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The Economic Consequences of Financial Restatements for the Market for Corporate Control*

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Abstract

We show that firms that recently filed financial restatements are significantly less likely to become takeover targets than a sample of non-restating firms matched on year, industry, and size. For those restating firms that do receive takeover bids, the bids are more likely to be withdrawn than takeover bids made to non-restating firms. Finally, deal value multiples are significantly lower for restating targets than for non-restating targets. Our results suggest that low financial reporting quality revealed through financial restatements introduces frictions to the market for corporate control, impeding the efficient allocation of economic resources.

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The Economic Consequences of Financial Restatements for the Market for Corporate Control

1. Introduction

The quality of financial reporting is of great concern to investors, regulators and other market participants. A large literature has shown that firms with low financial reporting quality experience significant economic consequences, such as higher cost of capital, higher likelihood of litigation, or turnover of management (Palmrose and Scholz, 2004; Hribar and Jenkins, 2004; Srinivasan, 2005; Desai, Hogan and Wilkins, 2006). However, little research has examined the economic consequences of low financial reporting quality for the market for corporate control. Such investigation is important because reliable information about the acquisition target plays an important role during the takeover process. Furthermore, takeover activities represent massive reallocation of resources in the economy and thus have significant implications for investors' wealth. In this study, we seek to provide systematic evidence on the impact of low financial reporting quality as exposed by financial restatements on the likelihood, the outcome, and the valuation of takeovers.

Financial reporting serves as an important mechanism for the effective monitoring of managerial action and the efficient allocation of financial resources (Healy and Palepu, 2001; Bushman and Smith, 2001). The filing of financial restatements usually signals weak corporate governance and ineffective internal control (Ashbaugh-Skaife, Collins and Kinney, 2007). Thus, in an efficient market for corporate control, after observing financial restatements, outsiders may have incentives to intervene with takeover offers in order to remove inefficiencies and increase shareholder value (e.g. Manne 1965, Jensen and Ruback, 1983). These disciplinary takeovers are viewed as correction mechanisms for principal-agent conflicts and asymmetric information

between shareholder and corporate managers (e.g. Grossman and Hart, 1981). For example, Stulz (1999) suggests that when internal governance systems fail, the market for corporate control permits to remove incumbent management via takeovers if they do not act in their shareholders' interests. This process is potentially facilitated after financial restatements because restatement filings may serve as visible signals of failures of internal governance systems which otherwise would be difficult for outsiders to detect. Furthermore, since financial restatements are on average associated with significantly negative stock returns both around the announcements and in the medium to long term (Anderson and Yohn, 2002; Palmrose, Richardson and Scholz, 2004), potential bidders on the lookout for profitable acquisition opportunities may find the pricing of restating firms attractive. Thus, in an efficient and well functioning market for corporate control, restating firms are potentially more likely to become takeover targets.

On the other hand, financial restatements indicate lack of financial reporting quality and high information risk. Prior research has documented that poor financial reporting quality in the form of financial restatements increases the information asymmetry between insiders and outsiders (e.g. Battacharya, Desai and Venkatraman, 2010; Kravet and Shevlin, 2010). Such information asymmetry is particularly prevalent during major investment decisions such as takeovers. Potential acquirers have to rely on publicly available information at the initial stages of bids in determining whether an offer should be made. Low financial reporting quality as signaled through financial restatements increases the costs of adverse selection. Financial statements also serve as an important source of information at the initial stages of the bidding process for pricing, synergy estimates and acquisition method choices because potential acquirers often do not have access to inside information through the due diligence process at early stages of the acquisition process (see Figure 1for illustration). Finally, financial

restatements are often associated with higher likelihood of litigation (Palmrose and Scholz, 2004), imposing further costs to potential acquirers.

Whether the costs of information asymmetry and adverse selection and of potential litigation risks outweigh the benefits of potential value creation through takeover in the market for corporate control is an empirical question we seek to shed light on in this study. More specifically, our first research question investigates whether firms that file financial restatements are more or less likely to become takeover targets in the subsequent 12 months.

Second, we examine whether takeover bids made to targets with prior financial restatements are more or less likely to be withdrawn than takeover bids made to targets without prior restatements. The higher information risk may increase the likelihood of an initial bid to be withdrawn either because the takeover parties could not agree on the acquisition price or because of remaining risks exposed by the bidder's due diligence (Bushman and Smith, 2003). The incumbent corporate management might also be reluctant to cooperate with potential bidders because of the threat to their legitimacy as corporate leaders.

From the perspective of existing shareholders of the restating firms, the costs of poor financial reporting quality in the form of misstated earnings are high. These include a massive decline in market value, substantial fines and a reputational loss for the firm (Karpoff, Lee and Martin, 2008). The large negative market reactions at the time of the financial restatements reflect both diminished company prospects and increased risk/uncertainty (Palmrose, Richardson and Scholz, 2004; Rajgopal and Venkatachalan, 2011). Thus, in contrast to the incumbent management, existing shareholders might have strong incentives to cooperate with the bidders for a successful bid, decreasing the likelihood of a withdrawal.

Finally, to complete our analyses of acquirers' decision-making in the takeover process, our third research question investigates whether acquirers are more likely to make discounted offers to targets with poor financial reporting quality. The target's firm-specific information plays a pivotal role in assessing the synergies of an acquisition (Martin and Shalev, 2009). Moreover, higher information uncertainty increases the cost of capital of the target firm (Hribar and Jenkins, 2004; Kravet and Shevlin, 2010) with its adverse effect on valuations. These factors imply lower takeover valuations for targets that recently filed financial restatements.

Our empirical results confirm our proposition that the financial reporting quality has important implications for takeover decisions. Our analysis of the first research question on takeover likelihood is based on a sample of 2,268 pairs of restating and non-restating firms matched on year, industry, and firm size during 2001-2008. We find that restating firms experience a significantly lower likelihood of receiving a takeover bid than non-restating firms. In regression analyses, we find that non-restating firms on average have a 4.9% likelihood of receiving a takeover bid, while their restating counterparts on average only show a 2.8% likelihood. The difference reflects an economically and statistically significant 42% decrease in the takeover likelihood. Additional analyses show that this result is not driven by weak internal control system over financial reporting or poor stock performance prior to the restatement filing. There is some evidence, however, that litigation risk is a major deterrent for potential public acquirers and that restating firms involved in lawsuits associated with the restatement are significantly less likely to receive takeover offers from public firms. No such relationship could be found for private acquirers.

Our second and third research questions are based on a sample of 3,672 takeover bids made between 2002 and 2009. We find that offers made to restating targets are (at least 63%)

more likely to be withdrawn than offers made to non-restating targets. Furthermore, we examine takeover multiples using various ratios of deal value or offer price to firm fundamentals. For two out of four ratios, our results suggest that target firms with previous financial restatements have lower acquisition valuations, with the discount ranging between 17% and 32%.

Overall, our results suggest that despite potential valuation discounts, firms with financial restatements, i.e. with revealed poor financial quality, are considerably less likely to become takeover targets. For those restating firms that do receive takeover bids, the bids are also more likely to be withdrawn than for non-restating targets, possibly because of further adverse information discovered during the due diligence and negotiation process following the initial bid. Finally, we find that target firms that have low financial reporting quality and recently filed financial restatements are valued at lower deal multiples than their non-restating counterparts.

This paper extends the literature that investigates the economic consequences of financial restatements. Prior research shows that financial restatements have significant adverse economic consequences for the capital market and the labor market (e.g., Hribar and Jenkins, 2004; Desai, Hogan and Wilkins, 2006). We complement and extend this research by analyzing the economic consequences of financial restatements for the market for corporate control.

More importantly, our study contributes to the literature on takeovers and the market for corporate control. A plethora of academic research investigates the determinants of takeovers (e.g., Jensen, 1988; Mitchell and Lehn, 1990; Andrade and Stafford, 2004; Gorton, Kahl and Rosen, 2009) and takeover premiums (e.g., Eckbo and Langohr, 1989; Officer 2003, Bates and Lemmon, 2003). However, despite the important role of reliable information about the acquisition target during the takeover process, there is limited empirical evidence on the impact of target financial information quality on acquisition decisions and pricing. In this study, we

show that firms with poor financial information quality, specifically firms that filed financial restatements, are less likely to receive takeover bids. Given that these firms are more likely to have weak internal control systems and governance (Ashbaugh-Skaife, Collins and Kinney, 2007), they should be more prone to the correcting mechanisms of the market for corporate control. Our results, however, suggest that poor financial information quality as revealed through financial restatements introduces frictions to the takeover market, impeding the efficient allocation of economic resources, consistent with Kedia and Phillipon (2009) .

There has been an emerging stream of research that examines the role of targets' financial reporting quality on corporate takeover decisions (e.g. Raman, Shivakumar and Tamayo, 2008; Bharath, Sunder and Sunder, 2008; Marquardt and Zur 2010). We differ from this nascent literature in two important ways. First, these studies examine the effects of the earnings quality of the target firm given that a takeover bid has already been made. It remains unanswered from these studies whether and how financial reporting quality affects potential acquirers' decisions to make a takeover bid to these firms in the first place. We do not restrict our sample to takeover targets only, which enables us to examine the effect of reporting quality on the takeover decisions per se. In addition, the existing literature tends to focus on market-based measures in assessing the synergies of the acquisitions. In contrast, we focus on offer-price based valuation multiples to examine how the financial restatements affect decision making by acquirers. This is important because it helps us to understand whether and how the market for corporate control is able to mitigate agency costs associated with low financial reporting quality through external governance.

