Internal Control Weaknesses in the Market for Corporate Control: Disclosure vs. Propensity

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Abstract

This paper examines how SOX 302/404 disclosures on the internal control environment affect the market for corporate control. Using a sample of (1) acquisitions that involve acquirers or targets that disclosed internal control weaknesses (ICWs) and matched control samples of (2) acquisitions that do not involve ICW disclosures, we document that ICW-acquirers earn smaller cumulative abnormal returns (CARs) while ICW-targets receive higher CARs than their non-ICW matches around the announcement dates. We also find evidence that acquirers with ICWs pay larger acquisition premia to targets, but targets with ICWs receive smaller acquisition premia. Larger premia are also paid by acquirers with high propensity scores for ICWs (but without ICW disclosures), suggesting that higher premia are a behavioral consequence of firm characteristics. Acquisitions are likely to be motivated by empire-building by hubristic management. Overall, our results suggest that SOX disclosures on internal controls provide incremental information in evaluating firm value.

1. Introduction

The Sarbanes-Oxley Act (SOX) was enacted by Congress in 2002 in the aftermath of a series of well-publicized corporate scandals. The primary goal of SOX is to strengthen investor protection by promoting better corporate governance and auditor independence. Various new rules and requirements also enhanced regulatory oversight (e.g., creation of the Public Company Accounting Oversight Board). Perhaps the most controversial features of SOX are the additional requirements on internal controls (Sections 302 and 404). In particular, Section 404 requires top management to assess the effectiveness of internal controls over financial reporting (ICFR) and the external auditor to attest and report on management's assessment. The controversy surrounds the costs and benefits of the required disclosures. The direct benefits seem to be elusive (e.g., Ogneva et al. 2007); yet, the costs appear to be high: empirical evidence suggests that SOX imposed net costs on shareholders (Zhang 2007; Ashbaugh-Skaife et al. 2009) and bondholders (DeFond et al. 2008), with disproportionately large costs on small firms (Iliev 2007; Gao et al. 2009).

Notwithstanding the cost of compliance, firms that are not able to certify the effectiveness of their internal controls are expected to disclose the existence and nature of internal control weaknesses (ICWs). What do ICWs signify? Granted that ICWs are over financial reporting, it is unlikely that they are caused by simple technical problems that can be fixed easily. It is more likely that ICWs are a symptom of underlying problems in management and governance. Academic research documents that ICWs are associated with poor financial reports (Doyle et al. 2007b), a higher cost of equity (Goh and Li 2008), and poor corporate governance (Hoitash et al. 2009). Thus, the disclosure of ICWs points to management ineffectiveness, suggesting that firms with ICWs are more likely to make suboptimal decisions compared to those with effective internal controls.

In this paper, we focus on the disclosure of ICWs mandated by SOX 302/404 in the context of the market for corporate control. In particular, we examine whether and how firms that have disclosed ICWs behave and are valued by the market in the M&A game relative to the firms that have not disclosed ICWs. Interpreting ICWs to be a manifestation of ineffective management, we hypothesize that the market will

react differently to the merger announcements when either the acquirer or the target has previously disclosed ICWs (ICW-acquirer or ICW-target) compared to the announcements involving firms without any ICW disclosure (non-ICW-acquirer or non-ICW-target). In addition, we expect firms that have previously disclosed ICWs to display behavior resulting from ineffective management, for example, by overpaying for their targets. Targets that have disclosed ICWs, on the other hand, could benefit from being taken over since their ineffective management will be replaced by the acquisition.

In making comparisons between firms that have disclosed ICWs and those that have not, it is important to delineate what it means not to disclose ICWs. We assume that firms that disclose ICWs are indeed lacking effective internal controls over financial reporting (that is, there is no Type II error). However, not all firms with ineffective internal controls appear to disclose ICWs. Rice and Weber (2011) estimate that only 32.4% of firms that restated their financial statements had reported ICWs during the misstatement periods. Since firms that restate their financial statements are likely to have had ICWs, the percentage documented by Rice and Weber (2011) is surprisingly low.[1] It is possible that these restatement firms did not realize that they had internal control (IC) problems during the misstatement periods. Alternatively, some of these firms willingly certified their IC effectiveness despite the existence of ICWs. Therefore, it is possible that some of the non-ICW firms may, in fact, have ICWs. If so, they are likely to possess characteristics that cause ICWs. To disentangle the impact of disclosures from the underlying innate characteristics of the firms in question, we structure our research design to allow for the possibility that some of the non-ICW disclosure firms indeed have the characteristics that are common to those that have disclosed ICWs.

The approach we take in this paper to control for the intentional or unintentional downward bias in reporting ICWs (Type I error) is through the selection of the control samples. The first control sample we use consists of firms that are matched by the propensity to disclose internal control weaknesses based

[1] Recall that a material weakness in internal control is defined as ''a significant deficiency, or combination of deficiencies, that results in more than a remote likelihood that a material misstatement*"* of the financial reports "will not be prevented or detected" (PCAOB 2004). Therefore, restatements (other than those related to changes in regulations) are likely to be caused by ineffective internal controls in the past (AS5 paragraph 2).

on the prior literature on internal controls. We refer to this control sample as the propensity-score-matched (PS-matched) control sample. These firms share the same observable characteristics with our sample firms. More precisely, they have the same predicted probability to disclose ICWs, yet have not disclosed ICWs as such.[2] Since PS-matched sample firms share the same innate characteristics as our ICW-sample firms, they are likely to behave similarly. These characteristics being observable, the market might take them into consideration and treat them as if they have ICWs. Alternatively, they may give these firms the benefit of the doubt and treat them as non-ICW firms since these firms have certified their IC effectiveness. Another possibility is that the market does not pay appropriate attention to the firm characteristics. The interesting question is whether and to what extent the market responds differently to the two samples based on the ICW-disclosure status. Therefore, differential market reactions, if any, are prima facie evidence of the impact of ICW disclosure. The second control sample consists of firms matched by industry, year, and M&A deal values (IYV-matched), but not by ICW propensity. Therefore, they are less likely to share the same characteristics that drive ICWs. IYV-matched control sample firms have not disclosed ICWs, and are more likely to be free of ICWs. We control for the ICW-related variables in our IYV-matched sample regression, but the firms in this control sample do not necessarily exhibit the same characteristics as our ICW-sample firms.

Using the two control samples, we analyze our treatment sample (ICW-sample) that consists of ICW-acquirers that acquired non-ICW-targets and non-ICW-acquirers that have acquired ICW-targets.[3] We first examine the announcement-period CARs of acquirers and targets to determine whether the disclosure of ICWs plays a role in how the market evaluates the profitability of M&A deals. Specifically, how does the market react to the acquisition announcement when either the acquirer or the target has previously disclosed ICWs? Does the market react less favorably to acquirers that disclosed ICWs as compared to those that did not disclose ICWs? Does the market react more favorably to the acquisition

[2] See Appendix B for a discussion about propensity score matching as well as the determinants of the score for our control samples.

[3] We delete 12 deals in which both the acquirer and the target have ICWs so that our sample consists of M&A deals with at most one ICW company. This deletion is done to sharpen the differences in the groups; however, including these 12 observations does not change the results**.**

news of targets that disclosed ICWs than that of targets that have not disclosed ICWs? Second, we examine the premium paid to targets to determine how the shareholders of the two companies fare in the transaction. Do acquirers that disclosed ICWs pay higher acquisition premia as compared to those that did not disclose ICWs? Do targets that disclosed ICWs receive smaller premia than those that did not disclose ICWs? Third, we examine whether or not acquisitions create value in the long-run for shareholders of the acquirer firms. The central question is whether (and how) the disclosure on ICWs itself is utilized in these M&A transactions.

Our sample is obtained from the M&A transactions ("deals") in the Securities Data Corporation (SDC) database that were announced (including those that were eventually completed or withdrawn) during the post-SOX period from 2003 to 2008. We delete the transactions that are labeled as mergers of equals so that the deals we examine have clearly identifiable acquirers and targets. Acquirers continue as larger firms and targets cease to exist after the completion of the deals. We then identify acquirers and targets that have reported one or more material weaknesses in the most recent 10-Q (Section 302) or 10-K reports (Section 404) prior to the acquisition announcements. Our sample consists of 437 acquisition deals, of which 282 deals involve acquirers that had disclosed at least one material weakness (ICW-acquirers) in the quarter/year prior to the acquisition announcement, and 155 deals involve targets with ICW disclosures (ICW-targets). In addition, there are 2,929 deals in which neither the acquirer nor the target had disclosed ICWs (non-ICW-acquirers and non-ICW-targets). We use these deals to select two matched control samples: (1) the PS-matched control sample, and (2) IYV-matched control sample.[4]

We find that, on average, the market reacts differently to the announcements of mergers involving firms that had reported ICWs compared to those that had not reported any ICWs. More specifically, ICW-acquirers experience substantially lower announcement-period CARs than non-ICW acquirers. ICW-acquirers experienced, on average, a negative 3-day CAR (-1.43%), while non-ICW-acquirers experienced a positive 3-day CAR of 0.60% for the PS-matched control and 1.13% for the IYV-matched

[4] As robustness checks, we form two additional control samples based on acquisition deals from the pre-SOX period (when ICW disclosures were not mandated): (1) acquisitions involving firms that are matched with post-SOX ICW propensity; and (2) acquisitions involving firms that disclosed ICWs in the post-SOX period.

control sample. This negative impact on the CAR remains even after controlling for a host of additional variables that are known to affect the CARs as well as ICWs. The fact that the market reaction to the PS-matched control sample is lower (the difference is significant at the 5% level) than that for the IYV-sample indicates that the market is somewhat suspicious of the firms in the PS-matched sample. Yet, since they have not disclosed ICWs, the market appears to give them the benefit of the doubt. ICW-acquirers, of course, are penalized since the market knows for sure that they have IC problems.

On the other hand, ICW-targets experience a significantly higher average 3-day announcement-period CAR (22.61%) than non-ICW-targets (11.79% for the IYV-matched control sample and 14.26% for the PS-matched control sample). We interpret the additional returns as representing the potential benefit from improving the poorly-run target. Thus, the potential value creation can be larger when targets have ICWs. The consistent result for both the IYV and PS-matched control samples indicates that the market reacts to the disclosure of the ICWs and not to the firm characteristics that are associated with ICWs.

We find evidence that ICW-acquirers are willing to pay larger premia to their targets as compared to non-ICW-acquirers. On average, ICW-acquirers offer a premium of 29.01%, while non-ICW-acquirers in the control samples offer a premium of 24.05% (PS-matched) or 23.00% (IYV-matched). The difference of 5-6% is statistically significant.[5] In the multivariate setting, the coefficient on Acq-ICW, an indicator variable signifying that the acquirer has disclosed ICWs, remains positive and significant for the IYV-control sample even after controlling for several firm-specific and deal characteristics (including variables that are associated with ICWs). However, when we use the PS-matched control sample in the regression, the coefficient on Acq-ICW becomes insignificant. This indicates that firms that have the same propensity to disclose ICWs (even though they have not disclosed as such) are also likely to pay larger premia. That is, the larger premia paid are a reflection of firm attributes and not due to the disclosure of ICWs. In contrast, we find that the non-ICW-acquirers are willing to pay a smaller premium

[5] The percentage premium is calculated relative to the target price one day prior to the announcement date.

to ICW-targets (14.48%) as compared to non-ICW-targets (22.57% for the PS-matched control sample and 23.27% for the IYV-matched control sample). Even though PS-matched targets have the same predicted probability to disclose ICWs, acquirers do not appear to penalize them based on their propensity alone. It is only when targets disclose ICWs that they are penalized. This penalty is presumably because the acquirer will have to invest more resources to improve the target with poor internal controls: i.e., a discount due to ICWs. The coefficient on Target-ICW remains negative and significant in the multivariate setting even after controlling for various control variables. Overall, these results are consistent with the notion that the market is more skeptical of the motive as well as the competence of ICW-acquirers. The market suspects that these acquirers have overbid for their targets perhaps because they are anxious to build empires. Consequently, the market reacts more negatively to these acquisition announcements.

Our findings further suggest that neither the overpayment nor the discount is trivial: we estimate that ICW-acquirers paid on average $28.96 ($36.74) million more than non-ICW-acquirers in the PS-matched (IYV-matched) control sample. In contrast, ICW-targets received $28.14 ($29.19) million less than non-ICW-targets in the PS-matched (IYV-matched) control sample. Thus, firms suffering from ICWs are disciplined in the market for corporate control and penalized in the form of significantly lower premia. Note, however, that we do not directly test if firms with ICWs are more likely to become acquisition targets. The primary drivers for acquisitions are likely to be economic and strategic motives such as the realization of synergies and expansion of markets. However, in acquiring a target, the acquirer would assess the cost of integration carefully to determine the offer price.

Additional analyses show that acquisitions, on average, are viewed by the market as value enhancing rather than destroying. The sum of the value-weighted CARs of acquirers and targets is on average positive (untabulated). This initial enthusiasm exhibited by the market, however, wanes quickly: we find that post-acquisition returns are largely negative. The returns are more negative for acquisitions involving ICWs. In particular, ICW-acquirers perform worst with CARs of 7.89% over a one-year period after acquisitions. However, even within this relatively short period, we see evidence that some acquisitions are value enhancing. Post-acquisition accounting performance is significantly better than pre-

acquisition performance, especially for the deals in which non-ICW firms acquired ICW-targets. In contrast, accounting performance measures of ICW-acquirers deteriorate, consistent with the scenario that these acquisitions are made by hubristic managers for empire-building and high premia were paid as the managers misjudged the value of the targets.

This paper makes several contributions to the literature. First, while many studies document the importance of corporate governance in general, few studies examine the importance of corporate governance on M&A activities. In particular, antitakeover provisions (Masulis et al. 2007) and conservative accounting (Francis and Martin 2010) help firms to make better acquisitions. We focus on another aspect of corporate governance and show that disclosures on ICFR and M&A activities are intricately linked. We document that the disclosure of ICWs is an important variable in determining (the market perception of) M&A profitability as measured by the CARs around the announcement date and the premia paid to targets. Moreover, our results provide evidence that the market reacts to the disclosures of ICWs, and not just to the firm characteristics that are associated with ICWs. Second, we provide evidence that targets with ineffective internal controls pay a penalty in the form of significantly lower premia, while their acquirers benefit by buying the target on the cheap, possibly rectifying the ICW problems quickly and realizing the targets' potential. Third, we contribute to the controversy over the benefit of SOX 302 and 404 (e.g., Engel et al. 2007, and Zhang 2007). Although we cannot unambiguously estimate the financial benefit of SOX requirements, we are able to demonstrate that the disclosures on ICFR provide incremental information to investors in assessing M&A deals. Furthermore, we document the relation between ICWs and acquisition premia and provide estimates of the overpayment made by ICW-acquirers and the discounts received by ICW-targets. Interestingly, PS-matched acquirers, which share similar firm characteristics with ICW-acquirers, also overpay for acquisitions. Excess premia as well as premium discounts illustrate that the cost of not having effective controls is substantial. These findings in turn suggest that the value of SOX internal control disclosures is substantial in the market for corporate control.

