of directors has broad authority to determine voting, dividend, conversion, and other rights. While it can be used to enable a company to meet changing financial needs, it can also be used to implement poison pills or to prevent

takeover by placement of this stock with friendly investors. Companies who have this type of preferred stock but who have required shareholder approval before it can be used as a takeover defense are not coded as having this provision in our data.

- 3) **Business Combination** laws – These laws impose a moratorium on certain kinds of transactions (e.g., asset sales, mergers) between a large shareholder and the firm for a period usually ranging between three and five years after the shareholder's stake passes a pre-specified (minority) threshold.
- 4) **Bylaw** amendment limitations – These provisions limit shareholders' ability to amend the governing documents of the corporation. This might take the form of a supermajority vote requirement for charter or bylaw amendments, total elimination of the ability of shareholders to amend the bylaws, or the ability of directors beyond the provisions of state law to amend the bylaws without shareholder approval.
- 5) **Charter** amendment limitations – Same as above.
- 6) **Classified board** – A classified board is one in which the directors are placed into different classes and serve overlapping terms. Since only part of the board can be replaced each year, an outsider who gains control of a corporation may have to wait a few years before being able to gain control of the board. This provision may also deter proxy contests, since fewer seats on the board are open each year.

- 7) **Compensation plans** with changes in control provisions – These plans allow participants in incentive bonus plans to cash out options or accelerate the payout of bonuses should there be a change in control. The details may be a written part of the compensation agreement, or discretion may be given to the compensation committee.
- 8) Director indemnification **contracts** – These are contracts between the company and particular officers and directors indemnifying them from certain legal expenses and judgments resulting from lawsuits pertaining to their conduct. Some firms have both “indemnification” in their bylaw/charter and these additional indemnification contracts”.
- 9) **Control-share cash-out** laws enable shareholders to sell their stakes to a “controlling” shareholder at a price based on the highest price of recently acquired shares. This works something like fair-price provisions (see below) extended to non-takeover situations.
- 10) **Cumulative voting** – Cumulative voting allows a shareholder to allocate his total votes in any manner desired, where the total number of votes is the product of the number of shares owned and the number of directors to be elected. By enabling them to concentrate their votes, this practice helps enable minority shareholders to elect favored directors. Cumulative voting and secret

ballot (see below), are the only two provisions whose presence is coded as an *increase* in shareholder rights, with an additional point to *G* if the provision is absent.

11) **Directors' duties** allow directors to consider constituencies other than shareholders when considering a merger. These constituencies may include, for example, employees, host communities, or suppliers. This provision provides boards of directors with a legal basis for rejecting a takeover that would have been beneficial to shareholders. 31 states also have laws with language allowing an expansion of directors' duties, but in only two of these states (Indiana and Pennsylvania) are the laws explicit that the claims of shareholders should not be held above those of other stakeholders [Pinnell (2000)]. We treat firms in these two states as though they had an expanded directors' duty provision unless the firm has explicitly opted out of coverage under the law.

12) **Fair-Price Requirements** – These provisions limit the range of prices a bidder can pay in twotier offers. They typically require a bidder to pay to all shareholders the highest price paid to any during a specified period of time before the commencement of a tender offer and do not apply if the deal is approved by the board of directors or a supermajority of the target's shareholders. The goal of this provision is to prevent pressure on the target's shareholders to tender their shares in the front end of a two-tiered tender offer, and they have the result of making such an acquisition more expensive. This

category includes both the firms with this provision and the firms incorporated in states with a fair price law.

13) **Golden parachutes** – These are severance agreements which provide cash and non-cash compensation to senior executives upon a triggering event such as termination, demotion, or resignation following a change in control. They do not require shareholder approval.

14) Director **indemnification** – This provision uses the bylaws and/or charter to indemnify officers and directors from certain legal expenses and judgments resulting from lawsuits pertaining to their conduct. Some firms have both this “indemnification” in their bylaws/charter and additional indemnification “contracts”. The cost of such protection can be used as a market measure of the quality of corporate governance [Core (2000)].

15) Limitations on director **liability** – These charter amendments limit directors’ personal liability to the extent allowed by state law. They often eliminate personal liability for breaches of the duty of care, but not for breaches of the duty of loyalty or for acts of intentional misconduct or knowing violation of the law.

16) **Pension parachute** – This provision prevents an acquirer from using surplus cash in the pension fund of the target in order to finance an acquisition.

Surplus funds are required to remain the property of the pension fund and to be used for plan participants' benefits.

17) **Poison pills** – These securities provide their holders with special rights in the case of a triggering event such as a hostile takeover bid. If a deal is approved by the board of directors, the poison pill can be revoked, but if the deal is not approved and the bidder proceeds, the pill is triggered. In this case, typical poison pills give the holders of the target's stock other than the bidder the right to purchase stock in the target or the bidder's company at a steep discount, making the target unattractive or diluting the acquirer's voting power. The early adopters of poison pills also called them "shareholder rights" plans, ostensibly since they give current shareholders the "rights" to buy additional shares, but more likely as an attempt to influence public perceptions. A raider-shareholder might disagree with this nomenclature.