Second, we identify low financial reporting quality using actual filings of financial restatements and thus avoid measurement errors in earnings quality proxies used in Raman,

Shivakumar and Tamayo (2008) and Marquardt and Zur (2010). Further, actual observed low financial reporting quality as evidenced through financial restatements may have different effects on corporate decision-making than perceived or estimated low financial reporting quality. For example, prior research shows that firms with financial restatements experience significantly negative stock returns and are more likely subject to litigation risk. These factors may affect potential acquirers in their decision-making.

The remainder of the paper is organized as follows. In the next section we discuss the prior literature on restatements and takeovers related to our study and develop our research questions. In section 3 we describe the sample selection and matching procedure. Sections 4-6 provide descriptive statistics and empirical tests of our three research questions. We discuss our results and conclude in section 7.

2. Research Questions and Related Literature

2.1. Financial restatements and takeover likelihood

Our first research question attempts to examine whether recent filings of financial restatements are associated with a higher likelihood of becoming a takeover target. Firms that engage in earnings management, and thus have to file financial restatements subsequently, are associated with ineffective internal control (e.g., Ashbaugh-Skaife, Collins and Kinney, 2007), signaling agency costs. An important takeover motive discussed and empirically tested in the previous literature is the replacement of inefficient management and weak internal governance in order to mitigate these agency costs (e.g. Morck, Shleifer and Vishny, 1989; Shivdasani, 1993; Stulz 1999; Schwert 2000). This line of research builds on Manne's (1965) notion of the market for corporate control and Jensen's (1986) agency cost of free cash flow theory. These studies

argue that inefficient management causes firms to perform poorly and become undervalued (e.g. through retaining excess cash, investments in negative NPV projects or opportunistic management behavior), which ultimately attracts potential bidders to make takeover attempts. Thus, we expect firms that recently filed financial restatements to be more likely to become takeover targets.

Moreover, several studies examine the market reaction to restatement announcements (e.g. Anderson and Yohn, 2002; Palmrose, Richardson and Scholz, 2004; Desai, Krishnamurthy and Venkataraman 2006; Karpoff, Lee and Martin, 2008). These studies generally report significantly negative stock returns for firms with restatement announcements. Palmrose, Richardson and Scholz (2004), for instance, examine the market reaction to 403 restatement announcements and find average abnormal returns of about -9 percent over two days. Furthermore, Desai, Krishnamurthy and Venkataraman (2006) find increased short interest in the stocks of restating firms during the months before the restatement announcements and subsequent long term negative stock returns for these firms. Overall, these studies also suggest that the poor capital market performance of restating firms may make them more attractive as takeover targets.

On the other hand, however, financial restatements reveal low financial reporting quality to the market. Several studies argue that poor financial reporting quality increases the information asymmetry between insiders and outsiders (e.g. Diamond and Verrecchia, 1991; Battacharya, Desai and Venkatraman, 2010). Kravet and Shevlin (2010) further show that financial restatements increase information risk, which may increase the cost of adverse selection in the acquisition process. In addition, Palmrose and Scholz (2004) show that financial restatements often trigger the filings of lawsuits, imposing additional litigation costs to potential

acquirers. The higher information risk, litigation risk and the greater cost of adverse selection may provide potential acquirers lower incentives to make takeover bids to restating firms.

In related research, Raman, Shivakumar and Tamayo (2008) investigate how the earnings quality of target firms affects the acquirer's acquisition and payment method. They report that acquiring firms are more likely to engage in negotiated bids when the target's reporting quality is low. Furthermore, they find that public bidders are more likely to pay with equity for targets with low earnings quality. Similarly, Officer, Poulsen and Stegemoller (2009) provide supporting evidence that acquiring companies try to share the risk of asymmetric information during the takeover of public targets by using equity as method of payment. Marquardt and Zur (2010) show that targets with low earnings quality are more likely to be acquired through auctions as opposed to through negotiations. While these studies focus on the effects of financial reporting quality on different takeover choices made by acquirers, they all condition on takeover bids that have already been made, and do not examine how financial reporting quality affects the decision to make a takeover bid in the first place.

Related research in corporate finance attempts to explain takeover activity and to identify target firm characteristics based on publicly available information in order to establish models to predict takeover targets. On an aggregate level technological change and industry shocks as well as capital liquidity (e.g., Mitchell and Mulherin, 1996; Harford, 2005) have been found to explain takeover activity. On the individual firm level, several studies find a negative relationship between firm size and market-to-book ratios and the likelihood of becoming a takeover target (Hasbrouck, 1985; Palepu, 1986; Ambrose and Megginson, 1992). However, the ability of these statistical models to predict takeover targets is relatively poor and as Jensen and Ruback (1983) noted, "it is difficult, if not impossible, for the market to predict future targets."

2.2. Financial restatements and the likelihood of withdrawal of takeover bids

To fully understand the market for corporate control, it is important to examine not only what types of firms are more likely to become takeover targets, but also what types of takeovers attempts are more likely to eventually become completed. Thus, our second research question examines how financial restatements filed in the 12 months prior to the takeover bid affect the likelihood that the takeover bid will be withdrawn.

Martin and Shalev (2009) and Marquardt and Zur (2010) examine the effects of target firm-specific information and accruals quality, respectively, on takeover outcomes. Both studies find that the likelihood of a withdrawal of an acquisition offer decreases with the target's information quality. When the information risk is high and the credibility of the target's management low, bidders prefer negotiated acquisitions to reduce information asymmetries (Raman, Shivakumar and Tamayo, 2008) and are likely to perform more diligent analyses of the target's financial statements. The uncertainty about the reliability of the targets information may hence increase the likelihood of an initial bid to be withdrawn if the bidding firm discovers new risks during the due diligence (Bushman and Smith, 2003).

On the other hand, announcements of financial restatements often trigger a significantly negative market reaction, resulting in significant wealth losses of existing shareholders of the restating firms. For example, former SEC Chairman Levitt testified before a Senate Subcommittee that, "in recent years, countless investors have suffered significant losses as market capitalizations have dropped by billions of dollars due to restatements of audited financial statements"[1]. Existing shareholders might hence be more inclined to give up control

[1] See Levitt (2000) at http://www.sec.gov/news/testimony/ts152000.htm.

and to have incumbent executives replaced. Upon receiving takeover bids, they may have stronger incentives to cooperate with the bidders to facilitate the completion the takeover bids.

2.3. Financial restatements and deal valuation

Our last research question seeks to understand whether acquirers value targets that previously filed financial restatements differently than non-restating targets. A number of studies examine the association between the target's information environment and acquisition synergies or takeover premiums. For example, Martin and Shalev (2009) and Raman, Shivakumar and Tamayo (2008) show that expected synergies increase with the level of target firm specific information available to market participants or the target's earnings quality. However, Martin and Shalev (2009) find that target shareholder returns from an acquisition decrease with information quality. This result is puzzling because it seems to imply that target shareholders benefit from low financial reporting quality. An alternative explanation for the results is that the higher market reaction for targets with lower information quality reflects the market's correction of a previous under-pricing of these firms. This possibility is particularly relevant for restating firms because the market might potentially over-react to the restatements, which leads to under-valuation of these firms.

We follow Officer (2007), who examines whether private targets are valued at a liquidity discount relative to public targets, and choose to focus on valuation multiples instead of acquisition premium measures based on the target's cumulative abnormal stock returns around takeover announcements (e.g., Schwert, 1996) for following reasons. We seek to understand how financial restatements affect the decision-making by acquiring firms, including the decision to make an offer to a restating firm and how much to offer. The offer price reflects the acquirer's

valuation of the target based on knowledge of the target firm obtained from publicly available financial reports and possibly from private information. Market-based measures (e.g., market reactions to acquisition announcements) reflect not only market assessment of synergies, but also other factors such as the probability of bid failure, competition during acquisitions and potential over- or under-valuation of the target at the time of the takeover announcement.

Hribar and Jenkins (2004) show that financial restatements increase the firm's cost of capital. This suggests that upon making an offer, acquirers would incorporate a potentially higher cost of capital and make lower offers relative to the targets' fundamentals. Thus, we expect that target firms that have low financial reporting quality and recently filed financial restatements are valued at lower deal multiples than their non-restating counterparts.

3. Sample Selection

We obtain data on takeover transactions from the Securities Data Corporate (SDC) database. Consistent with Martin and Shalev (2009), we only consider deals in which (1) the acquirer seeks to purchase 100% of the target and (2) the target is a public firm. The first requirement ensures the economic impact of the deal. It also eliminates takeover deals where acquirers had a stake in the target firm and hence may have access to inside information prior to the bid. The second requirement is imposed because the restatement data we have are only for public firms. These requirements yield a total of 3,762 takeover bids during 2002-2009.

Our data on financial restatements are obtained from the AuditAnalytics database. We keep income-decreasing restatements only since the implications of income-increasing restatements for both firm valuation and information transparency are ambiguous.[2] Out of 8,022

[2] For example, Palmrose, Richardson and Scholz (2004) show that income-increasing restatements induce little market response. About 10% of the restatements during our sample period in the AuditAnalytics

income-decreasing restatements during 2001-2008, we obtain 4,797 restatements for which we are able to merge data with Compustat.