The remainder of the paper proceeds as follows. In the next section, we provide a background for SOX 302/404 and M&A. We then develop and formalize our hypotheses for empirical tests and specify our research design in Section 3. Section 4 describes the data and descriptive statistics. Section 5 reports empirical results. The last section concludes the paper.

2. Background

2.1. SOX Sections 302 and 404

The importance of internal controls has been recognized in the American legal framework for a long time. The Foreign Corrupt Practices Act (FCPA) of 1977, which is better known for its anti-bribery provisions, requires that all SEC registrant firms (irrespective of foreign business) keep good books and records as well as establish and maintain appropriate internal controls. SOX pushed the notion further to require managers to examine and assess the effectiveness of internal controls. Section 302 requires CEOs and CFOs personally to certify the accuracy of financial statements and the effectiveness of internal controls. In addition to management's evaluation and certification, Section 404 mandates that independent auditors certify management's assertion of the effectiveness of its internal controls.[6]

Clearly, not all companies have effective internal control systems. Even before SOX was enacted in 2002, both the SEC and the Justice Department brought many enforcement cases under FCPA (Section 13(b)(2)(A) of the Securities and Exchange Act), which involved violations of the books and records requirement. Another manifestation of poor ICFR is the incidence of restatements of financial reports. The Government Accountability Office documents 2,705 restatements during the period from 1997 to June 2006. By definition, when there is a material weakness in internal control, there is ''more than a remote likelihood that a material misstatement" of the financial reports "will not be prevented or detected." The firms that restated their financial statements are likely to have had ineffective internal controls (Rice and Weber 2011).

Under SOX, firms are required to identify and report specific types of material weakness in internal controls. Different forms of weaknesses (or deficiencies) are identified by companies and some

[6] See Ge and McVay (2005) for a summary of the legislation and Coates (2007) for the general discussion of SOX.

firms disclose as many as 11 material weaknesses in the same year (Core-Mark Holding). Doyle et al. (2007a) find that firms that report material weaknesses tend to be "smaller, younger, financially weaker, more complex, growing rapidly, or undergoing restructuring." Furthermore, more serious entity-wide control problems are associated with smaller, younger and financially weaker firms. Ge and McVay (2005) attribute weaknesses to a lack of commitment of resources for internal controls.[7] In addition to an increased likelihood of misstatements in financial reports, firms with ICWs are more likely to have financial reports that are of poor quality, for example, with "poorly estimated accruals" that are not realized as cash flows (Doyle et al. 2007b), and have significantly higher idiosyncratic and systematic risk, resulting in a higher cost of equity (Goh and Li 2008), an increased loan collateral, and higher interest rates (Costello and Wittenberg-Moerman 2011). Furthermore, the quality of management's decisions might be reduced by ineffective controls. Feng et al. (2009) find that managers in firms with ineffective internal controls provide less accurate guidance. Overall, low-quality accounting information due to ICWs is a manifestation of underlying problems in the management and corporate governance of a firm. Consistent with this notion, Hoitash et al. (2009) find that firms with "better" corporate governance are less likely to disclose material weaknesses under SOX 404.[8] All these findings suggest that firms that disclose ICWs have some form of governance problems.[9]

2.2. M&A and Internal Control Weakness

An effective internal control system is an important component of good corporate governance to resolve agency problems within an organization. If ICWs are due to ineffective management, the board of directors can step in to rectify the situation by directing the management to improve internal controls or replacing the incumbent with a new management team. When this internal governance process fails,

[7] Similar findings were also noted by Ashbaugh-Skaife et al. (2007) about the firms that voluntarily disclosed information on internal controls under SOX 302.

[8] The quality of governance is measured in terms of the financial expertise of the sample firms' audit committees and independent boards.

[9] Both acquiring and target firms with ICWs are likely to be firms with chronic internal control problems. A perusal of data on restatements (G.A.O., 2002; G.A.O., 2006; Doyle et al. 2007a) shows (untabulated) that roughly 60% of firms have a history of restatements in the past; some firms had multiple restatements (e.g., Checkpoint Systems, Tyco International, and McAfee).

however, an external mechanism in the form of mergers and acquisitions might come into play to discipline the underperforming management and the board (Jensen and Ruback 1983). Although ICWs in a target by themselves may not be the main reason for acquisition, we would expect that ICWs could be an important factor in determining the terms of acquisition (e.g., the premia) and in the market reaction to the transaction. By taking over the company, the acquirer can unlock the hidden potential of the underperforming target. In contrast, if an acquirer has ICWs, the market may be suspicious of the motive of acquisition.

Several motives for M&A have been presented in the literature. One obvious motive is the potential synergies: a combined operation can be more efficient than two separate, stand-alone operations. A combined entity can enjoy economies of scale and/or scope as well as cost reductions by eliminating redundancies. Synergies are enhanced if a takeover target has hidden and untapped potential, which the incumbent management was not able to exploit. The target's management is disciplined by surrendering the rights to corporate control to the acquirer's management (Jensen and Ruback 1983). Another motive is to increase market share, which, in the short run, may not produce any synergy, but in the long run, may result in a strategic and competitive advantage. Thus, the first two motives are consistent with shareholder value maximization. The third motive, on the other hand, stems from the manager's desire to maximize his/her private benefits at the expense of shareholders' wealth, for example, to build an empire (Jensen 1986) and to entrench themselves (Shleifer and Vishny 1989). Roll (1986) puts forth a hypothesis that many corporate takeovers are initiated by managers who are infected by hubris. These managers overestimate the value of takeovers and are willing to pay too much for the acquisition. Winning bids are of course those that pay too much ("winners' curse"). Then it is rational for the market to take a cautious and skeptical attitude towards M&As. Better acquisition decisions are likely to be made by companies with effective management

Masulis et al. (2007) and Francis and Martin (2010) focus on two specific aspects of corporate governance to examine how it affects the success of acquisitions. Masulis et al. (2007) ask whether managers protected by antitakeover provisions (ATP) are more likely to indulge in value-destroying

acquisitions since they are less likely to be disciplined via takeovers for taking such actions. They find that acquirers with more ATPs experience significantly lower CARs, while acquirers in which the CEO and the chairman of the board are two distinct individuals experience higher CARs. Francis and Martin (2010) hypothesize and find supporting evidence showing that firms that recognize losses in a timelier manner (Basu 1997) make more "profitable acquisitions," measured by announcement-period CARs as well as post-announcement-period performance. Firms that employ conservative accounting are likely to be those with better corporate governance (Garcia 2009). The findings in Masulis et al. (2007) and Francis and Martin (2010) suggest that the market expects certain features of good corporate governance to promote successful M&As. Our paper focuses on another facet of corporate governance, i.e., internal controls. We view effective internal controls as a necessary condition for high-quality-accounting information, which in turn is an essential ingredient of good corporate governance.

3. Hypothesis Development and Research Design

3.1. Hypotheses

Our basic premise is that firms with ICWs are more likely to make suboptimal decisions than firms with effective internal controls. Presumably those firms that disclose ICWs under SOX 302/404 actually suffer from ICWs. What we cannot be sure of is whether those firms that do not disclose any ICWs in fact possess effective ICs. In view of the finding in Rice and Weber (2011), our research design specifically incorporates the possibility that some of the non-ICW firms might possibly have ICWs (despite the fact they have certified IC effectiveness). As discussed earlier, we do so by forming two control samples: (1) the PS-matched sample, consisting of acquisition deals that involve acquirers or targets that are matched by the propensity to disclose ICWs; and (2) the IYV control sample, consisting of acquirers or targets that are matched by industry, year, and deal values. Given that the PS-matched firms are matched on ICW characteristics, we expect these firms to behave in such a way that is similar to ICW firms, while IYV-matched firms need not behave similarly since they do not necessarily share the same characteristics. Since the PS-matched firms share much of the same observable characteristics as our ICW sample firms, it is possible that the market evaluates them similarly to the ICW firms by discounting their

effective IC status. Alternatively, the market might give them the benefit of the doubt – after all, they did certify the effectiveness of their internal control systems. By examining these three groups (our treatment sample and the two control samples), we test whether the market responds to ICW disclosures or to the firm characteristics.

The first set of hypotheses concerns the market responses to the acquisition announcements. We calculate the cumulative abnormal returns (CARs) around M&A announcement dates for both ICW-acquirers and ICW-targets. In particular, Hypothesis 1 is concerned with the ICW-acquirers, while Hypothesis 2 with the ICW-targets. Although we expect differential market reactions to the three samples, we state the first hypothesis in null form:

H1: There is no difference in the CARs of ICW-acquirers and non-ICW acquirers.

For the three samples we examine, *H1* predicts that *ICW-AcqCAR = PS-AcqCAR = IYV-AcqCAR*, where *ICW-AcqCAR* is the CAR of the treatment sample and *PS-AcqCAR* and *IYV-AcqCAR* are the CARs of the two control samples.

Alternatively, the market could be more skeptical about an acquisition made by an ICW-acquirer. The acquirer might be engaged in M&A for empire-building. Moreover, the acquirer's ability to implement successful integration of the targets and to capitalize on any potential synergies can be questioned. If the market interprets ICW disclosures as incontrovertible evidence of ICWs, then we would expect the CAR of our treatment sample to be smaller than those of non-ICW samples. Both the PS- and IYV-matched firms have not disclosed ICWs. However, the market can observe the characteristics of the PS-matched firms and conclude that they may have ICWs. In that case, we expect *PS-AcqCAR* to be smaller than *IYV-AcqCAR.* Thus, the alternative hypothesis to *H1* is as follows:

H1A: ICW-AcqCAR < PS-AcqCAR ≤ IYV-AcqCAR .

Targets, on the other hand, are usually the winners in M&A transactions. Typically, the shareholders of targets in a successful M&A receive a substantial increase in their share prices (e.g., Healy et al. 1992). When a company becomes a target, its board of directors commonly engages the services of a financial advisor, typically an investment bank, which in turn writes a report to provide a

"fairness opinion" (Calomiris and Hitscherich 2007; Cain and Denis 2010).[10] The fairness opinion speaks only to the fairness of the transaction from "a financial point of view" and does not opine on the question as to whether this is the best course of action. Nevertheless, since it is likely that target companies will only accept offers that are at least "fair," the premium associated with offers should be positive. Knowing this, the market is likely to react positively to the possibility of becoming a target of acquisition. If an M&A transaction is not successfully completed, however, the share price decreases to the original level, suggesting that the increase in the share price is solely due to the prospect of a successful M&A transaction (Bradley et al. 1983).

In contrast to ICW-acquirers, the market is likely to react more favorably to the news of acquisitions of ICW-targets (made by non-ICW-acquirers). This is because the acquirer is likely to rectify the target's internal control problems and unlock its hidden potential, while the present management may not be able to do so. Thus, we state the second hypothesis as follows in null form:

H2: There is no difference in the CARs of ICW-targets and non-ICW-targets.

We test *H2,* which predicts that *ICW-TarCAR = PS-TarCAR = IYV-CAR* against the alternative hypothesis:

H2A: ICW-TarCAR > PS-TarCAR ≥ IYV-TarCAR .

The second set of hypotheses concerns the premia paid to targets. Clearly, to entice the board and shareholders to sell their shares, the acquirer has to sweeten the deal. That is, a premium will be paid for the acquisition. Prior research finds that the premium depends on variables such as the acquirer's size, the target's inherent value, the potential synergies, and managerial ownership (Palia 1993). Beatty et al. (1987) find that banks paid higher premia to acquire banks that are managed well and more profitable. Moeller (2005) finds that the premium is positively related to the bargaining power of the target's shareholders.

[10] Calomiris and Hitscherich (2007) claim that "virtually all" boards of directors of public target companies seek fairness opinions, even though that is not legally required. The fairness opinion likely serves as evidence that the board of directors has fulfilled its fiduciary duty of care.

The premium paid by an acquirer may or may not depend on the ICW disclosure status. We first state a hypothesis in null form.

H3: There is no difference in the premium paid by ICW-acquirers and non-ICW–acquirers.

An alternative view is that ICW-acquirers are more likely to overpay for acquisition than non-ICW acquirers. They are likely to engage in a suboptimal acquisition that enhances managerial power, or by simply overestimating the value of the acquisition. In that case, ICW-acquirers will pay more than non-ICW acquirers (in particular, IYV-matched acquirers). To the extent that PS-matched firms share the same characteristics (which also lead to managerial hubris, incompetence, or empire-building ambitions), they are likely to behave similarly to the ICW-acquirers. In that case, we expect both ICW-acquirers and PS-matched acquirers to pay larger premia.

H3A: ICW-AcqPREM > PS-AcqPREM ≥ IYV-AcqPREM .

On the other hand, when a target has previously disclosed ICWs, we expect that the premium paid will be less than otherwise. This is because the acquirer, knowing that the target has ICWs, estimates the cost of integration to be higher, or uses a higher discount rate in evaluating the benefit from the acquisition. If the target has ICWs, the financial information of the target is of poorer quality and the future benefits are more difficult to estimate, i.e., risky. First, we state the hypothesis in null form:

H4: There is no difference in the premium paid to ICW-targets and non-ICW–targets.

We test the null hypothesis: *H4A: ICW-TarPREM = PS-TarPREM =IYV-TarPREM* against the alternative hypothesis:

H4A: ICW-TarPREM < PS-TarPREM ≤ IYV-TarPREM.

Combining Hypotheses 2A and 4A, we predict the following relation: CARs of ICW-targets are larger, but their premia are smaller than those of non-ICW-targets. That is:

$$\begin{matrix} ICW\text{-}TarCAR > non\text{-}ICW\text{-}TarCAR \\ ICW\text{-}TarPREM < non\text{-}ICW\text{-}TarPREM \end{matrix}, \qquad (1)$$

where *ICW-TarCAR* is the CAR of ICW-targets, *non-ICW-TarCAR* is the CAR of non-ICW targets, *ICW-TarPREM* is the premium paid to ICW-targets, and *non-ICW-TarPREM* is the premium paid to non-ICW

targets. This reversal of relation is unlikely to hold when an acquisition is paid for in cash, since the premium determines the CAR. A reversal is possible, however, when acquirers' stock is used as the means of acquisition.[11] Because of ICWs, both the pre-acquisition stock price and the acquisition premium of an ICW-target are discounted. However, the value of the target shares after the acquisition announcement would reflect the value of the combined company, which benefits from the improvement in internal controls initiated by their acquirers and the potential synergies from acquisitions. Thus, the value of the combined company is higher than the sum of the values of the two firms on a stand-alone basis. In Appendix C, we describe in detail how this reversal of relations can happen and derive the conditions under which this occurs.