18) **Secret ballot** – Under secret ballot (also called confidential voting), either an independent third party or employees sworn to secrecy are used to count proxy votes, and the management usually agrees not to look at individual proxy cards. This can help eliminate potential conflicts of interest for fiduciaries voting shares on behalf of others, or can reduce pressure by management on shareholder-employees or shareholder-partners. Cumulative voting (see above) and secret ballot, are the only two provisions whose presence is coded as an *increase* in shareholder rights, with an additional point to *G* if the provision is absent.

- 19) **Executive severance** agreements – These agreements assure high-level executives of their positions or some compensation and are not contingent upon a change in control (unlike Golden or Silver parachutes).
- 20) **Silver parachutes** – These are similar to golden parachutes in that they provide severance payments upon a change in corporate control, but unlike golden parachutes, a large number of a firm's employees are eligible for these benefits.
- 21) **Special meeting** requirements – These provisions either increase the level of shareholder support required to call a special meeting beyond that specified by state law or eliminate the ability to call one entirely.
- 22) **Supermajority** requirements for approval of mergers – These charter provisions establish voting requirements for mergers or other business combinations that are higher than the threshold requirements of state law. They are typically 66.7, 75, or 85 percent, and often exceed attendance at the annual meeting. This category includes both the firms with this provision and the firms incorporated in states with a “control-share acquisition” law. These laws require a majority of disinterested shareholders to vote on whether a newly qualifying large shareholder has voting rights. In practice, such laws work much like supermajority requirements.

23) **Unequal voting** rights – These provisions limit the voting rights of some shareholders and expand those of others. Under time-phased voting, shareholders who have held the stock for a given period of time are given more votes per share than recent purchasers. Another variety is the substantial-shareholder provision, which limits the voting power of shareholders who have exceeded a certain threshold of ownership.

24) Limitations on action by **written consent** – These limitations can take the form of the establishment of majority thresholds beyond the level of state law, the requirement of unanimous consent, or the elimination of the right to take action by written consent.

APPENDIX D: Figures and graphs

Figure 1: Abnormal accruals by governance portfolios

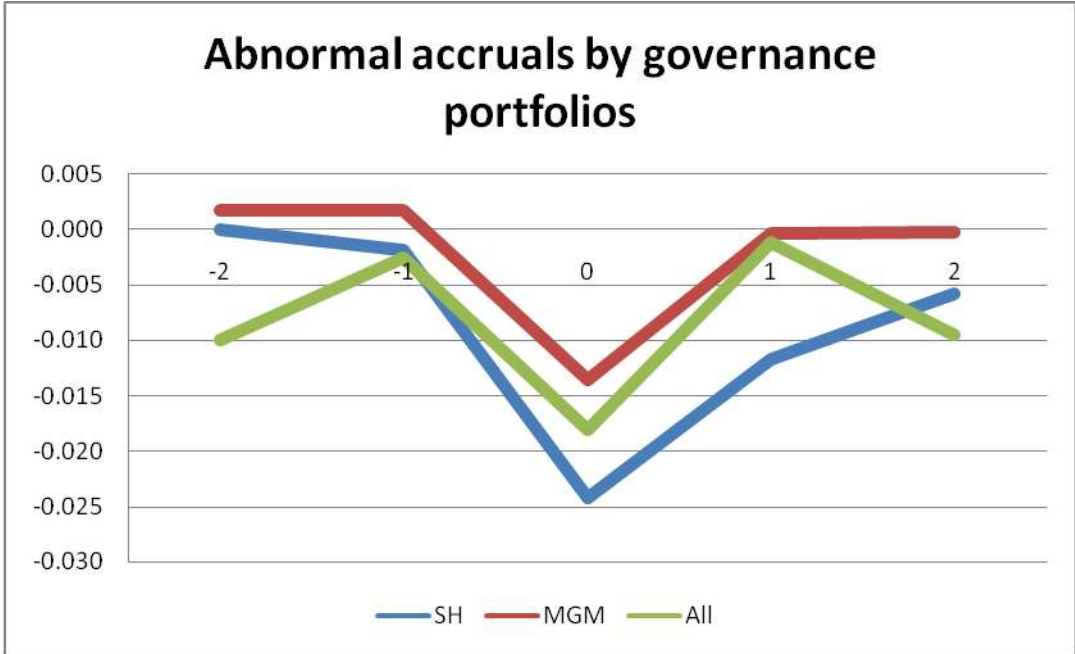


Figure 2: Long-Run Abnormal Returns Including the Momentum Factor by abnormal accrual and governance portfolios