Our empirical tests employ two different samples based on different intersections between the sample of takeover transactions and the sample of financial restatements. For our first research question (i.e., the effects of financial restatement on takeover likelihood), we require a matched sample between restating and non-restating firms by year, industry, and size. Specifically, 2,834 out of the 4,797 restatements have non-missing information for the financial variables used in our empirical analyses. We collapse these observations to 2,601 firm-years since a small number of firms have multiple restatement filings within one year[3]. For each of these 2,601 restating firm-years, we obtain all non-restating firms in the same fiscal year and the same two-digit SIC industry, with market value between 75% and 125% of that of the restating firms. We keep the non-restating firm that has Tobin's Q closest to that of the restating firm. This procedure leads to a final matched sample of 2,268 pairs of restating and non-restating firms with non-missing financial information from Compustat.

We then merge the matched sample with the above takeover sample of 3,762 deals. For restating firms, if the firm receives a takeover bid within 12 months after the filing of the financial restatement, we code TAKEOVER as 1 (and 0 otherwise). For non-restating firms, if the firm receives a bid within 12 months after the fiscal year end, we code TAKEOVER as 1 (and 0 otherwise).

Our second and third research questions (i.e., the effects of financial restatements on the likelihood of takeover withdrawal and on the takeover deal valuation) are based on the sample of

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database are income-increasing. Including these restatements in the sample does not affect the inferences of this study.

[3] For these firms, we retain the last restatement filing for the firm-year.

3,762 takeover transactions. For each of the takeover bids, if the firm filed any income-decreasing restatements in the 12 months prior to the bid announcement based on our sample of 4,797 restatements, we code RESTATE as 1 (and 0 otherwise). Our regression analyses for these two research questions are based on smaller sample sizes depending on the availability of information on the financial characteristics of the target and the acquirer, obtained from Compustat.

4. Financial Restatements and Takeover Likelihood

4.1. Research design and descriptive statistics

In this section, we examine our first research question: how does prior financial restatement affect the probability of the firm receiving a takeover bid. As discussed in Section 3, we perform our tests based on 2,268 pairs of restating and non-restating firms matched based on year, industry, and firm size. Our test employs the following regression model:

$$\text{Prob(TAKEOVER=1)}=f\,(\, b_0 + b_1*\text{RESTATE} + b_2*\text{LOGMV} + b_3*\text{Q} + b_4*\text{ROA} + b_5*\text{SGROW} + b_6*\text{LEVERAGE} + b_7*\text{TANGIBLE} + \sum y_i \text{YEAR}_i + e) \quad (1)$$

Our model builds on prior literature that estimates takeover likelihood.[4] We include firm size, measured as the log of market value (LOGMV), as in Hasbrouck (1985) and Palepu (1986) who show that target firms are smaller than non-target firms. However, Gorton, Kahl and Rosen (2009) propose counter arguments suggesting that larger firms might be more attractive targets due to higher synergies and economies of scale. Hasbrouck (1985) shows that low Tobin's Q makes targets attractive as valuable resources can be acquired at low cost. Accordingly, we include Tobin's Q (Q) in our model, measured as the market value of total assets deflated by the book value of total assets. Palepu (1986) suggests that lower performance signals inefficient

[4] We note that while the control variables that we include are most frequently examined in prior literature, the literature has often provided mixed evidence regarding the effects of these variables.

management, which increases the likelihood of takeover in the market for corporate control. We proxy for performance using ROA, calculated as operating income before depreciation and amortization over total assets. Following Ambrose and Megginson (1992), we also include sales growth (SGROW) and leverage (LEVERAGE) which are both expected to be negatively associated with takeover likelihood. Finally, we include tangibility of assets (measured as the ratio of tangible assets to total assets), based on prior results that bidders prefer buying tangible asset-rich firms (Ambrose and Megginson 1992). All of our control variables are obtained from Compustat and measured at the end of the year of the restatement filing. Finally, since prior research shows that takeover activities are highly cyclical (e.g., Harford 2005), we include year dummies to control for the time trend of the takeover activities.

Figure 2 plots the frequency of restating firms in our matched sample over time. We observe the highest number of restatement filings in 2006 and the lowest number in 2002. This figure also plots the time series of the percentages of restating and non-restating firms receiving takeover bids in the subsequent year. In every year except for 2003, a lower percentage of restating firms than non-restating firms receive takeover bids.

In Table 1 we report descriptive statistics of the control variables used in Model (1) for the restating and non-restating firms, respectively. All continuous variables are winzorized at the 1st and 99th percentiles. On average, restating firms have a log market value of 5.22, in comparison to 5.18 for non-restating firms; the medians for both are 5.22. The difference is not statistically significant for both means and medians, suggesting our matching procedure is effective. Restating firms have a mean Tobin's Q of 1.92 and a median of 1.39, while the non-

restating firms have a mean of 1.79 and a median of 1.38. The difference in means is statistically significant at the 0.01 level, while the difference in medians is not.[5]

As to return on assets, restating firms report significantly lower means and medians (0.00 and 0.06 respectively) than their non-restating counterparts (0.03 and 0.08 respectively), consistent with expectations. Sales growth rates are statistically indifferent between these two groups of firms. Mean sales growth rates are 24% and 21% respectively for restating and non-restating firms, and median sales growth rates are 9% and 8% respectively. Restating firms have significantly higher leverage than non-restating firms for both means and medians, although the difference is small in magnitude (0.21 versus 0.20 for means and 0.16 versus 0.15 for medians). Finally, both groups of firms have 24% of total assets in tangible assets on average, and the median ranges between 14% and 15%. The difference in tangibility is not statistically significant.

4.2. Empirical results

We examine the effects of prior financial restatements on the likelihood for the firm to receive a takeover bid (TAKEOVER), and differentiate whether the bid is made by a public firm (PUB), or by a non-public firm (NONPUB). Public and non-public firms may place different emphasis on earnings quality. For example, Raman, Shivakumar and Tamayo (2008) show that private and public bidders respond differently to information risks in target firms. Thus, public bidders and non-public bidders may show different inclination to acquire a firm that has previously filed financial restatements.

[5] While our matching procedure selects the non-restating firm with Tobin's Q closest to that of the restating firm as the matching firm, this procedure does not impose a maximum difference in Tobin's Q between these firms. This may explain why the mean Tobin's Q is statistically significantly different between the restating firms and the non-restating firms.

In Table 2 we report the univariate test for the effects of filing financial restatements on the likelihood of receiving a takeover bid. Consistent with Figure 2, restating firms are less likely to receive takeover bids than non-restating firms. Out of a total of 2,268 restating firms, 73 firms (3.22%) receive takeover bids. In contrast, out of the matching 2,268 non-restating firms, 127 (5.60%) receive takeover bids. The χ^2 test statistic is 15.25, statistically significant at better than 0.01 level. This pattern also applies to takeover bids by public and non-public firms respectively. About 2.12% (1.10%) of restating firms receive takeover bids by a public (non-public) firm, in comparison to 3.40% (2.20%) of non-restating firms. The differences are both statistically significant at better than 0.01 level.

Logistic regression results of Model (1) are reported in Table 3. Standard errors are clustered at the two-digit SIC industry level, as in all other regressions in this study. In Column (1), the dependent variable is TAKEOVER. Consistent with our univariate result reported in Table 2, the coefficient on RESTATE is significantly negative at -0.57 ($p<0.01$). In Columns (2) and (3), where the dependent variables are PUB and NONPUB, the coefficients on RESTATE are also significantly negative at -0.49 and -0.64 respectively. We also calculate the marginal effects of filing financial restatements on takeover likelihood. Specifically, we estimate the probability of receiving a takeover bid for a restating (non-restating) firm when RESTATE is set at 1 (0) and all other variables are set at their respective averages. For Column (1), when RESTATE=0, the predicted probability of takeover is 4.9%, while when RESTATE=1, the predicted probability is 2.8%. Thus the marginal effect of RESTATE on takeover likelihood is -2.1%, a 42% (2.1%/4.9%) decrease. The marginal effect of RESTATE on the likelihood of a takeover bid by a public firm is -1.1% (2.9% versus 1.8%), a 38% decrease on a relative basis.

On the other hand, the marginal effect of RESTATE on the likelihood of takeover bid by a non-public firm is 0.6% (1.3% versus 0.7%), a higher 47% decrease on a relative basis.

As to the control variables, the likelihood of takeover bids is generally negatively correlated with Tobin's Q (Q), sales growth (SGROW), and leverage (LEVERAGE), consistent with prior research (Hasbrouck 1985; Ambrose and Megginson 1992). Firm size (LOGMV) is insignificantly correlated with takeover bids by non-public firms. However, it is significantly positively correlated with takeover bids by public firms. Firm operating performance (ROA) is negatively correlated with takeover bids by public firms but positively correlated with takeover bids by non-public firms. Tangibility of total assets (TANGIBLE) is insignificantly correlated with takeover likelihood.

Overall, the results in Tables 2 and 3 provide two insights. First, the filing of financial restatement is negatively correlated with the likelihood for the firm to receive a takeover bid, whether by a public firm or by a non-public firm. The effects are significant both statistically and economically, suggesting that despite potential discounts and internal control problems of firms' that recently filed financial restatements, significant information risks or litigation risks deter potential acquirers from considering taking over these firms. Second, there is some evidence that non-public firms are more concerned about acquiring targets with potential earnings quality problems, consistent with the results in Raman, Shivakumar and Tamayo (2008).