3.2. Research Design

We test our hypotheses by estimating: (1) the average (median) CAR around the acquisition announcements; and (2) the premia paid to targets. First we examine the CARs of the two groups consisting of: (1) deals involving ICW-acquirers; and (2) deals involving ICW-targets. These groups comprise our ICW-sample (the treatment sample). These ICW-firms are matched with non-ICW firms that are selected from the 2,929 deals (in which neither the acquirer nor the target has previously disclosed any ICWs).[12] We form two matched control samples, matched on (1) the propensity score to disclose ICWs (PS-matched control sample) and (2) industry, year, and deal value (IYV-matched control sample). The propensity score is a firm's predicted probability to disclose ICWs. Since the focus of our paper is on ICW disclosures as the treatment effect, we form this control sample by selecting matches (to our treatment ICW-acquisitions) that are non-ICW acquirers or targets with the same predicted probability to disclose ICWs, but without actual disclosures as such. The PS matching process leads us to drop a few observations that have no matches. Thus, our final PS-matched control sample includes 279 matched deals for the ICW-acquirers and 148 matched deals for the ICW-targets, while our IYV-matched

[11] More than half of the deals in our ICW-sample were paid for with a combination of cash and stock. Roughly 6% of the deals were 100% stock acquisitions

[12] As mentioned earlier, we delete 12 deals in which both acquirers and targets have ICWs to sharpen the difference among the three groups. Including them in our analysis, however, does not change our results.

control sample consists of 282 matched deals for the ICW-acquirers and 155 matched deals for the ICW-targets. The IYV-matched control sample follows the method typically utilized in the M&A literature. More importantly, it is more likely to consist of firms that are free of ICWs.

Our hypothesis testing is based on two approaches: (1) univariate and (2) multiple regressions using our matched-pair samples. In the univariate analyses, we compare the CARs and the premia of our ICW sample with the matched control samples. Essentially, univariate analysis tests the difference in the means between ICW-firms and matched control firms (Zhao 2004). To further account for the forces not controlled for in the matching process, we employ a pairwise multiple regression framework to control for a host of variables.[13] Thus,

$$CAR = \alpha_0 + \alpha_1 ICW + \sum \beta \; Control + \varepsilon_1 , \qquad (2)$$

$$Premium = \gamma_0 + \gamma_1 ICW + \sum \lambda \; Control + \varepsilon_2 , \qquad (3)$$

where *ICW* is an indicator variable which takes the value of one if either the acquirer has previously disclosed ICWs (*Acq ICW*) or the target has previously disclosed ICWs (*Target ICW*). Alternatively, we also use the seriousness of ICWs and the number of ICWs as the *ICW* variable. We follow the M&A literature to identify and control for the deal characteristics. In addition, we include variables that Ogneva et al. (2007) find to be associated with ICWs in some of the IYV-matched pair regressions. Needless to say, we do not include the ICW-related variables in the PS-matched pair regressions.

4. Sample Selection and Descriptive Statistics

We obtain our acquisition sample from the Securities Data Corporation (SDC) Mergers and Acquisitions database. Table I, Panel A summarizes our sample construction procedure. We identify 3,378 acquisitions announced by 3,209 firms between January 1, 2003 and December 31, 2008 that meet the following criteria:

[13] In multiple regressions, the pair-wise differences in the dependent variables (CAR or Premium) between matched pairs are regressed on the pair-wise differences of the independent variables (Rubin 1973; Imbens 2004; Cram et al. 2009). The intercept of this pair-wise differences model is interpreted as the average difference resulting from the ICW disclosure treatment effects.

1. The acquisition is completed (or withdrawn) by December 31, 2008.
2. The transaction involves at least 50% of the target's shares.
3. The deal value is disclosed in SDC.[14]
4. Both the acquirer and the target are included in the Audit Analytics Database.

Because we are interested in examining the influence of ICW disclosures on acquisitions, we identify all acquisitions in our database that involve acquirers and/or targets that disclosed that their internal controls are ineffective under Sections 302 (in 10-Q) or 404 (in 10-K) reported in the last quarter or the last year prior to the acquisition announcement dates. Of the 3,378 deals, 2,929 deals do not involve ICW disclosures on either the part of the acquirer or of the target. We select our matched control sample from these 2,929 deals. The final ICW sample yields 437 acquisitions, of which 369 are eventually completed and 68 are eventually withdrawn after their announcements. Of the 437 deals, 282 are made by ICW-acquirers, while 155 deals involve ICW-targets. The Audit Analytics Database includes data from more than 6,000 publicly traded companies per year since January 1, 2001. The database includes detailed information on auditor firms, auditor changes, opinions, disclosures on internal controls under Sections 302 and 404, audit legal cases, financial details and compliance difficulties.

In Panel B of Table I, we present the distribution of our sample firms for each year of the 6 year period and their ICW status. Acquisitions involving ICWs under Section 302 are fewer (total of 35) and represent roughly 8 percent of the ICW sample (437). Panel B also indicates that the number of deals is fairly constant during the sample period.

Table II presents descriptive statistics (the mean and the median) on the characteristics of acquirers, targets, and the acquisition transactions themselves. The sample characteristics are calculated over the one-year period preceding the acquisition's announcement date.

Panel A of Table II reports the descriptive statistics on firm characteristics for both the ICW-acquirer and ICW-target subsamples. Panel B reports deal characteristics and Panel C reports methods of payment for these two subsamples. In general, acquiring firms have higher total assets, market value of

[14] Deal value is defined by SDC as the total value of consideration paid by the acquirer, excluding fees and expenses.

equity, and return-on-assets (*ROA*) than target firms. With respect to deal value, we find that on average it is much larger when targets have ICWs than when acquirers have ICWs. Although there are some differences, the financial characteristics of the acquirers in our sample are consistent with those found in Moeller et al. (2004) and the material weakness characteristics are consistent with those found in Ogneva et al. (2007). In terms of the methods of payment, cash is the most common one used. Roughly 36% of the deals are completed with 100% cash for ICW-acquirers and 46% of the deals are completed with 100% cash for ICW-targets. However, more than half of the deals involve payments with acquirers' stock for both subsamples. Stock payments are important in producing the inequality reversal of CARs and premia for targets as summarized in equation (1).

5 Results

5.1. Announcement Effects

5.1.1. Univariate Analysis of Returns

To evaluate the market impact of each acquisition, we estimate the CARs in the 3-day (-1, +1) window around the acquisition announcement date ("day zero"). The announcement period CARs are computed using the market model, whose parameters are estimated over the 210-day period (-210,-11) with the CRSP value-weighted NYSE/AMEX/NASDAQ return as the market index.[15]

Panel A of Table III reports the mean (median) CAR estimate for the 564 acquisition events with ICW-acquirers.[16] We present results for Acquirer CARs, Acquirer CARs adjusted for toehold shares,[17]

[15] Prior event studies used various windows (See Halpern (1983) for a review). We follow Moeller et al. (2004) and use the 3-day short window to avoid confounding events. However, we find that using the 3, 5 or 23-day event window does not qualitatively affect our results.

[16] The number of deals analyzed in Table IV is smaller because some of the firms are private without necessary information.

[17] We adjust Acquirer CARs for the toehold shares (<50%) they already owned of their targets, using the procedure suggested by Bates et al. (2006):

$$Adj\ CAR_{Acq} = (\Delta AMV_{Acq} - \alpha\ \Delta AMV_{T}) / (MV_{Acq} - \alpha MV_{T}),$$

where ΔAMV_i is the abnormal change in the market value and is defined as: $\Delta AMV_i = MV_i * CAR_i$, i=*Acq, T* . *AdjCAR* essentially adjusts both the *MV* and the abnormal *MV* of the acquirer by removing the portion attributed to the toehold.

and Target CARs. We compare the CARs of the treatment sample with the PS-matched and the IYV-matched control sample. The mean values of *ICW-AcqCAR* and *ICW-AcqCAR adjusted for toehold* are -1.43% and -2.49% over the 3 days, respectively. The median CARs are -0.75% and -1.36%, respectively. In contrast, both the mean and median CARs for the PS-matched and IYV-matched control samples are positive and higher than those of the ICW sample. The differences (both mean and median) between both the ICW and PS-matched and the ICW and IYV-matched samples are statistically significant at the 1% level. Furthermore, the difference between the PS-matched and the IYV-matched sample is significant at the 5% level (untabulated). Thus, these results establish the strict inequality relation: *ICW-AcqCAR* < *PS-AcqCAR* < *IYV-AcqCAR*, supporting *H1A.* In sum, the empirical results suggest that the market reacts more negatively to acquirers that have disclosed ICWs. The market is somewhat skeptical of firms with ICW characteristics, but does not treat them as if they have ICWs.

Panel A of Table III also presents the mean (median) CARs for the targets in the ICW sample and the control samples. The targets in the ICW sample earn a mean (median) CAR of 19.93% (14.65%). The targets in the PS-matched control sample earn a mean (median) CAR of 13.97% (9.54%), while those in the IYV-matched control sample earn a mean (median) CAR of 11.57% (8.39%). The difference in the mean CARs between the ICW sample and the PS-matched control sample is not statistically significant, while that between the ICW and IYV-matched sample is statistically significant at the 0.10 level. Although the significance level is marginal, a higher mean CAR of targets acquired by ICW-acquirers over the mean CAR of targets acquired by IYV sample is consistent with the scenario that the target shareholders benefit from high premia paid by ICW-acquirers.

Panel B of Table III reports the mean (median) CARs for both acquirers and targets around the announcement dates of deals in which the targets have ICWs. Both the CARs and the (toehold) adjusted-CARs for the ICW-sample acquirers (who acquire ICW-targets) are smaller than those in the control samples (who buy non-ICW targets). The differences are statistically significant at the 0.05 level. The CARs of ICW-targets, on the other hand, are substantially higher than those of targets in the control samples (which do not have ICW disclosures). While both the mean and median CARs of the PS-matched

control sample are higher than those of the IYV-matched control sample, the differences are not statistically significant (untabulated t-statistics are 1.48 and 1.04, respectively). These CARs are also higher than those of non-ICW targets, which were acquired by acquirers with ICW disclosures (in Panel A). These results hold for both the PS- and IYV-matched control samples. The evidence provides support for Hypothesis 2A that the market reacts more positively to ICW-targets than to non-ICW targets around the announcement dates.

In sum, the two panels of Table III support the stylistic relationships between the CARs of acquirers and targets with and without ICW disclosures as stated in *H1A* and *H2A*. However, we cannot unambiguously conclude that the relationships are due to ICW disclosures, since there may be other omitted variables that systematically affect the CARs. To investigate what other factors determine the announcement-period returns, we next examine CARs in a multivariate setting.

5.*1.2.* *Multivariate Analysis of Returns*

In Table IV, we report the results of the multiple regression models that incorporate cross-sectional variations in acquisition deal characteristics and firm characteristics.[18] We regress the 3-day announcement-window CARs against the ICW-status disclosure variable as well as a host of control variables. We define ICW status in three ways: 1) an indicator variable with a value of one if a firm has disclosed ICWs and zero otherwise (*Acq ICW* or *Target ICW*); 2) an indicator variable indicating the seriousness of ICWs, taking a value of one if the ICW problem is company-wide and zero if it is account-specific (*Serious Acq ICW* or *Serious Target ICW)*;[19] and 3) the number of material weaknesses (in natural logarithm) disclosed (*Ln(Num Acq Weakness)* or *Ln(Num Target Weakness))*. We run different regressions on the two matched-pair samples including: (1) ICW-acquirers and a control sample; and (2) ICW-targets and a control sample. Models 1 through 3 use the PS-matched-pairs, while Models 4 through 6 use the IYV-matched pairs. Following Masulis et al. (2007), we control for different known

[18] The number of deals analyzed in Table IV is smaller because some of the firms are private without necessary information

[19] We categorized the following four weaknesses as the more severe weaknesses: Senior management competency, tone, reliability issues; Accounting personnel resources, competency/training; Segregation of duties/ design of controls; Information technology, software, security & access issues.

determinants of M&A announcement returns (i.e., the characteristics of deals and the financial characteristics of the firms) and in addition we control for the determinants of ICWs in Models 4, 5, and 6. Panel A, Table IV, reports the results of regression models of acquirer returns (with the ICW samples and their matches).[20] Panel A presents the coefficient estimates of the regressions of acquirer CARs with control variables on firm/industry characteristics, deal characteristics and both year and industry fixed effects. Models 1-3 use the PS-matched sample, while Models 3-6 use the IYV-matched sample as control sample. The coefficient estimates of *Acq ICW* in Model 1 and Model 4 are -0.057 (t = -5.13) and -.0031 (t = -5.46), providing strong support for H1A: the market expects ICW-acquirers to make poorer acquisitions relative to the acquirers without ICW-disclosures whether or not they have the same propensity. In addition, the coefficient on *Target ICW* is also negative and significant, indicating that acquirers that acquire ICW- targets experience smaller CARs as we saw in the univariate estimates.

Models 2 and 5 investigate the severity of the IC weaknesses. The coefficient on *Serious Acq ICW* is -0.019 (t = -2.31) and -0.011 (t=-3.13), respectively, indicating that the market responds more negatively to ICW-acquirers with severe ICWs. Furthermore, we find that CARs are more negative when the ICWs of the target are more severe (the coefficient is not significant at the conventional level, however). Models 3 and 6 examine the number of material weaknesses. The coefficient estimates are negative, but not statistically significant. Turning to the control variables, we find that certain firm, industry, and deal characteristics are important in explaining CARs: in particular, the size of the acquirer (*Log(Acq Assets)*), *Industry Tobin's Q*, and *Public Target*, are all consistent with findings in prior research (Chang 1998; Fuller et al. 2002; and Masulis et al. 2007). Overall, we find the same results for both control samples with the exception of the severity of the targets' ICWs. Thus, the results in panel A of Table IV provide support for *H1A* that the CARs of ICW-acquirers around the announcement dates are smaller than those of non-ICW acquirers.

[20] We pool 282 ICW-acquirers (who acquired non-ICW targets) and 155 non-ICW-acquirers (who acquired ICW-targets) with their respective control groups in this regression. We have also run separate regressions for ICW-acquirers only (with the control group) and ICW-targets (with the control group). The results are virtually the same.

In contrast to acquirers' CARs, targets' CARs benefit from ICWs, be it the acquirers' ICWs or those of the targets themselves. Panel B of Table IV reports the results of the six multiple regression specifications of targets' 3-day returns. Note that only public targets are included in these regressions. The coefficient on *Target ICW* is positive and significant in both Model 1 (coeff = 0.038, t = 2.47) and Model 4 (coeff = 0.045, t = 2.91). While the coefficient on severity is not statistically significant in Model 2, it is significant in Model 5, and the coefficient on the number of weaknesses is positive and significant in both Models 3 and 6. Thus, the results provide strong support for Hypothesis 2A that the CARs of ICW-targets around the announcement dates are higher than those of non-ICW targets. The coefficient on *Industry Leverage* is negative and significant, while those on *Industry M&A*, and *Relative Deal Value* are positive and significant. Note that the coefficient on *Target ICW* remains significant and the magnitude is about the same across the different specifications. In addition, the severity of a target's ICWs is positively associated with the target's CAR, but it is statistically significant only when the control sample is the IYV-matched sample. The number of material weaknesses in a target firm is also positively associated with the target's CAR. Overall, the results in panel B of Table IV reject *H2*, and support *H2A* that the stock market reacts more favorably to ICW-targets than to non-ICW targets around the announcement dates. It is worth noting that *Target ICW* is positive and significant in both PS- and IYV-matched samples, which implies that the market reacts to the disclosure of ICWs and not to the firm characteristics that might cause ICWs.