4.3. Additional analyses

As we discuss in Section 2.1, while first and foremost, financial restatements reflect lack of financial reporting quality and hence high information risk, which would decrease the incentives for potential acquirers to make takeover bids, there are also several other mechanisms

through which financial restatements may affect the takeover likelihood. Specifically, financial restatements signal ineffective internal control to the market and usually reduce firm value, both of which increase the likelihood of takeover. On the other hand, financial restatements are often associated with higher litigation risk as well, which may deter potential acquirers. In our analyses in Table 3, we view the overall effects as an empirical question and do not consider these theoretical mechanisms explicitly. In this sub-section, we provide some initial analyses on the specific effects of several of these mechanisms.

In particular, we consider the effects of litigation, prior stock price performance, and the effectiveness of internal control over financial reporting (ICFR). More specifically, LITI indicates whether the firm has been involved in a lawsuit within one year prior to the filing of the financial restatements; RET is the target stock's abnormal return over one year prior to the restatement filing; and WEAK indicates whether the firm files any ineffective ICFR report under Sections 302 or 404 of the Sarbanes Oxley Act in the year of the restatement filing. Information on these three variables is obtained from the Securities Class Action Clearinghouse at Stanford University[6], CRSP, and AuditAnalytics respectively. Untabulated statistics show that consistent with expectations, restating firms are significantly more likely to be subject to litigation, to experience low prior stock returns, and to have ineffective ICFR.

In Table 4, we add each of these three variables and their respective interaction terms with RESTATE to Model (1) and report the regression estimates. After adding these factors, RESTAE continues to be significantly negative (mostly at better than 0.01 levels) in all specifications, suggesting that the effects of restatements on takeover likelihood are not driven by these three specific factors. Most of the magnitudes are actually larger than those reported in

[6] We are grateful to Mary Billings (2010) for providing relevant litigation data.

Table 3. As to the three factors we examine (i.e., LITI, RET, and WEAK), they are all statistically insignificant. Their interaction terms with RESTATE are also insignificant except for in one case. When the dependent variable is PUB and the factor of interest is litigation, the interaction term between LITI and RESTATE is significantly negative at -13.90. This suggests that restatements involving lawsuits strongly deter public firms from approaching the firm and making a takeover offer. No such results, however, are observed for private acquirers. This potentially suggests public firms' greater concern about their reputation and public image.

Overall, in this subsection, we provide some initial evidence that the effects of restatement filing on takeover likelihood are not driven by poor stock performance or weak internal control over financial reporting.[7] Litigation does not have an impact for the full sample, but it does affect the likelihood for the restating firm to receive a takeover bid from a public firm. While these analyses are preliminary and not comprehensive, the results imply that the information risk or uncertainty signaled by the filing of the restatements is more likely to be the dominant factor that leads to the lower takeover likelihood among restating firms. We discuss some possible future research in Section 7.

5. Financial Restatements and Likelihood of Takeover Withdrawal

5.1. Research design and descriptive statistics

In this section we examine our second research question to further understand the role of financial restatements on the initiation and completion of takeover process: how does previous financial restatement affect the likelihood of a takeover bid to be withdrawn? Information on

[7] While ineffective internal control over financial reporting also signals low quality of financial reporting, they are less extreme and more frequent than financial restatements. Our results suggest that financial restatements have a more salient adverse effect on takeover likelihood than does ineffective ICFR.

deal status is obtained from the SDC database. We address this question using our takeover sample of 3,762 takeover bids during 2002 and 2009. We use the following model for our empirical tests.

$$\text{Prob (WITHDRAW=1)} = f(b_0+b_1*\text{RESTATE}+b_2*\text{LOGMV}+b_3*\text{Q}+b_4*\text{ROA}+ b_5*\text{SGROW} + b_6*\text{LEVERAGE}+b_7*\text{TANGIBLE}+ b_8*\text{CASH}+b_9*\text{DIV}+b_{10}*\text{PUB} +\sum y_i \text{YEAR}_i+e) \quad (2)$$

$$\text{Prob (WITHDRAW=1)} = f(b_0+b_1*\text{RESTATE}+b_2*\text{LOGMV}+b_3*\text{Q}+b_4*\text{ROA}+ b_5*\text{SGROW}+ b_6*\text{LEVERAGE}+b_7*\text{TANGIBLE}+ b_8*\text{CASH}+b_9*\text{DIV}+ b_{10}*\text{ALOGMV} +b_{11}*\text{AQ} +b_{12}*\text{AROA}+ b_{13}*\text{ASGROW}+b_{14}*\text{ALEVERAGE} +b_{15}*\text{ATANGIBLE} +\sum y_i \text{YEAR}_i+e) \quad (3)$$

In both models, the dependent variable is WITHDRAW, which takes value of 1 if the deal status was coded as withdrawal in SDC, and 0 otherwise. The variable of interest is RESTATE, which takes value of 1 if the target firm filed income-decreasing restatements in the 12 months prior to the takeover announcement, and 0 otherwise. Model (2) has control variables for target characteristics and deal characteristics, while Model (3) also controls for acquirer characteristics. Target characteristics include LOGMV, Q, ROA, SGROW, LEVERAGE, and TANGIBLE, as defined in Section 4. These variables are measured as of the fiscal year end prior to the takeover announcement. Corresponding acquirer characteristics include ALOGMV, AQ, AROA, ASGROW, ALEVERAGE, and ATANGIBLE, which are calculated analogously to the target characteristics. All these firm characteristics are obtained from Compustat. Note that the acquirer information is only available for public acquirers. In addition, we also control for various characteristics of the deal, including whether the offer was made in all cash (CASH), whether the deal was a diversifying takeover for the acquirer (DIV)[8], and whether the acquirer is a public firm (PUB).[9]

[8] We identify a takeover deal as diversifying if the acquirer and the target are not in the same 2-digit SIC industries.

[9] PUB is not included in Model (3) because deals used to estimate Model (3) are all made by public bidders.

Figure 3 plots the takeover bids over time. Largely consistent with economic cycles, we observe highest number of takeover bids in 2006-2007 and lowest number of takeover bids during the financial crisis of 2008-2009. The percentage of restating targets generally follows the pattern in Figure 2, with a higher frequency of restating targets in 2005-2006 and a lower frequency of restating targets in 2002 and 2009.

Table 5 reports descriptive statistics of variables used in Models (2) and (3). Panel A provides the statistics for the takeover deals with restating targets (i.e., RESTATE=1), whereas Panel B reports the statistics for all other takeover deals in the sample (i.e., RESTATE=0). The 126 restating targets have significantly lower sales growth on average (6%) than the 1,878 non-restating targets (14%), although the medians are indifferent. All other target characteristics are statistically indifferent between these two groups of takeover transactions. The two groups of deals also show no significant differences in acquirer characteristics except for average Tobin's Q and average leverage levels. Acquirers in deals with a restating target have on average lower Tobin's Q (1.70) and lower leverage levels (0.14) than in deals with a non-restating target (1.90 and 0.18 respectively), and the difference is significant at the 0.10 and 0.05 levels respectively.

Finally, with respect to the deal characteristics, of the 171 deals with restating targets, 51% have cash as the only payment consideration, in contrast to 43% of the 3,591 deals with non-restating targets. The difference is statistically significant at 0.05 levels for both means and medians. Fifty-one percent of the deals with restating targets are diversifying, compared to 49% diversifying deals among those with non-restating targets; 57% of the restating targets are offered a takeover bid by a public firm, while 59% of the non-restating targets are offered a takeover bid by a public firm. However, the conditional distribution between RESTATE and

whether the deal is diversifying (DIV) or whether the acquirer is a public firm (PUB) is statistically insignificant.

5.2. Empirical results

Table 6 reports the contingency table between RESTATE and WITHDRAW. Among the 171 deals with restating targets, 37 (21.64%) were eventually withdrawn. In contrast, among the 3,591 deals with non-restating targets, a total of 445 were eventually withdrawn, representing a significantly (at 0.01 level) lower 12.39%.

We proceed to estimate Models (2) and (3) using logistics estimates. The results are provided in Table 7. We estimate two versions of Model (2): Column (1) includes only target characteristics as control variables and Column (2) includes both target and deal characteristics. Column (3) reports results for Model (3) that includes target and acquirer characteristics as well as deal characteristics. Because information of acquirer characteristics is only available for public acquirers, Column (3) is based on a substantially smaller sample (N=860) than Columns (1) and (2) (N=2,004).

In all three columns, the coefficient on RESTATE is positive (0.58, 0.59, and 0.89 respectively) and statistically significant at the 0.05 level or better. We also estimate the marginal effects of RESTATE on the probability of the takeover bid to be withdrawn. For Column (1), restating targets have a 20% likelihood of withdrawal, in comparison to 12% for non-restating targets, when all other variables are set at sample means. For Column (2), these two groups of targets have 20% and 12% likelihood of withdrawal respectively. Finally, for Column (3) based on the smaller sample of takeover deals with public acquirers and public targets, the probability of withdrawal is generally smaller, at 15% and 7% respectively for the restating and non-

restating firms. In all three models, previous financial restatements by the target firms considerably increase the likelihood for the takeover bids to be withdrawn, ranging between 63% and 122% relative to takeover bids without previous financial restatements.

The effects of the control variables vary depending on the model specification. The results in Columns (1) and (2) show that the likelihood that takeover bids will be withdrawn is negatively correlated with Tobin's Q and leverage, and positively correlated with sales growth and tangibility of assets of the target firm. Takeover bids by public firms are less likely to be withdrawn. Column (3) shows that among takeover bids made by public firms, bids made to target firms with larger firm size, lower leverage, or higher sales growth are more likely to be withdrawn. Bids made by smaller firms or by firms with higher leverage are more likely to be withdrawn as well.