5.2. Acquisition Premia for Targets

Panels A and B of Table V report the average premia paid to the targets by their acquirers in percentage and dollar amounts (in $ million), while Panel C reports the results of the regression analysis of the premium (%). Prior research examines a number of justifications for acquisition premia, ranging from a premium for potential synergies to empire-building. Of course, a premium is required to convince the board of directors, as it is unlikely to agree to an acquisition unless it enhances the shareholders' wealth. The question of interest,then, is how the premium is affected by ICW disclosures in either the

acquiring or the target firm. *H3A* proposes that ICW-acquirers tend to pay too much, while *H4A* proposes that the premium for a target with ICWs is discounted.

We calculate the premium as the acquirer's offer price in excess of the target's share price as a percentage of the target's share price one day prior to the announcement date. Additionally, to evaluate the economic magnitude of the premium, we calculate the premium in dollars by multiplying the percentage premium by the target's market value one day prior to the announcement date. Note that premium data are available only for targets that are public.

Panel A of Table V reports the average premium paid (in % and $) to targets by ICW-acquirers. As before, we first report univariate results for the ICW sample as well as for PS-matched and IYV-matched control samples. We find that ICW-acquirers paid a significantly higher premium (29.01% on average) than non-ICW acquirers in both the PS-matched and IYV-matched control samples. The difference is statistically significant at the 0.05 level and amounts to $28.96 million (PS-matched control sample) and $36.74 million (IYV-matched control sample). In addition, we find that the mean premium paid by the PS-matched sample is statistically significantly higher (untabulated) than that by the IYV-matched sample.

Panel B shows that ICW-targets received significantly lower premia than non-ICW targets in both control samples. The difference is roughly $28.14 (PS-matched sample) or $29.19 million (IYV-matched sample). Thus, the discount targets suffer for having disclosed ICWs is statistically and economically significant. The $28.14 (or $29.19) million discount could be attributed to the cost of ICWs in the target firm. Alternatively, instead of buying a firm with ICWs and resolving the problems, acquirers are willing to pay additional $28.14 ($29.19) million on average to buy a target without ICWs.

We report in Panel C the results of multiple regressions that control for a number of variables. Using the PS-matched control sample, Models 1 through 3 replicate Panels A and B after controlling for variables that are found to influence the acquisition premia. We find that none of the acquirer ICW disclosure variables (i.e., *Acq ICW*, *Serious Acq ICW*, or *Ln(Num Acq Weakness)* is significantly associated with *Premium* once we control for deal characteristics, year and industry effects. However,

Target ICW, *Serious Target ICW*, and *Ln(Num Target Weakness)* are all negatively and significantly associated with *Premium*. It is worth reiterating that when we use PS-matched firms as control firms, none of the acquirer ICW-status variables is statistically significant. We interpret this result as evidence that firms with a high propensity for ICWs behave similarly regardless of whether or not they have disclosed ICWs. That is, it is a behavioral trait of the acquirers that manifests itself in the higher premium. Thus, both our ICW firms as well as PS-matched firms tend to pay a higher premium for acquisitions. When we compare the two, we do not observe any difference in the premium paid.

In contrast, IYV-matched sample firms are not matched by ICW propensity. Presumably, neither industry, year, nor deal value is systematically related to ICWs. Thus, we expect and find a significant difference in the premium paid by ICW-acquirers and non-ICW acquirers (even though we include ICW-related control variables). Models 4 through 6 report results based on the ICW firms and the IYV-matched control sample. The coefficients on *Acq ICW*, *Serious Acq ICW*, and *Ln(Num Acq Weakness)* are all positive and statistically significant, indicating that ICW-acquirers pay a higher premium than non-ICW acquirers. The coefficients on *Target ICW* and *Serious Target ICW* are both negative and significant, consistent with the findings in Panels A and B. We also find that the coefficients on *Bidder Termination*, *Stock Offer*, *Tender Offer*, and *Bidder Toehold* are significant.

We attribute the lower premia paid to ICW-targets to the additional resources that the acquirers have to invest in the targets to rectify their internal control problems. On the other hand, the seemingly excessive premium paid by ICW-acquirers can be attributed to their ineffective management. It is consistent with the notion that these managers are interested in empire-building and/or suffer from hubris. Empire-building managers are taking advantage of poor internal controls in their firms to hide their true motives. Overall, the results in Table V provide support for *H3A* that ICW-acquirers pay larger premia and strong support for *H4A* that ICW-targets receive lower premia. In addition, we find that PS-matched acquirers behave similarly to ICW-acquirers, suggesting that the underlying shared characteristics do manifest themselves in the form of higher acquisition premia.

5.3 Additional Analyses

5.3.1. Wealth Creation

Our empirical analyses have provided evidence to support the four alternative hypotheses we developed in this paper. We find that the disclosures on internal controls, mandated by SOX Sections 302 and 404, remain an important factor in determining announcement CARs and premia, even after controlling for the various characteristics pertaining to the specific acquisition deals and the firms involved. Our analyses underscore the general finding made in prior research that the winners in acquisitions are target shareholders. Both the CARs and premia of targets are substantial. Moreover, ICW-targets receive smaller premia than non-ICW targets, although they experience higher CARs than non-ICW-targets. This is consistent with the notion that ICW-targets are disciplined in the form of a lower premium, but can participate in the gain from unlocked value if they retain shares in the combined firm. ICW-acquirers perform poorly: they experience lower announcement-period CARs and pay higher premia than non-ICW acquirers. This is consistent with the market being skeptical of ICW-acquirers' motives and competence.

What is not clear is whether acquisitions create value for the shareholders of the acquirers and targets combined. Although the CARs of targets are positive and large in magnitude, those of many acquirers are negative. Since acquirers tend to be larger than their targets, it is possible that the negative market reaction for acquirers outweighs the positive reaction toward targets. Thus, it is possible that some M&As are perceived by the market to be value destroying. To examine this issue, we compute a value-weighted average of the change in the abnormal market value of acquiring and target firms. Following Bates et al. (2006), we adjust for the toehold the acquirer already has in the target as follows:

$$MV_c = MV_{Acq} * CAR_{Acq} + (1-\alpha) * MV_T * CAR_T ,$$

where MV_c, MV_{Acq} and MV_T are the market values of the combined firm, the acquirer, and the target before the announcement date, and α is the toehold or the percentage of the target shares held by the acquirer. The CARs are calculated over the announcement window of (–1, +1).

In untabulated results, we find that the combined change in abnormal market values is substantially higher for our ICW-sample firms as compared to those in the control samples. A much larger value is partially due to the fact that acquirers and targets in our ICW-sample tend to be larger than those in the control samples. What is important, however, is that on average, the value-weighted changes are positive; that is, the positive market reaction for the targets outweighs the negative reaction for acquirers.

In sum, these results show that even though ICW disclosures point to underlying governance problems in bidder or target firms, the market does not necessarily view acquisitions involving ICW firms to be value-destroying propositions. In fact, the market views that these acquisitions are, on average, value-creating as in the control samples.

5.3.2. Deal Completion

ICWs in the target firm, however, reduce the probability of deal completion. Our sample includes acquisition deals that were eventually withdrawn. There are 68 such deals.[21] To see how the ICW status affects the probability of completion, we run a logistic regression, based on the logistic regression models in Bates and Lemon (2003) and Bates et al. (2006). The results are reported in Table VI. Across all models, we find that the coefficient on *Acq ICW* is negative, but not significant. While the management of acquiring firms with ICWs may not be as competent, they might be anxious to conclude the deal especially if they are hubristic and/or anxious to build an empire. The coefficient on *Target ICW* is negative and significant even after controlling for various factors that affect bid completion probability. We interpret this result to indicate that ICWs in targets are likely to make potential synergies from the acquisition more uncertain, in part due to poorer financial reporting quality. The likelihood of completion is enhanced when an acquisition is attempted through a tender offer and a stock offer, but is reduced by prior bidding, hostile takeover, litigation, or family-owned firms, consistent with the findings in Bates and

[21] The withdrawn deals consist of 41 deals with ICW-acquirers, 27 deals with ICW-targets, and 384 deals without any ICWs.

Lemon (2003) and Bates et al. (2006). In addition, the severity of ICWs and the number of material weaknesses do not affect the probability of completion.

5.3.3. Post-Merger Performance: One-Year Ahead

While the stock market reactions to many acquisition announcements appear to be optimistic, the enthusiasm wanes quickly: the average CARs over the next one-year period are negative for all groups. Panel A of Table VII shows that the average one-year ahead CARs are -7.82% and -2.69% (-2.17%) for the ICW-acquirers and for the PS-matched control sample, respectively.[22] The difference is negative, but is not statistically significant. The average one-year-ahead CARs for the non-ICW-acquirers that acquired ICW-targets and the PS-matched control sample are -5.88% and -2.41%, respectively, with the difference being negative and again insignificant, suggesting that ICW-acquirers and PS-matched acquirers share similar characteristics and perform similarly. In contrast, the difference in CARs between the ICW-sample and the IYV-matched sample is larger and statistically significant for acquisitions made by ICW-acquirers as well as acquisitions of ICW-targets, suggesting that the ICW-sample and IYV-matched control sample are significantly different.

Overall, the results suggest that the stock market grows more skeptical about the success of the acquisitions. This general negative drift is consistent with the findings in prior research (Agrawal et al. 1992; Anderson and Mandelker 1993; Loughran and Vijh 1997); however, ICW-acquirers are penalized most during the year after the acquisition.

While the stock market becomes more critical of acquisitions, accounting performance measures tell a different story, especially for non-ICW-acquirers. Panel B of Table VII provides the mean accounting performance measures for the pre- and post-acquisition periods.[23] We find that many of the performance measures have actually improved substantially for non-ICW-acquirers (using both control

[22] We calculate 12-month abnormal buy-and-hold portfolio returns adjusted for size and book-to-market cumulated from the end of the month in which the deal was announced. We follow Fama and French (1992, 1993) and Barber and Lyon (1997) to calculate size and book-to-market adjusted returns for each firm-year-deal observation. Size for year *t* is the market value of equity at the end of June of year *t*. The book-to-market value for year *t* is the book value of equity at the end of the fiscal year ending in *t-1* divided by the market value of equity at December 31 of *t-1*. The CARs are calculated only for the deals that were completed.

[23] Qualitative conclusions are the same when we compare median measures (untabulated).

samples). The winners appear to be acquirers that acquired ICW-targets. The differences between the mean pre- and post-acquisition performance measures are positive, significant and larger than those for the control samples. One possible explanation is that after acquiring ICW-targets, the acquirers were able to fix the ICW problems and reaped a bigger benefit from synergies. Another reason could be that because they paid smaller acquisition premia, post-acquisition asset bases are smaller, therefore yielding better accounting return measures.

Notwithstanding the caveat that accounting performance measures are susceptible to manipulation and changes in accounting policies after M&A activities (Stanton 1987; Powell and Stark 2005), any benefits arising from acquisitions will eventually appear in the firm's accounting measures. Prior literature, however, documents mixed evidence without producing any clear evidence of improved post-acquisition performance.[24] Our results suggest that there could be systematic differences in the degrees of success. In particular, acquirers who are able to buy ICW-targets with a discount and remedy their ICW problems can reap a bigger benefit from acquisitions. For these acquirers the information on internal controls of potential targets turns out to be very valuable. In contrast, the accounting performance measures of ICW-acquirers deteriorate, suggesting that the acquisitions were poorly executed, consistent with the notion that ICW-firms made acquisitions for empire-building reasons and/or they overpaid because managers are hubristic and misjudged the value of the targets.

5.3.4. Robustness and Sensitivity Tests

While our primary test results in the main text are based on the PS-matched and IYV-matched control samples that are selected from the post-SOX period, we also perform analysis using two additional control samples from the pre-SOX period. The first control sample is matched on ICW characteristics, as in the PS-matched control sample, but is selected from the pre-SOX period. Of course, during this time period, firms were not required to disclose their assessment of IC effectiveness; therefore,

[24] Notable exceptions are: Healy et al. (1992) who examine post-merger operating performance for the largest 50 mergers between 1979 and 1984 to find improvements in asset productivity, leading to higher operating cash flows relative to their industry peers in the first year after M&A; Andrade et al. (2001) who show that margins (measured as cash flows to sales) improve relative to industry benchmarks; and Bild et al. (2005) who report abnormal returns on equity of between 17.24% and 21.50% for the years 0 to +3.

while some firms might have control weaknesses, no firms have disclosed ICWs. We form a control sample that is matched by propensity to ICWs based on the assumption that the same variables would be associated with ICWs before and after 2002.

Table VIII reports the CARs of the acquirers and targets. The CARs for this sample are identical to those reported in Table III, while the CARs for "Control" are for the acquirers that have made acquisitions in the pre-SOX period. Similarly, the control sample for targets is comprised of pre-SOX targets with the same propensity scores (in the end of the year prior to the acquisition). Both the univariate and multiple regression results in Table VIII are qualitatively identical to those in Tables III and IV, suggesting that acquirers with ICW disclosures receive more negative market reactions, while targets with prior ICW disclosures have higher CARs compared to acquirers and targets with similar propensities but without ICW disclosures.

Next, we examine the premia paid using the pre-SOX control sample. As shown in Table IX, both the univariate and multiple regression results again are consistent with the earlier results. In particular, ICW-acquirers and PS-matched control acquirers behave similarly by paying high premia. Finally, in Table X we report the results of the bid completion regression using the same control sample from the pre-SOX period. The results are consistent with those in Table VI.

The second control sample consists of pre-SOX-period deals made by acquirers that subsequently disclosed ICWs in the post-SOX period. Thus, these acquirers are likely to have had ICWs in earlier periods when the deals in the control sample were made. The results are reported in Tables XI, XII, and XIII. While the acquirer CARs are negative (in contrast to the other control samples), they are significantly less negative than our ICW-acquirers. The targets in the ICW-sample experience significantly higher CARs than the targets in the control sample.

Overall the results of these robustness tests suggest that the inferences we made from the earlier tests are robust to a different choice of control groups. We find that acquirers with similar propensity for ICWs behave similarly and the market reacts to the disclosures made by both acquirers and targets.