To summarize, the results for our second research question collaborate with the results reported in Section 4, suggesting that acquirers are not only less likely to make takeover bids to restating firms, but if they make bids to such firms, the bids are also more likely to be withdrawn. These results provide further support to the conjecture that low financial reporting quality and high information risks induce frictions to the market for corporate control, impeding the efficient allocation of economic resources.

6. Financial Restatements and Takeover Deal Valuations

6.1. Research design and descriptive statistics

Finally, we examine whether the takeover bids for restating targets are associated with lower takeover deal valuation. As discussed in Section 2, following Officer (2007), we examine four valuation ratios provided by the SDC database: deal value excluding assumed liabilities to

EBITDA, deal value excluding assume liabilities to sales, offer price to book value per share, and offer price to earnings per share. These are our four dependent variables. We use the same control variables in Models (2) and (3) because takeover deal valuations are expected to be affected by both target and bidder characteristics and deal characteristics.

Descriptive statistics and univariate tests for the four ratios are provided in Table 8. The number of observations for each of the four ratios varies depending on availability in the SDC database. Ratios that require EBITDA or earnings per share have the lowest availability because these ratios are only meaningful and reported when EDITDA or earnings per share is positive. Thus these ratios are truncated and should be interpreted with caution. Among deals with restating targets, 107 deals have information on the ratio of deal value to EBITDA. The mean is 14.93 and the median is 9.17. On the other hand, among deals with non-restating targets, 1,806 deals report a mean of 19.35 and a median of 11.15. While the mean and the median are both lower for deals with restating targets, only the difference in median is statistically significant (at the 0.10 level).

The second ratio, deal value to sales, has the most observations available. The mean is 1.76 and the median is 1.18 for the 145 deals with restating targets, while the mean is 3.61 and the median is 1.71 for the 2,600 deals with non-restating targets. The differences in means and medians are both statistically significant at the 0.01 level. Information on the third ratio, offer price to book value per share, is available for 131 deals with restating targets and 2,358 deals with non-restating targets. While the means and medians are lower for deals with restating targets (3.09 and 2.19 respectively) than for deals with non-restating targets (3.51 and 2.30 respectively), the differences are not statistically significant. Finally, fewest deals have information available for the ratio of offer price to EPS. For 79 deals with restating targets, the

mean and median of the ratio are 53.79 and 24.90 respectively, in comparison to 45.08 and 24.40 respectively for 1,572 deals with non-restating targets. Neither of the differences in means or medians is statistically significant.

6.2. Empirical results

Table 9 reports results from our regression estimates. In Panel A the dependent variable is the ratio of deal value to EBITDA. For Columns (1) and (2) based on 1,346 deals, the coefficients on RESTATE are -3.46 (p=0.02) and -3.14 (p=0.04) respectively, both significant at better than 0.05 level. These results suggest that *ceteris paribus*, takeover bids with restating targets have on average lower deal values by about 3.3 (the average of 3.46 and 3.14) times of EBITDA. Considering the average ratio of deal value to EBITDA for deals with non-restating targets (reported in Table 8) is 19.35, this represents a discount of about 17%. Column (3) is based on a significantly smaller sample of 620 takeover deals, due to the requirement for financial information of the acquirers. The coefficient on RESTATE is insignificantly negative at -1.38.

In Panel B the dependent variable is the ratio of deal value to sales. The numbers of observations used in the models are 1,797 for Columns (1) and (2) and 819 for Column (3). In all three columns, the coefficient on RESTATE is significantly negative, ranging between -1.31 to -1.08. Compared with the mean ratio of 3.61 among non-restating targets, on average, deals with restating targets are offered at about 32% discount for the ratio of deal value to sales. In Panels C and D, the dependent variables are the ratios of offer price to book value per share and earnings per share respectively. In both panels the coefficients on RESTATE are insignificant except for

Column (3) of Panel D, where the coefficient on RESTATE is actually significantly positive at the 0.10 level.

As to the control variables, all four panels consistently show that the takeover deal valuation is increasing in target firm's Tobin's Q and decreasing in target firm's ROA. Other variables are either insignificant, or only significant in specific models. Certain variables are significant in different directions in different models. Specifically, the ratio of deal value to EBITDA is decreasing in leverage of both the target and the acquirer, and increasing in acquirer's tangibility and sales growth. The ratio of deal value to sales is increasing in market value of both target and acquirer, and decreasing in leverage of the target and sales growth of the acquirer. The ratio of offer price to book value per share is increasing in leverage of the target, and market value and ROA of the acquirer. The offer price to earnings per share ratio is increasing in tangibility and sales growth of the target firm, and Tobin's Q of the acquirer firm. Finally, there is some evidence that the offer deal valuation is higher for bids made by public firms and for bids with cash as the only payment method.

Overall Table 9 shows that when a restating firm receives a takeover bid, total deal values to either EBITDA or sales are statistically and economically significantly lower relative to when a non-restating firm becomes a takeover target. However, the differences in offer prices relative to book value or earnings per share are generally insignificant.

7. Concluding Remarks

In this study we examine the implications of financial restatements for the market for corporate control. We find that firms that recently filed financial restatements are significantly less likely to become takeover targets. This result is more likely to be driven by information risks.

Moreover, our results also show that takeover bids made to restating firms are also more likely to be withdrawn and that acquisition offers to these firms reflect lower valuation multiples. Our results complement prior research on the economic consequences of financial restatements by showing that low financial reporting quality introduces frictions to the market for corporate control, impeding the efficient allocation of economic resources.

This study highlights the economic significance of poor financial reporting quality to participants in the market for corporate control. From the perspective of the investors of a restating firm, it appears that the costs of low information quality and high information risk dominate the correcting forces of the takeover market. Thus, *ex ante*, investors are expected to benefit from efforts to improve internal control effectiveness and financial reporting quality in order to prevent possible financial restatements. This study also has implications for potential bidders in the takeover market. Our results provide insights for target selection and bidding strategies. For example, given that bids made to firms that recently filed financial restatements are more likely to be withdrawn due to adverse selection costs, potential acquirers would benefit from more diligent information acquisition before making offers to these firms in order to avoid unsuccessful bids and their associated costs.

While we provide some preliminary analyses for the specific mechanisms through which financial restatements affect the takeover likelihood, our analyses leave room for future research. For example, future research could examine different measures of information risks or uncertainty. It would also be interesting to examine in cross-sectional settings whether the market for corporate control is more or less likely to intervene with takeover offers to restating firms with different internal governance features, such as management entrenchment or anti-takeover provisions.

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Figure 1: Schematic Diagram of a Friendly Takeover Process After Financial Restatement Filings

This figure sketches the timeline of the general process during takeover negotiations after announcements of financial restatements. The sample in this study includes all takeover announcements that occurred within 12 months after the restatement filing. The schematic diagram shows that at time of the public announcement of the offer and the initial agreement on a purchase price the bidding firms usually only have access to public information about the target. Bidding firms only gain access to inside information about the target during the due diligence process after initial terms have been agreed. The final purchase price and other provisions are normally subject to closing conditions. Any material adverse change of the conditions for the takeover can lead to a withdrawal of an offer and termination of the takeover process.

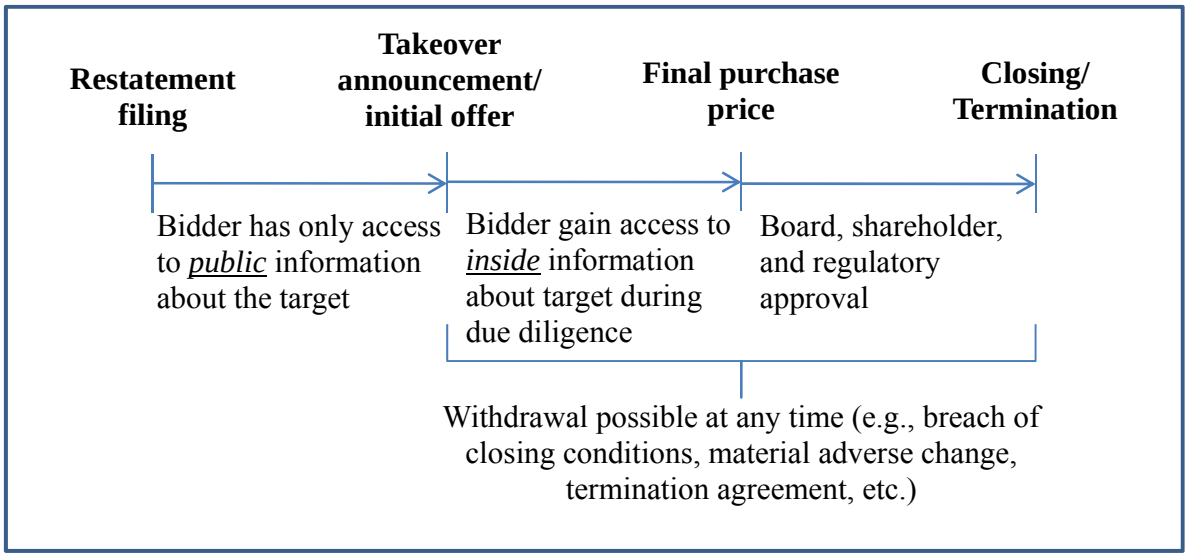

Figure 2: The Time Series of Financial Restatements

This figure is based on 2,268 pairs of restating and restating firms matched on industry (2-digit SIC code) and size during 2001-2008. The figure shows the time trend of the number of restating firms and percentage of restating and non-restating firms that receive takeover bids in the next year.

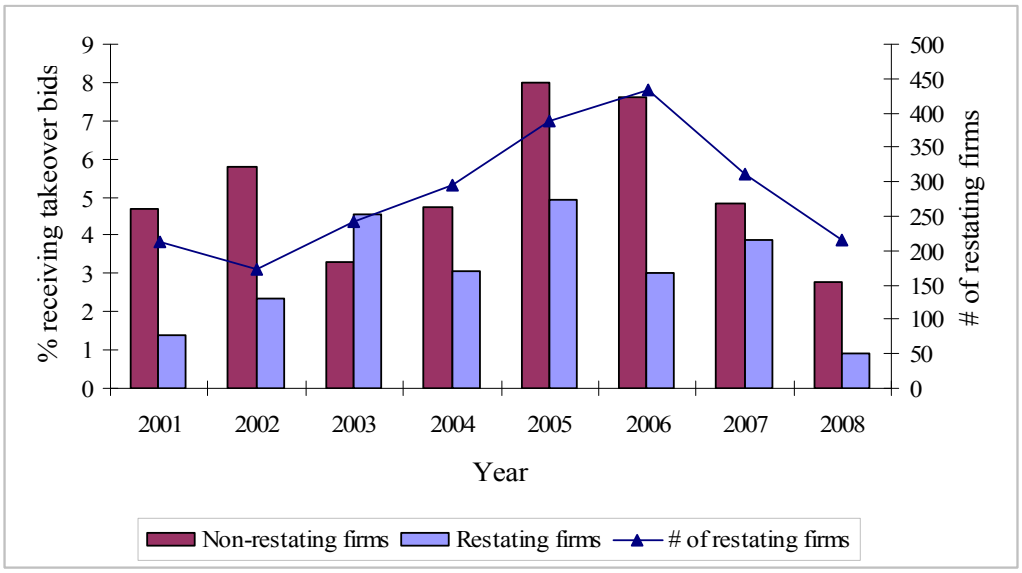

Figure 3: The Time Series of Takeover Activities

This figure is based on 3,762 takeover bids during 2002-2009. The figure shows the time trend of the number of takeover bids and percentage of takeover target firms that restate financial statements in the previous year.

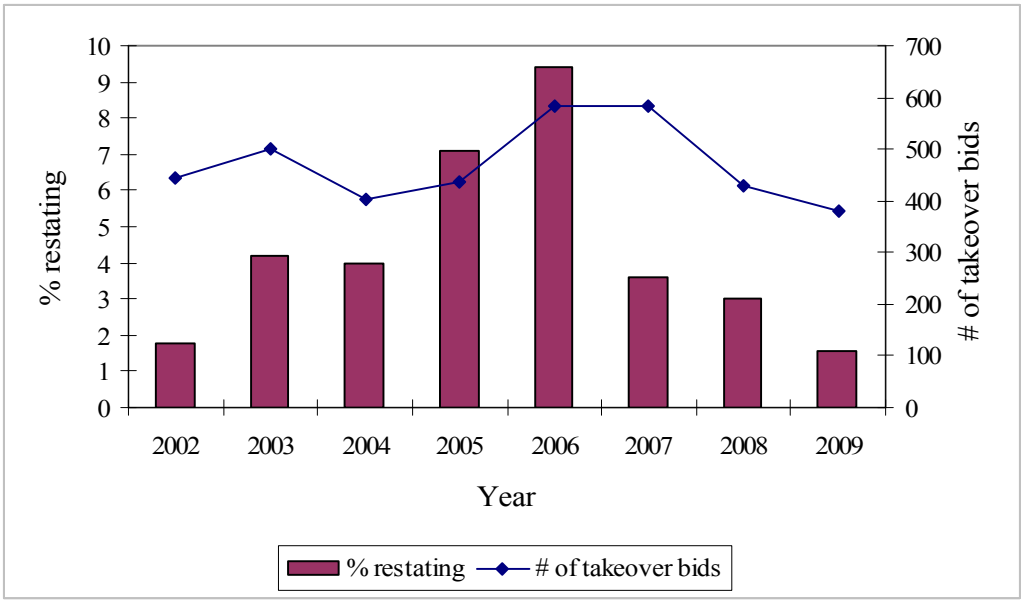

Table 1: Descriptive Statistics of Matched Restating and Non-Restating Sample

This table is based on 2,268 pairs of restating and restating firms matched on industry (2-digit SIC code) and size during 2001-2008. RESTATE equals to 1 if the firm filed income-decreasing restatement in the year, and 0 otherwise. LOGMV is log of market value. Q is Tobin's Q. ROA is operating income before depreciation over total assets. SGROW is percentage of sales growth. LEVERAGE is total debt over total assets. TANGIBLE is tangible assets as a percentage of total assets. All financial variables are obtained from Compustat and measured at the end of the year of restatement filing. All variables are winzorized at 1% and 99%. *, **, *** indicate 2-sided significance levels of 10%, 5%, and 1% for the difference between the restating firms and the non-restating firms, based on t-tests for means and Wilcoxon tests for medians.

Panel A: Restating firms (RESTATE=1)

Variable	N	Mean	Median	P25	P75	StdDev
LOGMV	2268	5.22	5.22	3.72	6.72	2.03
Q	2268	1.92***	1.39	1.07	2.08	1.69
ROA	2268	0.00***	0.06***	-0.01	0.12	0.28
SGROW	2268	0.24	0.09	-0.04	0.26	0.85
LEVERAGE	2268	0.21*	0.16**	0.02	0.33	0.20
TANGIBLE	2268	0.24	0.14	0.05	0.36	0.24

Panel B: Non-restating firms (RESTATE=0)

Variable	N	Mean	Median	P25	P75	StdDev
LOGMV	2268	5.18	5.22	3.66	6.64	2.03
Q	2268	1.79	1.38	1.07	1.97	1.33
ROA	2268	0.03	0.08	0.01	0.14	0.23
SGROW	2268	0.21	0.08	-0.02	0.24	0.71
LEVERAGE	2268	0.20	0.15	0.01	0.32	0.20
TANGIBLE	2268	0.24	0.15	0.05	0.37	0.24

Table 2: Univariate Test of Takeover Likelihood

This table is based on 2,268 pairs of restating and restating firms matched on industry (2-digit SIC code) and size during 2001-2008. RESTATE equals to 1 if the firm filed income-decreasing restatement in the year, and 0 otherwise. TAKEOVER equals to 1 if the firm receives a takeover bid in the next year, and 0 otherwise. PUB equals to 1 if the firm receives a takeover bid from a public firm in the next year, and 0 otherwise. NONPUB equals to 1 if the firm receives a takeover bid from a non-public firm in the next year, and 0 otherwise.*, **, *** indicate 2-sided significance levels of 10%, 5%, and 1% for the χ^2 tests.

	N	Takeover bid by any company (TAKEOVER=1)	Takeover bid by any public company (PUB=1)	Takeover bid by any private company (NONPUB=1)
RESTATE=1	2268	73 (3.22%)	48 (2.12%)	25 (1.10%)
RESTATE=0	2268	127 (5.60%)	77 (3.40%)	50 (2.20%)
χ^2		15.25***	6.92***	8.47***

Table 3: Logistic Regression Tests of Takeover Likelihood

This table is based on 2,268 pairs of restating and restating firms matched on industry (2-digit SIC code) and size during 2001-2008. TAKEOVER equals to 1 if the firm receives a takeover bid in the next year, and 0 otherwise. PUB equals to 1 if the firm receives a takeover bid from a public firm in the next year, and 0 otherwise. NONPUB equals to 1 if the firm receives a takeover bid from a non-public firm in the next year, and 0 otherwise. RESTATE equals to 1 if the firm filed income-decreasing restatement in the year, and 0 otherwise. LOGMV is log of market value. Q is Tobin's Q. ROA is operating income before depreciation over total assets. SGROW is percentage of sales growth. LEVERAGE is total debt over total assets. TANGIBLE is tangible assets as a percentage of total assets. All financial variables are obtained from Compustat and measured at the end of the year of the restatement filing. All continuous variables are winzorized at 1% and 99%. Standard errors are clustered at the industry level. *, **, *** indicate 2-sided significance levels of 10%, 5%, and 1%.