In addition, we have performed a battery of additional sensitivity tests. First, we examine alternative CAR measurements. In addition to the market-model-adjusted returns, we use raw returns, size-adjusted returns, and value-weighted-index-adjusted returns. We find that the choice of return measures does not affect our results. We also examine whether our results depend on the length of the window we use to estimate the stock returns. We estimate the different return measurements using longer windows (5- and 23-days). The results are qualitatively similar as those reported for the 3-day CARs.

Next, we examine the extent to which the source of ICW disclosures (Section 302 or 404) influences the market reactions by including an indicator variable for Section 302 in the regression. The coefficient on the indicator is not statistically significant and there is no material effect on the rest of the results. We also test the robustness of our results by including additional control variables in our regression related to auditing, accounting, and corporate governance characteristics of the firms based on the prior research (e.g., Doyle et al. 2007a, 2007b; Ashbaugh-Skaife et al. 2007; Louis 2005; and Hoitash et al. 2009). Specifically, we control for the following variables: standard deviation of cash flow from operations, foreign sales, prior restructuring, growth, negative earnings, Altman (1968) z-scores, litigation, prior restatements, the number of investment bankers, in-house investment bankers, and the governance index. Our main results are not affected by the inclusion of these variables.

Finally, we reexamine the M&A deals in the control sample in which either the acquirer or the target had ICWs prior to M&A event but had rectified the ICWs prior to the 10-Q or 10-K immediately before the announcement-periods. We identify 137 acquirers and 103 targets with rectified ICWs out of the 2,929 control sample. The analysis of these CARs shows that there is no statistical difference between the firms that successfully rectified ICWs and the firms that never disclosed ICWs, indicating that the market does not penalize the acquirer or the target with prior, but rectified, ICWs.

6. Conclusions

Our empirical results suggest that SOX 302/404 disclosures on the internal control environment affect the market for corporate control. Clearly, acquisition of another firm is one of the most expensive

investments a firm can make, but is also one fraught with risk. In fact, many empirical studies have shown the difficulty of implementing successful acquisitions. Our study contributes to this literature by focusing on the question of how the players in the market for corporate control utilize SOX 302/404 information in evaluating M&A deals. We find that while acquirers that report ICWs receive smaller CARs than those without ICWs, targets with ICWs receive higher CARs than those without ICWs around the announcement dates. The higher CARs for targets with ICW disclosures suggest that the market incorporates the potential gain from fixing the internal control problems in the target into their valuation.

The results on the acquisition premia paid to targets are interesting. ICW-Acquirers pay larger acquisition premia to targets (compared to the IYV-matched control sample). The results from the PS-matched control sample, however, indicate that non-ICW-acquirers with similar propensities also pay higher premia, suggesting that it is the firm characteristics that drive this behavior. Both ICW-acquirers and their matches are likely to have managers who are interested in empire-building and/or are suffering from hubris. Targets with ICW disclosures, however, receive smaller acquisition premia. Acquirers discount the value of their targets because of the cost of correcting ICWs. While the discount is quite large and acquirers are able to buy targets with ICWs cheaply, the market does not view this discount as sufficient enough to react favorably to the announcement. The CARs of acquirers that purchase ICW-targets are substantially lower than those of the acquirers that acquire non-ICW targets.

Note that unlike CARs that reflect the market reaction, the premium paid for acquisition is made by the acquirer himself. The fact we find no statistically significant difference in the premia paid by ICW-acquirers and PS-matched non-ICW-acquirers indicates that firms with weak internal controls tend to overpay, suggesting that overpayment is not the result of ICW disclosures. In contrast, the market reactions to acquisition announcements do depend on ICW disclosures, indicating that investors pay attention to internal control disclosures (the treatment effect).

Taken together, our results suggest that SOX 302/404 disclosures provide incremental information in evaluating firm value in the market for corporate control. Furthermore, the results are consistent with the notion that: (1) firms with ICWs have weak corporate governance; and (2) acquisitions

made by acquirers with ICWs may be motivated by empire-building and/or managers suffering from hubris. If one views SOX 302/404 solely to be a narrow requirement over financial reporting, the results are surprising. Our hypotheses, however, were developed based on the conjecture that ICFR is one manifestation of corporate governance – a tip of the iceberg – but nonetheless an integral part of corporate governance and therefore informative about the overall quality of a firm's corporate governance.

Our findings are consistent with the hypothesis that the market is skeptical of acquisitions made by firms with weak corporate governance, since the managers are likely to be engaged in empire-building. Unfortunately, managers who are infected by hubris appear to abound. The aforementioned survey conducted by Kelly et al. (1999) found that 82% of respondents believed the major deal they were involved in had been a success. However, the researchers found that only "17% of deals had added value to the combined company, 30% produced no discernible difference, and as many as 53% actually destroyed value." That is, even though 82% thought acquisitions were successful, 83% were actually "unsuccessful" in increasing shareholder wealth.

Given the abundance of overconfidence and hubris, it is important that investors have access to all relevant information in valuing M&A deals. Our results show that the market participants use SOX 302/404 disclosures to differentiate M&A deals. Acquirers without ICWs appear to be using the information to calculate an appropriate premia to offer to their targets. Targets without ICWs, in turn, command a substantially higher premia, as compared to those with ICWs. That is, effective internal controls are valuable and ineffective internal controls are costly. This suggests that even though SOX 302/404 compliance costs may be high, the process of internal control evaluation can promote effective internal controls. Granted, one does not need SOX to improve its internal controls; however, if SOX 302/404 disclosures improve internal controls in this setting, then the intended consequence of SOX has been realized.

Appendix A

Variable Definitions

Total Assets = total assets in millions of dollars of the company (Compustat annual data item AT);

Market Value = the dollar value of common equity at the end of the year prior to the acquisition (CSHO*PRCC_F);

Book-To-Market = the book value of total assets minus total liabilities divided by stock's market value of equity (CEQ/CSHO*PRCC_F); *ROA* = return-on-assets (IB/AT);

Leverage = total debt divided by total assets ((DLTT+DLC)/AT);

 # Segments = the natural logarithm of the sum of the number of operating and geographic segments reported by the Compustat Segments database for the firm in the year prior to the acquisition;

Salegrw = 1 if the industry-adjusted growth in sales falls into the top quintile in the fiscal year prior to the acquisition, and 0 otherwise;

Inventory = the average inventory to total assets ratio (INVT/AT) for the two years prior to the announcement date;

Zscore = decreasing decile rank of Altman's (1968) Z-Score (computed as decile rank of Z-score times –1 and plus 10);

Firm Age= number of years the firm has CRSP data as of the announcement date;

Foreign Currency = 1 if the firm has a non-zero foreign currency translation in the year prior to the acquisition (FC), and 0 otherwise;

Restructure Costs = 1 if restructuring charges (RCP) is not zero for any of the three fiscal years before the acquisition, and 0 otherwise;

Loss = 1 if earnings before extraordinary items (IBC) sum to less than zero in the two years before the acquisition, and 0 otherwise;

Litigation = 1 if a firm was in a litigious industry—SIC codes 2833–2836; 3570–3577; 3600–3674; 5200–5961; 7370; and 0 otherwise;

Family Firm =1 if a family, a group of families, a firm founder, or a non-founding chairman controls more than 20% of the outstanding equity of the target as defined by SDC, and 0 otherwise;

Deal Value = value in millions of dollars of the M&A deal (from SDC);

% of Stock = percentage of the transaction financed with common stock (from SDC);

Toehold = percentage held by the acquirer prior to the current deal;

Public Target = 1 when the target is a publicly traded company, and 0 otherwise;

Termination Fee = 1 if the merger agreement includes a termination fee granted by a bidder, and 0 otherwise;

Deal lockup = 1 if the deal includes a lockup agreement involving target equity, and 0 otherwise;

Prior bidding = 1 if the deal follows a prior bid within 365 calendar days, and 0 if it is an initial bid;

Tender offer = 1 if the bid is structured as a tender offer, and 0 otherwise;

Hostile = 1 if the deal attitude is characterized as hostile, and 0 otherwise;

CAR = the difference between the firm's buy-and-hold return and the value-weighted NYSE/AMEX/NASDAQ index return, cumulated from 1 trading day prior to the M&A announcement date (day zero) through 1 trading day after the M&A announcement date. We also report CARs adjusted for the toehold for the acquirers that already owned some shares (<50%) of the target;

Acq (Target) ICW = 1 when the acquirer (target) reported ICWs, and 0 otherwise;

Serious Acq (Target) ICW =1 when the acquirer (target) reported ICWs that are classified as serious, and 0 otherwise;

Ln(Num Acq (Target) Weaknes) = the natural logarithm of one plus the number material weaknesses disclosed by the acquirer (target) in its 10-Q or10-K report;.

Ln(Acq Assets) is the natural logarithm of total assets in millions of dollars of the company;

Industry Tobin's Q = the industry average of market value of assets over book value of assets;

Industry Free Cash Flow = the industry average of operating income before depreciation less interest expenses, income taxes, and capital expenditures, scaled by book value of total assets;

Industry Leverage = the industry average of total debt divided by total assets;

Industry M&A = the value of all corporate control transactions of $1 million reported by SDC for each prior year and Fama–French industry divided by the total book value of assets of all Compustat firms in the same Fama–French industry and year;

Relative Deal Value = deal value over bidder market value of equity;

Public Target = 1 when the target is publicly traded in the stock market, and 0 otherwise;

Acq (Target) ICW Control Variables = a set of control variables that are associated with acquirers' (targets') internal control weaknesses that are defined in Appendix B based on Ogneva, Subramanyam, and Raghunandan (2007);

Premium (%) over the Target Stock Price 1 Day Prior to Announcement = offer price in excess of the target closing stock price 1 day prior to the original announcement date, reported in percentage;

Premium ($M) over the Target Stock Price 1 Day Prior to Announcement = offer price in excess of the target closing stock price 1 day prior to the original announcement date, reported in dollars. It is calculated as the Premium (%)*Target Equity Value*% of stock bought in the deal;

One-year-ahead CAR = the difference between the firm's buy-and-hold return and the value-weighted NYSE/AMEX/NASDAQ index return cumulated from 1 trading day after the M&A announcement date (day zero) through 365 days after the M&A announcement date;

Pre-tax operating CF = sales minus cost of goods sold, minus selling, general, and administrative expenses, plus depreciation, scaled by the market value of assets at the beginning of the year (the market value of common equity plus the book value of debt and preferred stock);

Pre-tax operating margin = earnings before depreciation, interest, and taxes scaled by sales;

Asset turnover = sales divided by market value of assets at the beginning of the year;

Employee growth rate= change in the number of employees scaled by the number of employees in the previous year;
Pension expense/employee = pension expenses per employee;

Capital expenditure rate= capital expenditures scaled by the market value of assets at the beginning of the year.

Appendix B
Propensity Score Matching

The purpose of propensity score matching (e.g., Rosenbaum and Rubin 1983; Rosenbaum and Rubin 1985; Armstrong et al. 2010; Murphy and Sandino 2010; Core 2010) is to select matched deals that have similar ex ante characteristics as the treatment deals (ICW-acquirers and ICW-targets). The IYV matching focuses on three characteristics: industry, year, and deal value. With propensity score matching, we match firms by propensity for ICWs or more precisely the conditional probability to report ICWs, using variables defined in Ogneva et al. (2007), which are based Doyle et al. (2007a) and Ashbaugh-Skaife et al. (2007).

To construct our PS-matched control sample, we first run a logit regression for ICW-acquirers together with all non-ICW deals on a set of Acq-ICW determinants. The results of the logit regression are described below in Panel A. We then select control firms within a distance of 0.01 from the treatment firm's propensity score (Murphy and Sandino 2010). This criterion leads to 3 observations being dropped from the sample. Next we run the logit regression for ICW-targets together with a set of Target-ICW determinants after excluding those observations, which are already selected as the control group for the ICW acquirers. This further leads to a reduction of 7 observations. Finally, we obtain 279 matched control sample for the ICW-acquirers and 148 matched control sample for the ICW-targets, as described in Panel B below.

The dependent variable in our regression is Acq (Target)-ICW, which is an indicator variable equal to 1 when the acquirer (target) reported ICWs and 0 otherwise. The following variables are used as control variables. *Ln Acq (Target) Segments* is the natural logarithm of the sum of the number of operating and geographic segments for the acquirer (target) reported by the Compustat Segments database for the firm in the year prior to the Acquisition. *Acq (Target) Foreign* is an indicator variable equal to 1 if the acquirer (target) has a non-zero foreign currency translation in the year prior to the acquisition (Compustat FCN_FC). *Acq (Target) Restructure* is an indicator variable equal to 1 if the restructuring charges [Compustat RCP] of the acquirer (target) are non-zero for any of the three fiscal years before the acquisition. *Acq (Target) Salegrw* is an indicator variable equal to 1 if the acquirer's (target's) industry-adjusted growth in sales falls into the top quintile in the fiscal year prior to the acquisition. *Acq (Target) Inventory* is the acquirer's (target's) average inventory to total assets for the 2 years prior to the announcement dates (Compustat INVT/AT). *Acq (Target) LnMktv* is the acquirer's (target's) dollar value of common equity at the end of the year prior to the acquisition (CSHO*PRCC_F). *Acq (Target) Loss* is an indicator variable equal to 1 if the acquirer's (target's) earnings before extraordinary items (Compustat data IBC) sum to less than 0 in the two years prior to the acquisition. *Acq (Target) RZscore* is the acquirer's (target's) decreasing decile rank of Altman's (1968) Z-Score (computed as the decile rank of Z-score times –1 plus 10). *Acq (Target) Ln Age* is the natural logarithm of the number of years the acquirer (target) has CRSP data as of the announcement date. *t*-statistics are presented in parentheses, and ***, **, and * denote significance at the 0.01, 0.05, and 0.10 level, respectively.