Dependent Variable	(1) TAKEOVER (N=4536)			(2) PUB (N=4536)			(3) NONPUB (N=4536)		
	Estimate	χ^2	P-value	Estimate	χ^2	P-value	Estimate	χ^2	P-value
Intercept	-2.89	68.92***	0.00	-3.76	105.12***	0.00	-3.38	24.62***	0.00
RESTATE	-0.57	19.01***	0.00	-0.49	10.96***	0.00	-0.64	7.49***	0.01
LOGMV	0.03	0.43	0.51	0.11	3.74**	0.05	-0.10	2.45	0.12
Q	-0.12	3.78**	0.05	-0.11	2.56	0.11	-0.28	4.34**	0.04
ROA	0.02	0.00	0.97	-0.82	4.85**	0.03	3.42	5.65**	0.02
SGROW	-0.63	12.86***	0.00	-0.40	6.40***	0.01	-1.42	22.58***	0.00
LEVERAGE	-1.03	6.63***	0.01	-1.54	10.35***	0.00	-0.28	0.16	0.69
TANGIBLE	0.17	0.34	0.56	-0.01	0.00	0.97	0.19	0.15	0.70
Year Dummies	Yes			Yes			Yes		
R^2	1.25%			0.84%			1.12%		

Table 4: Logistic Regression Tests of Takeover Likelihood: Additional Analysis

This table is based on restating and restating firms matched on industry (2-digit SIC code) and size. Panels A and B have 4,536 and 3,892 observations during 2001-2008 respectively. Panel C has 3,240 observations during 2004-2008. TAKEOVER equals to 1 if the firm receives a takeover bid in the next year, and 0 otherwise. PUB equals to 1 if the firm receives a takeover bid from a public firm in the next year, and 0 otherwise. NONPUB equals to 1 if the firm receives a takeover bid from a non-public firm in the next year, and 0 otherwise. RESTATE equals to 1 if the firm filed income-decreasing restatement in the year, and 0 otherwise. LITI equals to 1 if the firm is subject to litigation within one year prior to the filing date, and 0 otherwise. RET is abnormal return over the one year prior to the filing date. WEAK equals to 1 if the firm files an ineffective report on internal control over financial reporting in the year of the restatement filing, and 0 otherwise. LOGMV is log of market value. Q is Tobin's Q. ROA is operating income before depreciation over total assets. SGROW is percentage of sales growth. LEVERAGE is total debt over total assets. TANGIBLE is tangible assets as a percentage of total assets. All financial variables are obtained from Compustat and measured at the end of the year of the restatement filing. All continuous variables are winzorized at 1% and 99%. Standard errors are clustered at the industry level. *, **, *** indicate 2-sided significance levels of 10%, 5%, and 1%.

Panel A: Effects of Litigation

Dependent Variable	(1) TAKEOVER (N=4536)			(2) PUB (N=4536)			(3) NONPUB (N=4536)		
	Estimate	χ^2	P-value	Estimate	χ^2	P-value	Estimate	χ^2	P-value
Intercept	-2.89	69.26	0.00	-3.76	102.54	0.00	-3.39	25.11	0.00
RESTATE	-0.54	16.36	0.00	-0.43	8.22	0.00	-0.66	7.30	0.01
LITI	0.18	0.20	0.66	0.07	0.02	0.88	0.32	0.31	0.58
RESTATE*LITI	-0.86	1.72	0.19	-13.90	389.01	0.00	0.25	0.15	0.70
LOGMV	0.03	0.43	0.51	0.12	3.89	0.05	-0.11	2.72	0.10
Q	-0.12	3.72	0.05	-0.11	2.63	0.10	-0.28	4.32	0.04
ROA	0.02	0.00	0.96	-0.83	4.72	0.03	3.44	5.92	0.01
SGROW	-0.64	12.84	0.00	-0.41	6.35	0.01	-1.41	22.28	0.00
LEVERAGE	-1.03	6.65	0.01	-1.55	10.41	0.00	-0.29	0.17	0.68
TANGIBLE	0.17	0.33	0.57	-0.03	0.01	0.93	0.21	0.19	0.66
Year Dummies	Yes			Yes			Yes		
R^2	1.27%			0.96%			1.13%		

Panel B: Effects of Prior Returns

Dependent Variable	(1) TAKEOVER (N=3892)			(2) PUB (N=3892)			(3) NONPUB (N=3892)		
	Estimate	χ^2	P-value	Estimate	χ^2	P-value	Estimate	χ^2	P-value
Intercept	-2.71	50.64	0.00	-3.70	90.26	0.00	-3.07	17.64	0.00
RESTATE	-0.61	17.50	0.00	-0.56	12.06	0.00	-0.62	6.59	0.01
RET	0.00	0.00	0.98	-0.02	0.02	0.88	0.04	0.03	0.87
RESTATE*RET	-0.28	1.76	0.18	-0.20	0.57	0.45	-0.46	0.77	0.38
LOGMV	-0.01	0.07	0.79	0.09	1.49	0.22	-0.16	3.76	0.05
Q	-0.09	1.91	0.17	-0.08	0.94	0.33	-0.28	3.08	0.08
ROA	-0.09	0.04	0.85	-1.04	3.81	0.05	3.68	5.79	0.02
SGROW	-0.68	14.45	0.00	-0.39	5.57	0.02	-1.62	22.33	0.00
LEVERAGE	-0.86	3.76	0.05	-1.37	8.02	0.00	-0.22	0.08	0.78
TANGIBLE	0.32	1.10	0.30	0.17	0.16	0.69	0.27	0.34	0.56
Year Dummies	Yes			Yes			Yes		
R^2	1.31%			0.90%			1.25%		

Panel C: Effects of Internal Control Weaknesses

Dependent Variable	(1) TAKEOVER (N=3240)			(2) PUB (N=3240)			(3) NONPUB (N=3240)		
	Estimate	χ^2	P-value	Estimate	χ^2	P-value	Estimate	χ^2	P-value
Intercept	-3.68	68.76	0.00	-4.49	50.01	0.00	-4.27	56.84	0.00
RESTATE	-0.70	12.41	0.00	-0.58	7.53	0.01	-0.85	4.10	0.04
WEAK	-0.03	0.01	0.90	0.05	0.03	0.87	-0.07	0.02	0.89
RESTATE*WEAK	0.16	0.21	0.65	-0.07	0.02	0.88	0.52	0.44	0.51
LOGMV	0.06	1.65	0.20	0.16	6.20	0.01	-0.10	1.67	0.20
Q	-0.12	2.15	0.14	-0.16	3.23	0.07	-0.14	1.04	0.31
ROA	-0.41	0.76	0.38	-1.41	13.50	0.00	4.13	12.67	0.00
SGROW	-0.47	5.25	0.02	-0.25	2.31	0.13	-1.60	13.56	0.00
LEVERAGE	-1.01	4.82	0.03	-1.70	7.71	0.01	0.17	0.05	0.82
TANGIBLE	0.46	1.07	0.30	0.33	0.35	0.55	0.36	0.22	0.64
Year Dummies	Yes			Yes			Yes		
R^2	1.31%			1.06%			1.21%		

Table 5: Descriptive Statistics of the Takeover Sample

This table is based on 3,762 takeover bids during 2002-2009. RESTATE equals to 1 if the target firm filed income-decreasing restatements in the year prior to the bid announcement, and 0 otherwise. LOGMV is log of market value. Q is Tobin's Q. ROA is operating income before depreciation over total assets. SGROW is percentage of sales growth. LEVERAGE is total debt over total assets. TANGIBLE is tangible assets as a percentage of total assets. These variables are for the target firms. They are obtained from Compustat and measured at the end of the year prior to the bid announcements. ALOGMV, AQ, ATANGIBLE, AROA, ALEVERAGE, and ASGROW are measured correspondingly for the acquirer firms. CASH equals to 1 if the bid is all cash payment, and 0 otherwise. DIV equals to 1 if the bidder and the target share the same 2-digit SIC code, and 0 otherwise. PUB equals to 1 if the bidding firm is a public firm, and 0 otherwise. All continuous variables are winzorized at 1% and 99%. *, **, *** indicate 2-sided significance levels of 10%, 5%, and 1% for the difference between the restating targets and the non-restating targets, based on t-tests; for medians for means and Wilcoxon tests for medians.

Panel A: Restating firms (RESTATE=1)

	N	Mean	Median	P25	P75	StdDev
Target Characteristics						
LOGMV	126	5.39	5.52	4.14	6.68	1.65
Q	126	1.57	1.28	1.03	1.70	0.97
ROA	126	0.05	0.08	0.02	0.12	0.18
SGROW	126	0.06***	0.06	-0.04	0.16	0.22
LEVERAGE	126	0.19	0.17	0.00	0.32	0.18
TANGIBLE	126	0.21	0.11	0.04	0.32	0.24
Acquirer Characteristics						
ALOGMV	61	7.39	7.30	6.12	9.58	2.66
AQ	61	1.70*	1.48	1.11	1.92	0.83
AROA	61	0.09	0.10	0.03	0.16	0.15
ASGROW	61	0.15	0.16	0.05	0.24	0.20
ALEVERAGE	61	0.14**	0.12	0.05	0.21	0.13
ATANGIBLE	61	0.19	0.08	0.04	0.24	0.23
Deal Characteristics						
CASH	171	0.51**	1**	0	1	0.50
DIV	171	0.51	1	0	1	0.50
PUB	171	0.57	1	0	1	0.50

Panel B: Non-restating firms (RESTATE=0)

	N	Mean	Median	P25	P75	StdDev
Target Characteristics						
LOGMV	1878	5.31	5.23	3.87	6.79	2.07
Q	1878	1.60	1.27	1.03	1.83	0.99
ROA	1878	0.04	0.07	0.02	0.14	0.20
SGROW	1878	0.14	0.07	-0.03	0.20	0.71
LEVERAGE	1878	0.18	0.13	0.01	0.29	0.19
TANGIBLE	1878	0.20	0.10	0.03	0.30	0.23
Acquirer Characteristics						
ALOGMV	1197	7.49	7.39	5.86	9.15	2.31
AQ	1197	1.90	1.40	1.09	2.21	1.34
AROA	1197	0.08	0.08	0.02	0.16	0.15
ASGROW	1197	0.19	0.12	0.01	0.25	0.47
ALEVERAGE	1197	0.18	0.16	0.05	0.26	0.16
ATANGIBLE	1197	0.15	0.08	0.02	0.19	0.20
Deal Characteristics						
CASH	3591	0.43	0	0	1	0.50
DIV	3591	0.49	0	0	1	0.50
PUB	3591	0.59	1	0	1	0.49

Table 6: Univariate Test of Likelihood to Withdraw

This table is based on 3,762 takeover bids during 2002-2009. The table reports the χ^2 test for the contingent distribution between WITHDRAW and RESTATE. RESTATE equals to 1 if the target firm filed income-decreasing restatements in the year prior to the bid announcement, and 0 otherwise. WITHDRAW equals to 1 if the bid is coded as withdrawal by SDC, and 0 otherwise. *, **, *** indicate 2-sided significance levels of 10%, 5%, and 1% based on the χ^2 test.