Panel A: Logit models used to find propensity scores

	Dependent Variable	
	(1) Acq-ICW	(2) Target-ICW
Intercept	-3.366***	-1.859***
	(-3.89)	(-2.76)
Ln Acq Segments	3.374*	
	(1.75)	
Ln Target Segments		1.494
		(0.81)
Acq Foreign	0.827***	
	(3.00)	
Target Foreign		0.768
		(2.96)
Acq Restructure	0.304	
	(0.82)	
Target Restructure		1.174***
		(2.94)
Acq Salegrw	1.035**	
	(2.44)	
Target Salegrw		-0.107
		(-0.52)
Acq Inventory	1.884***	
	(2.63)	
Target Inventory		1.392**
		(2.30)
Acq Ln Mktv	-0.629***	
	(-3.67)	
Target Ln Mktv		-0.557***
		(-3.79)
Acq Loss	0.285	
	(0.69)	
Target Loss		0.026
		(0.05)
Acq RZscore	-0.000	
	(-0.17)	
Target RZscore		0.004
		(1.20)
Acq Ln Age	-3.256	
	(-1.56)	
Target Ln Age		1.764
		(1.02)
Industry Indicators	Yes	Yes
Year Indicators	Yes	Yes
Pseudo R^2	0.078	0.093
N	3,211	2,805

Panel B: Final propensity score-matched firms sample

	Acq Matched Sample	Target Matched Sample
	(1)	(2)
Number of treatment firms	282	155
Number of matched pairs	279	148

Appendix C

In this Appendix, we explain the relation between the acquisition premium and CARs for targets when acquirers' stock is used to purchase the targets. We derive the conditions under which the CARs of ICW-targets (*ICW-TarCAR)* are larger than those of non-ICW targets (*ICW-TarCAR*), while the premium offered to ICW-targets (*ICW-TarCAR*) are smaller than those offered to non-ICW targets (*non-ICW-TarPREM*).

$$\begin{aligned} &\textit{ICW-TarCAR} > \textit{non-ICW-TarCAR} \\ &\textit{ICW-TarPREM} < \textit{non-ICW-TarPREM} \quad . \end{aligned} \qquad (1)$$

We consider the following setting:

- An acquirer is considering an acquisition of one of the two potential targets.
- The two targets are identical in potential value to the acquirer EXCEPT for ICW
- Target 1 has no ICW, but Target 2 has ICW.
- The acquirer (Acq) has one share

Notation:

p_0:	Target 1's price at time = 0 (prior to the acquisition announcement)
$p_0 - d_1$:	Target 2's price at time = 0
p_1:	Acq's offer price to Target 1
$p_1 - d_2$:	Acq's offer price to Target 2
d_3:	the expected cost to fix ICWs of Target 2

Interpretation:

Since the ICW status of Target 2 is publicly known, its stock price is discounted by d_1 compared to Target 1. When Acquirer considers an offer to Target 1, it evaluates the synergy to be created by incorporating Target 1. Thus, $p_1 > p_0$, otherwise the acquisition does not make sense for Acquirer and Target 1 will not accept the offer. Acquirer will offer $p_1 - d_2$ to Target 2, since Acquirer has to use resources to fix the ICW problem in Target 2.

Premium:

To show that the premium for Target 1 is larger than that for Target 2, we need

$$\frac{p_1}{p_0} - 1 > \frac{p_1 - d_2}{p_0 - d_1} - 1 \quad \Leftrightarrow \quad \frac{p_1}{p_0} < \frac{d_2}{d_1}. \qquad \text{Condition (1)}$$

For example, let p_0=\$10, p_1=\$14, d_1=\$3, d_2 =\$5. That is, the pre-announcement stock price of Target 1 is \$10, while Target 2 is \$7 with a discount of \$3. Acq offers \$14 to Target 1, with a premium of 40%, because Target 1 is worth that much to Acq, while due to ICW, Acq is willing to pay only \$9 to Target 2 (or able to bargain down to \$9, even though Target 2 can be as valuable as Target 1 once ICWs are fixed,).

Condition (1) shows that for Target 1's premium to be higher than that of Target 2, the discount in the offer is larger (in percentage) than the percentage premium.

CAR: Target 1

To simplify the explanation we evaluate raw returns. Over a very short window, CARs and raw returns are identical. Further, we assume that the acquisition announcement is about the completion of the

acquisition transaction so that there is no residual uncertainty about the acquisition. Thus, the stock price should fully reflect the potential synergy of the combined company.

Acq uses its stock to purchase a target. The number of shares that should be offered to a target depends on its offer price and the value of the shares of the combined company. For simplicity, assume that both Target 1 and Acq have 1 share each. Let Acq's share price at time =0 be p_1 . (These numbers are for convenience.)

To buy a target, Acq needs to issue new shares. To buy Target 1, Acq needs to issue one share to be offered to Target 1. (The combined company will be worth $p_1 + p_1 = 2p_1$. The target shareholder would have 1 of the 2 shares, which would be worth p_1 (equaling to the offer price). The CAR for Target 1 is exactly the same as the premium (in percentage).

Using the figures for the example, we see that Acq offers one share worth $14 (offer price). The combined company is worth $14+$14=$28. The target shareholder owns one share worth $14.

CAR: Target 2

Since Acq offers only $p_1 - d_2$ to Target 2, it does not need to offer the same number of shares as in the case of Target 1. It needs to offer $\frac{p_1 - d_2}{p_1}$ share (< one share). The total number of shares outstanding would be $\frac{p_1 - d_2}{p_1} + 1 = \frac{2p_1 - d_2}{p_1}$. The value of the combined company would be $2p_1 - d_3$, where d_3 is the expected cost to fix ICWs of Target 2 in order fully to realize the potential synergy of the combined company. The target shareholder now owns $\frac{p_1 - d_2}{2p_1 - d_2}$ fraction of the combined company, whose value is $2p_1 - d_3$.

If CAR (or raw returns) is to be larger than the (%) premium of Target 1, then we must have:

$$\frac{p_1 - d_2}{2p_1 - d_2} \cdot \frac{2p_1 - d_3}{p_0 - d_1} > \frac{p_1}{p_0} \Leftrightarrow d_3 < 2p_1 - \frac{p_1(p_0 - d_1)(2p_1 - d_2)}{p_0(p_1 - d_2)}. \quad \text{Condition (2)}$$

That is, the expected cost of remedying ICWs of Target 2 is sufficiently small (less than the right-hand side).

In the numerical example above, because Acq needs to offer $9 worth of stock, it offers 9/14 of one share. The total number of share is now (9+14)/14 = 23/14. The combined company is worth $28 - d_3, where d_3 is the expected cost of correcting ICW. The value of the target shareholder's new share would be: 9/23 * (28 - d_3). Its CAR would be 9/23 * (28 - d_3)/7. The % premium of Target 1 is ($14-$10)/$10 or 40%. Plugging relevant figures in Condition (2), we see that we need $d_3 < 2.956$ to have Target 2's CAR to be larger than premium (%) of Target 1. That is, the expected cost of remedying ICWs cannot be too large so

that the value of the Target 2's shareholder's share is sufficiently valuable to make its CAR larger than the (%) premium embedded in the offer price to Target 1.

If we want a more general case, let:

A: the number Acq's shares at t=0
T: the number of Target's share at t=0
p_A: the stock price of Acq at t=0
p_c; the share price of the combined company

Target 1 (w/o ICW): let x be the number of shares Acq has to pay to buy
Combined company $(A + x)p_c = (p_A A + p_1 T)$,

where $xp_c = p_1 T$. Since $(A + x)p_c = p_A + p_1 T$, $p_c = p_A$. So $x = \frac{p_1 T}{p_A}$.

The target shareholder will have $\frac{x}{A + x}(p_1 A + p_1 T) = p_1 T$.

Both the premium and CAR are $\frac{p_1}{p_0}$ as before.

Target 2 (with ICW):

Total number of shares for the combined company $A + \frac{(p_1 - d_2)T}{p_A}$.

The combined company's value $p_A A + (p_1 - d_2)T$.
Condition (2) in this case;

$d_3 < p_A A + p_1 T - \frac{p_1(p_0 - d_1)[(p_1 - d_2)T + p_A A]}{p_0(p_1 - d_1)T}$. The numerical example is a special case with $A = 1, T = 1, p_A = p_1$.

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Table I: Sample

Panel A: Sample Selection Procedure

	Number of Acquisition Deals
Acquisition deals for years 2003-2008	41,068
Less:	
Deals without value information	21,206
Deals in which the acquirer owned *more* than 50% of the target's shares *before* the transaction	3,227
Deals in which the acquirer owned *less* than 51% of the target's shares *after* the transaction	2,647
Deals not covered by Audit Analytics	9,831
Number of acquisition deals in the final sample	4,157
Less:	
Deals with missing Compustat/CRSP data	779
Number of deals in our final database	3378
Less:	
Deals in which both acquirer and target have ICWs	12
The entire sample	**3,366**
Of which	
Deals in which neither acquirer nor target has ICWs (Control Sample)	**2,929**
Number of deals with ICW	**437**
Of which	
Completed deals	**369**
Withdrawn deals	**68**

Panel B: Sample Distribution by Announcement Year

Year	*Number of Acquisitions with no ICW*	*Number of ICW-Acquirers*	*Number of ICW-Targets*	*Total*
2003	518	9	6	533
2004	584	14	6	604
2005	561	56	42	659
2006	533	57	45	635
2007	468	85	35	588
2008	265	61	21	347
Total	**2,929**	**282**	**155**	**3,366**

This table describes the sample selection process for the final acquisition sample. Panel A describes the sample selection procedure. Panel B summarizes the number of deals in each year. The final database consists of 3,366 acquisition deals announced between 2003 and 2008 that are listed in SDC and made by firms in the Audit Analytic database. The matched control samples are selected from the 2,929 deals in which neither the acquirer nor the target had reported ICWs under Section 302 or 404 prior to the merger announcement. The ICW sample consists of 437 deals in which either the acquirer (*ICW-Acquirer)* or the target (*ICW-Target*) had reported ICW. Deals in which both the acquirer and target had reported ICWs are deleted from our empirical tests.

Table II: Descriptive Statistics

Panel A: Characteristics of the ICW-Acquirers and ICW-Targets

	ICW- Acquirer Sample				ICW-Target Sample			
	Acquirer's Mean Characteristics	Acquirer's Median Characteristics	Target's Mean Characteristics	Target's Median Characteristics	Acquirer's Mean Characteristics	Acquirer's Median Characteristics	Target's Mean Characteristics	Target's Median Characteristics
Total Assets [$M]	1,836	946	516	174	1,260	443	513	201
Market Value [$M]	3,885	2,994	3,086	1,735	2,213	1,023	1,336	643
Book-to-Market	0.472	0.412	0.460	0.462	0.445	0.430	0.376	0.311
ROA	0.108	0.061	0.053	0.055	0.061	0.023	-0.051	-0.016
Leverage	0.249	0.165	0.258	0.282	0.325	0.160	0.222	0.168
#Segments	1.437	1.000	1.237	1.000	1.275	1.000	1.253	1.000
Salegrw	0.234	0.000	0.186	0.000	0.214	0.000	0.231	0.000
Inventory	0.097	0.041	0.071	0.028	0.086	0.037	0.083	0.035
Zscore	5.982	6.000	5.281	5.000	5.093	4.000	5.369	5.000
Firm Age	6.693	6.000	5.705	5.000	8.985	8.000	5.627	5.000
% of Firms with Foreign Currency	20.5%		13.6%		19.3%		20.5%	
% of Firms with Restructure Costs	43.8%		39.5%		40.9%		41.8%	
% of Firms with Loss	37.3%		35.9%		32.7%		34.8%	
% of Litigation firms	8.5%		8.8%		8.3%		9.1%	
% of Family firm	6.5%		1.3%		4.9%		0.8%	

	ICW-Acquirer		ICW-Target	
	Mean	Median	Mean	Median
Deal Value	215	32	475	152
% of Stock	31.1%	13.3%	25.6%	3.3%
Toehold	4.1%	0.0%	2.9%	0.0%
% of deals with Public Target	76.2%		100.0%	
% of deals with Termination Fee	37.1%		48.6%	
% of deals with Deal Lockup	17.4%		19.0%	
% of deals with Prior Bidding	9.1%		8.5%	
% of deals with Tender offer	23.0%		19.5%	
% of Hostile deals	4.5%		7.3%	

Panel B: Deal Characteristics

Panel C: Method of Payments

		Only Stock	Only cash	Comb	Total
ICW-acquirers	# (%) of Firms	21 (7.45%)	103 (36.52%)	158 (56.03%)	282 (100%)
ICW-targets	# (%) of Firms	6 (3.87%)	71(45.81%)	78 (50.32%)	155 (100%)

This table summarizes the characteristics of acquirer and target firms in our samples. Panel A presents the descriptive statistics for the acquirer and target firm characteristics in all the deals in which acquirers or targets have ICWs. Panel B presents the deal characteristics for all the deals in which acquirers or targets have ICWs. See Appendix A for variable definitions.

Table III: CARs Surrounding the Announcement Dates

Panel A: The CARs for deals in which the acquirer had ICW

Variable	*PS-Matched Sample*			*IYV-Matched Sample*		
	Acquirer Mean CAR [-1, +1] [Median]	Adj-Acquirer Mean CAR [-1, +1] [Median]	Target Mean CAR [-1, +1] [Median]	Acquirer Mean CAR [-1, +1] [Median]	Adj-Acquirer Mean CAR [-1, +1] [Median]	Target Mean CAR [-1, +1] [Median]
Sample	-1.43%** [-0.75%]*	-2.49%*** [-1.36%]**	19.93%*** [14.65%]***	-1.43%** [-0.75%]*	-2.49%*** [-1.36%]**	19.93%*** [14.65%]***
Control	0.60%* [0.31%]*	0.41% [0.14%]	13.97%*** [9.54%]***	1.13%** [0.86%]*	0.63% [0.41%]	11.57%*** [8.39%]***
T-statistic [*Z*-statistic] for difference between Sample and Control	-3.17*** [-2.85]***	-3.34*** [-2.96]***	1.21 [0.93]	-3.89*** [-3.21]***	-4.38*** [-3.71]***	1.73* [1.48]
N	558	558	444	564	564	446

Panel B: The CARs for deals in which the target had ICW

Variable	*PS-Matched Sample*			*IYV-Matched Sample*		
	Acquirer Mean CAR [-1, +1] [Median]	Adj-Acquirer Mean CAR [-1, +1] [Median]	Target Mean CAR [-1, +1] [Median]	Acquirer Mean CAR [-1, +1] [Median]	Adj-Acquirer Mean CAR [-1, +1] [Median]	Target Mean CAR [-1, +1] [Median]
Sample	0.29% [0.13%]	0.05% [-0.08%]	22.61%*** [14.84%]***	0.25% [0.11%]	0.02% [-0.11%]	22.53%*** [14.80%]***
Control	0.68%* [0.36%]*	0.53% [0.24%]	14.26%*** [9.83%]***	1.25%** [0.91%]*	0.77% [0.48%]	11.79%*** [8.52%]***
T-statistic [*Z*-statistic] for difference between Sample and Control	-2.03** [-1.88]*	-2.09** [-1.93]*	2.47** [2.29]**	-2.28** [-2.08]**	-2.41** [-2.19]**	2.81*** [2.60]***
N	296	296	296	310	310	310

This table reports the distribution of market-adjusted stock returns (CARs) surrounding the M&A announcement dates for target and acquiring firms. Panel A presents the CARs for the deals in which the acquirer had reported ICWs, and the PS-matched and the IYV-matched control samples. Panel B presents the CARs for the deals in which the target had reported ICWs, and the PS-matched and the IYV-matched control samples. The tables also show the *t*-statistic (*Z*-statistic) testing for differences between the sample and the control's means (medians). ***, **, and * denote significance at the 0.01, 0.05, and 0.10 level, respectively. See Appendix A for variable definitions.

Table IV: Regression Analysis of Market Reaction around Announcement Dates

Panel A: Regression Analysis of Acquirer Returns

	Dependent Variable: Acquirer CAR (-1, +1)					
	PS-Matched Sample			*IYV-Matched Sample*		
	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*
ICW Characteristics						
Intercept	-0.003**	-0.003**	-0.003**	0.013***	0.014***	0.013***
	(-2.39)	(-2.51)	(-2.46)	(4.57)	(4.63)	(4.53)
Acq ICW	-0.057***			-0.031***		
	(-5.13)			(-5.46)		
Target ICW	-0.008*			-0.002*		
	(-1.83)			(-1.93)		
Serious Acq ICW		-0.019**			-0.011***	
		(-2.31)			(-3.13)	
Serious Target ICW		-0.003			-0.003*	
		(-1.47)			(-1.79)	
Ln(Num Acq Weakness)			-0.005			-0.006
			(-1.48)			(-1.17)
Ln(Num Target Weakness)			-0.003			-0.002
			(-1.42)			(-1.28)
Firm & Industry Characteristics						
Ln(Acq Assets)	-0.159**	-0.156**	-0.155**	-0.228***	-0.224***	-0.221***
	(-2.47)	(-2.41)	(-2.40)	(-2.72)	(-2.70)	(-2.69)
Industry Tobin's Q	-0.631*	-0.630*	-0.630*	-0.629*	-0.629*	-0.625*
	(-1.76)	(-1.73)	(-1.71)	(-1.90)	(-1.89)	(-1.87)
Industry Free Cash Flow	3.006	3.001	2.996	2.321	2.311	2.316
	(0.43)	(0.45)	(0.49)	(0.67)	(0.60)	(0.65)
Industry Leverage	0.715	0.698	0.703	0.763	0.758	0.762
	(1.38)	(1.31)	(1.32)	(0.95)	(0.90)	(0.94)
Deal Characteristics						
Industry M&A	-0.403	-0.404	-0.404	-0.351	-0.347	-0.348
	(-0.11)	(-0.10)	(-0.11)	(-0.08)	(-0.07)	(-0.07)
Relative Deal Value	0.109	0.108	0.106	0.125	0.115	0.121
	(0.21)	(0.20)	(0.17)	(0.24)	(0.17)	(0.19)
Public Target	-2.709***	-2.705***	-2.705***	-2.144***	-2.137***	-2.136***
	(-4.91)	(-4.87)	(-4.83)	(-5.42)	(-5.38)	(-5.35)
Other Control Variables						
Acq ICW Control Variables	*No*	*No*	*No*	*Yes*	*Yes*	*Yes*
	No	*No*	*No*	*Yes*	*Yes*	*Yes*
Target ICW Control Variables						
N	854	854	854	874	874	874
Adj R^2	0.078	0.076	0.076	0.062	0.060	0.060

Panel B: Regression Analysis of Target Returns

	Dependent Variable: Target CAR (-1, +1)					
	PS-Matched Sample			*IYV-Matched Sample*		
	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*
ICW Characteristics						
Intercept	0.183***	0.185***	0.185***	0.187***	0.183***	0.180***
	(2.71)	(2.78)	(2.76)	(3.12)	(3.05)	(2.97)
Acq ICW	0.076			0.087*		
	(1.51)			(1.66)		
Target ICW	0.038**			0.045***		
	(2.47)			(2.91)		
Serious Acq ICW		0.012			0.020*	
		(1.04)			(1.81)	
Serious Target ICW		0.008			0.017**	
		(0.53)			(2.04)	
Ln(Num Acq Weakness)			0.007			0.005
			(1.07)			(1.28)
Ln(Num Target Weakness)			0.012**			0.007*
			(2.26)			(1.79)
Firm & Industry Characteristics						
Ln(Target Assets)	0.051	0.050	0.050	0.073*	0.071*	0.072*
	(1.41)	(1.38)	(1.37)	(1.91)	(1.85)	(1.88)
Industry Tobin's Q	0.047	0.049	0.049	0.027	0.025	0.027
	(1.05)	(1.09)	(1.11)	(0.73)	(0.62)	(0.70)
Industry Free Cash Flow	0.981	0.973	0.972	0.829	0.821	0.825
	(1.53)	(1.51)	(1.50)	(1.31)	(1.25)	(1.26)
Industry Leverage	-0.381**	-0.375**	-0.372**	-0.468*	-0.465*	-0.468*
	(-2.18)	(-2.13)	(-2.13)	(-1.73)	(-1.70)	(-1.71)
Deal Characteristics						
Industry M&A	0.231***	0.227***	0.226***	0.151**	0.150**	0.151**
	(2.81)	(2.79)	(2.77)	(2.15)	(2.16)	(2.11)
Relative Deal Value	0.033***	0.032***	0.032***	0.046***	0.045***	0.046***
	(3.10)	(3.05)	(3.04)	(4.89)	(4.81)	(4.85)
Other Control Variables						
Acq ICW Control Variables	*No*	*No*	*No*	*Yes*	*Yes*	*Yes*
Target ICW Control Variables	*No*	*No*	*No*	*Yes*	*Yes*	*Yes*
N	740	740	740	756	756	756
Adj R^2	0.091	0.090	0.091	0.078	0.075	0.077

This table presents the regression analysis of the announcement abnormal returns. Panel A presents the results for the OLS regression of acquirer abnormal announcement returns using the deals in which the acquirer or target reported ICWs and the matched samples. Panel B presents the results for the OLS regression of target abnormal announcement returns using the deals in which the acquirer or target reported ICWs and the matched samples. *T*-statistics are presented in parentheses, and ***, **, and * denote significance at the 0.01, 0.05, and 0.10 level, respectively. Industry and yearly controls are included in all the models. See Appendix A for variable definitions.

Table V: The Value of the Premium

Panel A: Premium for Deals in which Acquirers have ICWs

Variable	*PS-Matched Sample*		*IYV-Matched Sample*	
	Premium (%) over Target Stock Price 1 Day Prior to Announcement Mean [Median]	Premium ($M) over Target Stock Price 1 Day Prior to Announcement Mean [Median]	Premium (%) over Target Stock Price 1 Day Prior to Announcement Mean [Median]	Premium ($M) over Target Stock Price 1 Day Prior to Announcement Mean [Median]
Sample	29.008%*** [17.740%]***	$159.017*** [$113.944]***	29.013%*** [17.740%]***	$159.043*** [$113.946]***
Control	24.047%*** [15.855%]***	$130.058*** [$105.915]***	22.956%*** [14.962%]***	$122.312*** [$104.606]***
The difference between Sample and Control	4.934% [1.855%]	$28.955 [$8.026]	6.059% [2.775%]	$36.735 [$9.885]
T-statistic [*Z*-statistic] for difference between Sample and Control	2.01** [1.92]*	2.16** [1.98]**	2.23** [2.05]**	2.48** [2.14]**
N	444	444	446	446

Panel B: Premium for Deals in which Targets have ICWs

Variable	*PS-Matched Sample*		*IYV-Matched Sample*	
	Premium (%) over Target Stock Price 1 Day Prior to Announcement Mean [Median]	Premium ($M) over Target Stock Price 1 Day Prior to Announcement Mean [Median]	Premium (%) over Target Stock Price 1 Day Prior to Announcement Mean [Median]	Premium ($M) over Target Stock Price 1 Day Prior to Announcement Mean [Median]
Sample	14.481%*** [9.264%]***	$93.913*** [$65.413]***	14.359%*** [9.236%]***	$93.851*** [$65.280]***
Control	22.569%*** [14.832%]***	$122.055*** [$103.841]***	23.271%*** [14.983%]***	$123.046*** [$105.152]***
The difference between Sample and Control	-8.086% [-5.563%]	$-128.143 [$-38.426]	-8.913% [-5.745%]	$-29.194 [$-39.870]
T-statistic [*Z*-statistic] for difference between Sample and Control	-3.29*** [-2.76]***	-3.05*** [-2.61]**	-4.13*** [-3.91]***	-4.03*** [-3.78]***
N	296	296	310	310

Panel C: Regression Analysis of Premium (%)

	Dependent Variable: Premium (%)					
	PS-Matched Sample			*IYV-Matched Sample*		
	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*
ICW Characteristics						
Intercept	0.481***	0.489***	0.481***	0.334***	0.363***	0.365***
	(25.17)	(24.83)	(24.79)	(14.81)	(15.08)	(15.27)
Acq ICW	0.317			0.437**		
	(1.27)			(2.08)		
Target ICW	-0.103***			-0.071**		
	(-3.59)			(-2.42)		
Serious Acq ICW		0.362			0.531***	
		(1.50)			(2.95)	
Serious Target ICW		-0.117***			-0.071**	
		(-3.88)			(-2.41)	
Ln(Num Acq Weakness)			0.219			0.091**
			(1.06)			(2.01)
Ln(Num Target Weakness)			-0.089***			-0.025
			(-2.67)			(-1.62)
Deal Characteristics						
Termination Fee	-0.019	-0.019	-0.018	-0.051***	-0.050***	-0.050***
	(-1.17)	(-1.13)	(-1.06)	(-2.63)	(-2.60)	(-2.58)
Deal Lockup	-0.002	-0.002	-0.002	-0.005	-0.005	-0.005
	(-0.09)	(-0.09)	(-0.09)	(-0.37)	(-0.36)	(-0.030)
Prior Bidding	0.063*	-0.061*	-0.060	-0.037	-0.037	-0.035
	(-1.79)	(-1.75)	(-1.74)	(-1.51)	(-1.50)	(-1.47)
Stock Offer	0.094***	0.096***	0.096***	0.084***	0.080***	0.079***
	(3.07)	(3.02)	(3.01)	(3.47)	(3.38)	(3.31)
Tender Offer	0.258***	0.252***	0.251***	0.187***	0.187***	0.183***
	(3.78)	(3.69)	(3.65)	(4.09)	(4.04)	(3.82)
Bidder Toehold	-0.113***	-0.109***	-0.109***	-0.161***	-0.163***	-0.160***
	(-5.41)	(-5.49)	(-5.50)	(-7.32)	(-7.29)	(-7.25)
Hostile Deal	-0.003	-0.002	-0.02	-0.014	-0.010	-0.010
	(-0.24)	(-0.21)	(-0.20)	(-0.01)	(-0.00)	(-0.00)
Other Control Variables						
Acq ICW Control Variables	*No*	*No*	*No*	*Yes*	*Yes*	*Yes*
Target ICW Control Variables	*No*	*No*	*No*	*Yes*	*Yes*	*Yes*
N	740	740	740	756	756	756
Adj R^2	0.208	0.201	0.199	0.179	0.176	0.173

This table reports the analysis of the premium. Panel A compares the premium paid by ICW-acquirers to those paid by acquirers in the control samples. Panel B compares the premium paid to ICW-targets to those paid to targets in the control samples. Panel C reports the result of OLS regressions using the premium as the dependent variable. *T*-statistics are presented in parentheses, and ***, **, and * denote significance at the 0.01, 0.05, and 0.10 level, respectively. Industry and yearly controls are included in all the models. See Appendix A for variable definitions.

Table VI: Bid Completion

	Dependent Variable: Completed (1) Vs. Withdrawn (0)					
	PS-Matched Sample			*IYV-Matched Sample*		
	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*
ICW Characteristics						
Intercept	1.427***	1.431***	1.432***	1.245***	1.241***	1.244***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Acq ICW	-0.143			-0.131		
	(0.548)			(0.519)		
Target ICW	-0.491**			-0.616**		
	(0.013)			(0.027)		
Serious Acq ICW		-0.004			0.009	
		(0.729)			(0.801)	
Serious Target ICW		-0.062			-0.079	
		(0.207)			(0.167)	
Ln(Num Acq Weakness)			-0.002			-0.009
			(0.903)			(0.809)
Ln(Num Target Weakness)			-0.042			-0.031
			(0.172)			(0.254)
Deal characteristics						
Tender Offer	1.392***	1.389***	1.385***	1.056**	1.043**	1.047**
	(0.001)	(0.001)	(0.001)	(0.016)	(0.014)	(0.015)
Stock Offer	0.417***	0.414***	0.415***	0.221***	0.223***	0.223***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Prior Bidding	-0.593*	-0.589*	-0.590*	-0.754**	-0.752**	-0.751**
	(0.067)	(0.065)	(0.065)	(0.043)	(0.043)	(0.044)
Hostile	-1.492***	-1.498***	-1.496***	-1.627***	-1.624***	-1.629***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Litigation	-0.274*	0.271*	0.270*	-0.291*	-0.293*	-0.293*
	(0.082)	(0.083)	(0.083)	(0.074)	(0.077)	(0.075)
Family Firm	-0.312**	-0.317**	-0.315**	-0.583*	-0.580*	-0.582*
	(0.038)	(0.036)	(0.036)	(0.058)	(0.061)	(0.058)
Other Control Variables						
Acq ICW Control Variables	*No*	*No*	*No*	*Yes*	*Yes*	*Yes*
	No	*No*	*No*	*Yes*	*Yes*	*Yes*
Target ICW Control Variables						
N	854	854	854	874	874	874
Pseudo R^2	0.128	0.125	0.124	0.104	0.102	0.102

This table reports the result from the logistic regression of bid completion (Completed=1, Withdrawn=0). *P*-values are presented in parentheses, and ***, **, and * denote significance at the 0.01, 0.05, and 0.10 level, respectively. Industry and yearly controls are included in all the models. See Appendix A for variable definitions.

Table VII: Post-Merger Performance

Panel A: One-Year-Ahead CARs

Variable	*Propensity Matching Score*		*IYV-Matched Sample*	
	Acquisition Made by ICW-Acq Mean CAR [1, 365] [Median]	Acquisition Of ICW-Target Mean CAR [1, 365] [Median]	Acquisition Made by ICW-Acq Mean CAR [1, 365] [Median]	Acquisition Of ICW-Target Mean CAR [1, 365] [Median]
Sample	-7.82%*** [-4.51%]***	-5.88%*** [-3.78%]***	-7.89*** [-4.52%]***	-5.83%*** [-3.76%]***
Control	-2.69%*** [-2.29%]***	-2.41%*** [-2.09%]***	-2.17%** [-1.85%]**	-2.35%*** [-2.05%]**
T-statistic [*Z*-statistic] for difference between Sample and Control	-1.61 [-1.45]	-1.28 [-1.09]	-2.24** [-1.93]*	-1.87* [-1.73]*
N	558	296	564	310

Panel B: Pre- and Post-Merger Accounting Performance

	PS-Matched Sample						*IYV-Matched Sample*					
	Acquisition Made by ICW-Acquirers			Acquisition Of ICW-Targets			Acquisition Made by ICW-Acquirers			Acquisition Of ICW-Targets		
	Sample	Control	*T*-statistic difference between Sample and Control	Sample	Control	*T*-statistic difference between Sample and Control	Sample	Control	*T*-statistic difference between Sample and Control	Sample	Control	*T*-statistic difference between Sample and Control
ΔPre-Tax Operating CF	-0.027	0.001	-2.09**	0.015	0.002	1.86*	-0.028	0.003	-2.34**	0.015	0.001	2.05**
ΔPre-Tax Operating Margin	-0.060	-0.013	-2.87***	0.030	0.001	1.03	-0.061	-0.009	-3.07***	0.030	-0.004	1.39
ΔAsset Turnover	-0.183	0.032	-3.11***	0.051	0.045	0.29	-0.185	0.050	-3.86***	0.054	0.049	0.16
ΔEmployee Growth Rate	0.061	0.62	-0.04	0.235	0.081	4.17***	0.063	0.061	0.07	0.239	0.068	4.52***
ΔPension Expense/Employee	-0.573	-0.229	-2.51**	-0.217	-0.202	-0.20	-0.571	-0.183	-2.83***	-0.219	-0.192	-0.52
Capital Expenditure Rate	-0.058	-0.002	-1.98**	0.002	0.000	0.42	-0.059	0.000	-1.73*	0.002	-0.001	0.60

This table presents post-merger performance. Panel A reports the distribution of market-adjusted stock returns (CARs) in the 365 days post acquisition announcement. Panel B presents the changes in the accounting performance from one year prior to one year post acquisition date. ***, **, and * denote significance at the 0.01, 0.05, and 0.10 levels, respectively. See Appendix A for variable definitions.

Table VIII: CARs Surrounding the Announcement Dates (Pre-SOX Control Sample)

Panel A: Univariate Tests

Variable	ICW Acquirer			ICW Target		
	Acquirer Mean CAR [-1, +1] [Median]	Adj-Acquirer Mean CAR [-1, +1] [Median]	Target Mean CAR [-1, +1] [Median]	Acquirer Mean CAR [-1, +1] [Median]	Adj-Acquirer Mean CAR [-1, +1] [Median]	Target Mean CAR [-1, +1] [Median]
Sample	-1.44%** [-0.75%]*	-2.50%*** [-1.38%]**	19.93%*** [14.65%]***	0.25% [0.11%]	0.02% [-0.11%]	22.53%*** [14.80%]***
Control	0.47%* [0.23%]*	0.29% [0.12%]	11.66%*** [7.95%]***	0.53%* [0.29%]**	0.47%* [0.19%]*	16.27%*** [10.57%]***
T-statistic [*Z*-statistic] for difference between Sample and Control	-2.89*** [-2.63]***	-3.09*** [-2.83]***	1.89* [1.46]	-1.89* [-1.63]*	1.93* [-1.71]*	2.21** [2.08]**
N	562	562	444	308	308	308

Panel B: Regression Analysis of Acquirer/Target Returns

Dependent Variable	*Acquirer CAR (-1, +1)*			*Target CAR (-1, +1)*		
	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*
ICW Characteristics						
Intercept	-0.007*** (-3.57)	-0.009*** (-3.93)	-0.009*** (-3.70)	-0.011** (-2.42)	-0.029*** (-3.15)	-0.025*** (-2.88)
Acq ICW	-0.083*** (-9.08)			0.117* (1.77)		
Target ICW	-0.003 (-1.63)			0.089*** (3.71)		
Serious A cq ICW		-0.041*** (-5.16)			0.081 (1.05)	
Serious Target ICW		-0.001 (-0.95)			0.038* (1.91)	
Ln(Num Acq Weakness)			-0.013** (-2.01)			0.028 (0.59)
Ln(Num Target Weakness)			-0.000 (-0.29)			0.013* (1.82)
Firm & Industry Characteristics						
Ln(Acq Assets)	-0.024** (-2.24)	-0.025** (-2.41)	-0.025*** (-2.45)	0.023 (0.60)	0.023 (0.65)	0.024 (0.69)
Industry Tobin's Q	-0.109 (-1.33)	-0.131 (-1.53)	-0.127 (-1.37)	0.061** (2.29)	0.063** (2.37)	0.063** (2.35)
Industry Free Cash Flow	1.067* (1.85)	1.051* (1.91)	1.113** (2.06)	1.056 (0.57)	0.988 (0.45)	0.991 (0.48)
Industry Leverage	0.556 (0.06)	0.517 (0.01)	0.521 (0.01)	-0.168*** (-4.52)	-0.163*** (-4.67)	-0.163*** (-4.65)
Deal Characteristics						
Industry M&A	-0.347 (-0.07)	-0.351 (-0.08)	-0.348 (-0.07)	0.148** (2.17)	0.152** (2.04)	0.152** (2.03)
Relative Deal Value	0.025*** (4.08)	0.027*** (3.97)	0.027*** (4.10)	0.010*** (4.47)	0.012*** (5.01)	0.013*** (5.04)
Public Target	-1.202*** (-4.81)	-1.230*** (-5.13)	-1.295*** (-5.41)			
N	870	870	870	752	752	752
Adj R^2	0.028	0.021	0.023	0.054	0.050	0.050

Table IX: The Value of the Premium (Pre-SOX Control Sample)

Panel A: Premium for Deals in which Acquirers/Target have ICWs

Variable	ICW Acquirer		ICW Targets	
	Premium (%) over Target Stock Price 1 Day Prior to Announcement Mean [Median]	Premium ($M) over Target Stock Price 1 Day Prior to Announcement Mean [Median]	Premium (%) over Target Stock Price 1 Day Prior to Announcement Mean [Median]	Premium ($M) over Target Stock Price 1 Day Prior to Announcement Mean [Median]
Sample	29.008%*** [17.740%]***	$159.017*** [$113.944]***	14.473%*** [9.261%]***	$93.904*** [$65.411]***
Control	24.153%*** [15.791%]***	$137.519*** [$107.981]***	21.853%*** [14.370%]***	$117.852*** [$99.926] ***
Difference between Sample and Control	4.855% [1.734%]	$21.498 [$5.960]	-7.380% [-5.103%]	$-23.948 [$-34.511]
T-statistic [*Z*-statistic] for difference between Sample and Control	1.94* [1.79]*	2.03** [1.88]*	-2.91*** [-2.39]**	-2.76*** [-2.18]**
N=	444	444	308	308

Panel B: Regression Analysis of Premium (%)

	Dependent Variable: Premium (%)		
	Model 1	*Model 2*	*Model 3*
ICW Characteristics			
Intercept	0.371***	0.384***	0.385***
	(17.81)	(17.93)	(17.97)
Acq ICW	0.257		
	(1.47)		
Target ICW	-0.084**		
	(-2.41)		
Serious Acq ICW		0.243	
		(1.19)	
Serious Target ICW		-0.079**	
		(-2.47)	
Ln(Num Acq Weakness)			0.183
			(0.89)
Ln(Num Target Weakness)			-0.081**
			(-2.01)
Deal Characteristics			
Bidder Termination Fee Indicator	-0.059***	-0.056***	-0.053***
	(-2.81)	(-2.75)	(-2.63)
Deal Target Share Lockup	-0.004	-0.005	-0.005
Indicator	(-0.53)	(-0.56)	(-0.59)
Prior Bidding Indicator	-0.034	0.031	-0.031
	(-0.93)	(-1.08)	(-1.05)
Stock Offer	0.054***	0.052***	0.052***
	(4.19)	(4.35)	(4.33)
Tender Offer	0.208***	0.211***	0.212***
	(4.05)	(4.17)	(4.21)
Bidder Toehold	-0.163***	-0.153***	-0.153***
	(-7.22)	(-6.84)	(-6.85)
Hostile Deal	-0.000	-0.000	-0.000
	(-0.08)	(-0.05)	(-0.05)
N	752	752	752
Adj R^2	0.183	0.179	0.180

Table X: Bid Completion (Pre-SOX Control Sample)

Dependent Variable: Completed (1) Vs. Withdrawn (0)			
	Model 1	*Model 2*	*Model 3*
ICW Characteristics			
Intercept	0.938***	1.083***	1.067***
	(0.001)	(0.001)	(0.001)
Acq ICW	0.079*		
	(0.088)		
Target ICW	-0.380***		
	(0.007)		
Serious Acq ICW		0.017	
		(0.609)	
Serious Target ICW		-0.117	
		(0.273)	
Ln(Num Acq Weakness)			0.011
			(0.683)
Ln(Num Target Weakness)			-0.083
			(0.533)
Deal characteristics			
Tender Offer	1.023***	1.028***	1.029***
	(0.003)	(0.007)	(0.008)
Stock Offer	0.376***	0.371***	0.370***
	(0.001)	(0.001)	(0.001)
Prior Bidding	-0.527**	-0.531**	0.531**
	(0.029)	(0.025)	(0.025)
Hostile	-1.593***	-1.591***	-1.587***
	(0.001)	(0.001)	(0.001)
Litigation	-0.358*	-0.357*	-0.357*
	(0.067)	(0.069)	(0.069)
Family Firm	-0.580*	-0.583*	-0.583
	(0.061)	(0.058)	(0.055)
N	870	870	870
Pseudo R^2	0.141	0.134	0.136

Table XI: CARs Surrounding the Announcement Dates (pre-Sox acquirers that disclose ICW in post-SOX)

Panel A: Univariate Tests

Variable	Acquirer with ICW		
	Acquirer Mean CAR [-1, +1] [Median]	Adj-Acquirer Mean CAR [-1, +1] [Median]	Target Mean CAR [-1, +1] [Median]
Sample	-1.44%** [-0.75%]*	-2.50%*** [-1.38%]**	19.93%*** [14.65%]***
Control	-0.19%* [-0.03%]	-0.028%* [-0.011%]	10.83%*** [7.54%]***
T-statistic [*Z*-statistic] for difference between Sample and Control	-2.27** [-2.04]**	-2.81*** [-2.43]**	3.14*** [2.98]***
N	421	421	329

Panel B: Regression Analysis of Acquirer/Target Returns

Dependent Variable	*Acquirer CAR (-1, +1)*			*Target CAR (-1, +1)*		
	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*
ICW Characteristics						
Intercept	0.067***	0.079***	0.081***	0.468***	0.491***	0.493***
	(5.47)	(7.05)	(7.58)	(4.28)	(4.83)	(4.88)
Acq ICW	-0.109***			0.039		
	(-3.84)			(1.43)		
Serious A cq ICW		-0.033**			0.016	
		(-2.13)			(0.70)	
Ln(Num Acq Weakness)			-0.008*			0.008
			(-1.73)			(0.92)
Firm & Industry Characteristics						
Log (Acq Assets)	-0.189	-0.192***	-0.192***	0.109*	0.101*	0.101*
	(-3.14)	(-3.35)	(-3.31)	(1.83)	(1.88)	(1.90)
Industry Tobin's Q	-0.348	-0.368	-0.365	0.026	0.025	0.025
	(-1.36)	(-1.19)	(-1.25)	(0.79)	(0.71)	(0.73)
Industry Free Cash Flow	1.049	1.085	1.085	0.719	0.703	0.705
	(1.16)	(1.13)	(1.15)	(0.83)	(0.81)	(0.81)
Industry Leverage	0.622**	0.597*	0.603*	-0.167***	-0.162***	0.162***
	(2.10)	(1.87)	(1.90)	(-4.59)	(-4.44)	(-4.47)
Deal Characteristics						
Industry M&A	-0.231	-0.230	-0.230	0.184*	0.183*	0.183*
	(-0.68)	(-0.61)	(-0.60)	(1.89)	(1.85)	(1.85)
Relative Deal Value	0.019	0.020	0.020	0.089***	0.085***	0.085***
	(0.01)	(0.01)	(0.01)	(5.26)	(5.08)	(5.11)
Public Target	-3.819***	-3.843***	-3.845***			
	(-5.48)	(-5.59)	(-5.60)			
N	421	421	421	329	329	329
Adj R^2	0.024	0.019	0.019	0.013	0.009	0.009

Table XII: The Value of the Premium (pre-SOX acquirers that disclose ICW in post-SOX)

Panel A: Premium for Deals in which Acquirers have ICWs

Variable	Premium (%) over Target Stock Price 1 Day Prior to Announcement Mean [Median]	Premium ($M) over Target Stock Price 1 Day Prior to Announcement Mean [Median]
Sample	29.008%*** [17.740%]***	$159.017*** [$113.944]***
Control	28.681%*** [17.348%]***	$169.807*** [$120.681]***
The difference between Sample and Control	0.327% [0.392%]	$-10.790 [$-6.687]
T-statistic [*Z*-statistic] for difference between Sample and Control	0.72 [0.51]	-1.83* [-1.52]
N	325	325

Panel B: Regression Analysis of Premium (%)

	Dependent Variable: Premium (%)		
	Model 1	*Model 2*	*Model 3*
ICW Characteristics			
Intercept	0.795***	0.851***	0.858***
	(8.16)	(8.39)	(8.44)
Acq ICW	0.091		
	(0.20)		
Serious Acq ICW		0.032	
		(0.13)	
Ln(Num Acq Weakness)			-0.003
			(0.01)
Deal Characteristics			
Bidder Termination Fee Indicator	-0.047***	-0.049***	-0.049***
	(-2.78)	(-2.91)	(-2.88)
Deal Target Share	-0.022	-0022	-0.022
Lockup Indicator	(-0.14)	(-0.09)	(-0.09)
Prior Bidding Indicator	-0.095**	-0.096**	-0.096**
	(-2.06)	(-2.15)	(-2.15)
Stock Offer	0.108***	0.113***	0.112***
	(3.58)	(3.89)	(3.84)
Tender Offer	0.223***	0.223***	0.223***
	(2.79)	(2.83)	(2.83)
Bidder Toehold	-0.027***	-0.025***	-0.025***
	(-4.69)	(-4.73)	(-4.75)
Hostile Deal	-0.001	-0.001	-0.001
	(-1.27)	(-1.18)	(-1.20)
N	325	325	325
Adj R^2	0.216	0.209	0.203

Table XIII: Bid Completion (pre-SOX acquirers that disclose ICW in post-SOX)

	Dependent Variable: Completed (1) Vs. Withdrawn (0)		
	Model 1	*Model 2*	*Model 3*
ICW Characteristics			
Intercept	1.975***	1.981***	1.993***
	(0.001)	(0.001)	(0.001)
Acq ICW	-0.036		
	(-0.819)		
Serious Acq ICW		-0.009	
		(-0.861)	
Ln(Num Acq Weakness)			-0.001
			(-0.943)
Deal characteristics			
Tender Offer	1.850***	1.853***	1.853***
	(0.001)	(0.001)	(0.001)
Stock Offer	0.362***	0.363***	0.362***
	(0.001)	(0.001)	(0.001)
Prior Bidding	-0.680	-0.685	-0.685
	(0.129)	(-0.137)	(-0.139)
Hostile	-0.981***	-0.985***	-0.985***
	(0.001)	(0.001)	(0.001)
Litigation	-0.348**	-0.348**	-0.348**
	(0.042)	(0.037)	(0.038)
Family Firm	-0.129***	-0.125***	-0.125***
	(0.001)	(0.001)	(0.001)
N	421	421	421
Pseudo R^2	0.089	0.083	0.080