	N	WITHDRAW=1	WITHDRAW=0
RESTATE=1	171	37 (21.64%)	134 (78.36%)
RESTATE=0	3591	445 (12.39%)	3146 (87.61%)
χ^2		12.49***	

Table 7: Logistic Regression Test of Likelihood to Withdraw

This table is based on 2,004 takeover bids with sufficient target financial information during 2002-2009. The dependent variable is WITHDARW, which equals to 1 if the bid is coded as withdrawal by SDC, and 0 otherwise. RESTATE equals to 1 if the target firm filed income-decreasing restatements in the year prior to the bid announcement, and 0 otherwise. LOGMV is log of market value. Q is Tobin's Q. ROA is operating income before depreciation over total assets. SGROW is percentage of sales growth. TANGIBLE is tangible assets as a percentage of total assets. LEVERAGE is total debt over total assets. These variables are for the target firms, measured as of the year prior to the bid announcements. ALOGMV, AQ, AROA, ASGROW, ALEVERAGE, and ATANGIBLE are measured correspondingly for the acquirer firms. CASH equals to 1 if the bid is all cash payment, and 0 otherwise. DIV equals to 1 if the bidder and the target share the same 2-digit SIC code, and 0 otherwise. PUB equals to 1 if the bidding firm is a public firm, and 0 otherwise. All continuous variables are winzorized at 1% and 99%. Standard errors are clustered at the industry level. *, **, *** indicate 2-sided significance levels of 10%, 5%, and 1% respectively.

	(1) N=2004			(2) N=2004			(3) N=860		
	Estimate	χ^2	P-value	Estimate	χ^2	P-value	Estimate	χ^2	P-value
INTERCEPT	-1.48	16.08***	0.00	-1.63	15.52***	0.00	-1.72	7.20***	0.01
RESTATE	0.58	5.67**	0.02	0.59	5.82**	0.02	0.89	3.82**	0.05
LOGMV	-0.03	0.43	0.51	0.01	0.03	0.87	0.48	11.49***	0.00
Q	-0.17	2.94*	0.09	-0.13	2.18	0.14	-0.08	0.56	0.45
ROA	0.73	2.35	0.13	0.49	1.16	0.28	0.37	0.16	0.69
SGROW	0.08	1.61	0.20	0.09	2.8*	0.09	0.19	4.26	0.04
LEVERAGE	-0.76	4.41**	0.04	-0.82	5.40**	0.02	-1.78	6.64	0.01
TANGIBLE	1.13	6.07***	0.01	1.00	7.87***	0.01	0.74	0.73	0.39
CASH				0.27	2.61	0.11	0.04	0.03**	0.87
DIV				0.22	2.54	0.11	0.09	0.10*	0.75
PUB				-0.48	13.31***	0.00			
ALOGMV							-0.54	40.03***	0.00
AQ							0.15	2.50	0.11
AROA							0.62	0.90	0.34
ASGROW							-0.28	2.47	0.12
ALEVERAGE							2.42	9.36***	0.00
ATANGIBLE							0.26	0.07	0.80
Year Dummies	Yes			Yes			Yes		
R^2	2.59%			3.92%			8.87%		

Table 8: Univariate Tests of Ratios of Takeover Offer Prices to Fundamentals

This table is based on 3,762 takeover bids during 2002-2009. The ratios are obtained from SDC and winzorized at 1% and 99%. Deal values are excluding assumed liabilities. RESTATE equals to 1 if the target firm filed income-decreasing restatements in the year prior to the bid announcement, and 0 otherwise. *, **, *** indicate 2-sided significance levels of 10%, 5%, and 1% for the difference between the restating firms and the non-restating firms, based on t-tests for means and Wilcoxon tests for medians.

Panel A: Restating firms (RESTATE=1)

Variable	N	Mean	Median	P25	P75	StdDev
Deal Value / EBITDA	107	14.93	9.17*	6.15	16.32	24.76
Deal Value / Sales	145	1.76***	1.18***	0.56	2.49	1.71
Offer Price / Book Value	131	3.09	2.19	1.38	3.33	4.42
Offer Price / EPS	79	53.79	24.90	18.25	42.08	89.68

Panel B: Non-Restating firms (RESTATE=0)

Variable	N	Mean	Median	P25	P75	StdDev
Deal Value / EBITDA	1806	19.35	11.15	6.68	18.12	34.76
Deal Value / Sales	2600	3.61	1.71	0.69	3.47	9.22
Offer Price / Book Value	2358	3.51	2.30	1.43	3.57	4.85
Offer Price / EPS	1572	45.08	24.40	17.25	39.23	74.91

Table 9: Regression Tests of Ratios of Takeover Offer Prices to Fundamentals

This table is based on 2,004 takeover bids with sufficient target financial information during 2002-2009. The ratios, indicated in the heading of each panel, are obtained from SDC. Deal values are excluding assumed liabilities. RESTATE equals to 1 if the target firm filed income-decreasing restatements in the year prior to the bid announcement, and 0 otherwise. LOGMV is log of market value. Q is Tobin's Q. ROA is operating income before depreciation over total assets. SGROW is percentage of sales growth. LEVERAGE is total debt over total assets. TANGIBLE is tangible assets as a percentage of total assets. These variables are for the target firms, measured as of the year prior to the bid announcements. ALOGMV, AQ, AROA, ASGROW, ALEVERAGE, and ATANGIBLE are measured correspondingly for the acquirer firms. CASH equals to 1 if the bid is all cash, and 0 otherwise. DIV equals to 1 if the bidder and the target share the same 2-digit SIC code, and 0 otherwise. PUB equals to 1 if the bidding firm is a public firm, and 0 otherwise. All continuous variables are winzorized at 1% and 99%. Standard errors are clustered at the industry level. *, **, *** indicate 2-sided significance levels of 10%, 5%, and 1%.

Panel A: Dependent variable: Deal Value / EBITDA

	(1) N=1346			(2) N=1346			(3) N=620		
	Estimate	t-stat	P-value	Estimate	t-stat	P-value	Estimate	t-stat	P-value
Intercept	12.12	2.54***	0.01	8.93	2.10**	0.04	2.52	0.44	0.66
RESTATE	-3.46	-2.34**	0.02	-3.14	-2.15**	0.04	-1.38	-0.57	0.57
LOGMV	-0.01	-0.03	0.98	0.11	0.24	0.81	-1.23	-1.26	0.21
Q	14.22	7.43***	0.00	13.99	7.16***	0.00	13.13	4.95***	0.00
ROA	-128.18	-4.43***	0.00	-129.82	-4.59***	0.00	-170.20	-6.41	0.00
SGROW	0.47	0.43	0.67	0.81	0.72	0.47	0.57	0.25	0.81
LEVERAGE	-18.15	-2.28**	0.03	-17.52	-2.44**	0.02	-28.11	-2.66***	0.01
TANGIBLE	-2.65	-0.58	0.56	-3.11	-0.75	0.46	-0.96	-0.12	0.90
CASH				6.39	2.69***	0.01	6.76	3.34***	0.00
DIV				-3.00	-1.71*	0.09	-1.50	-0.55	0.59
PUB				1.35	0.94	0.35			
ALOGMV							2.00	1.23	0.23
AQ							1.93	1.25	0.22
AROA							5.03	0.52	0.61
ASGROW							6.12	3.03***	0.00
ALEVERAGE							-14.98	-1.80*	0.08
ATANGIBLE							15.22	1.98**	0.05
Year Dummies	Yes			Yes			Yes		
R^2	22.10%			22.92%			29.44%		

Panel B: Dependent variable: Deal Value / Sales

	(1) N=1797			(2) N=1797			(3) 819		
	Estimate	t-stat	P-value	Estimate	t-stat	P-value	Estimate	t-stat	P-value
Intercept	-0.49	-0.68	0.50	-0.09	-0.12	0.90	-3.87	-1.28	0.21
RESTATE	-1.12	-2.17**	0.03	-1.08	-2.31**	0.02	-1.31	-2.27**	0.03
LOGMV	0.37	3.62***	0.00	0.31	3.60***	0.00	0.24	1.53	0.13
Q	1.39	5.68***	0.00	1.37	5.42***	0.00	1.10	4.31***	0.00
ROA	-8.30	-2.19**	0.03	-7.80	-2.17**	0.03	-5.70	-2.05**	0.05
SGROW	1.19	1.50	0.14	1.17	1.50	0.14	-0.75	-0.72	0.47
LEVERAGE	-2.08	-2.75***	0.01	-1.98	-2.82***	0.01	-4.83	-2.48**	0.02
TANGIBLE	-0.39	-0.38	0.70	-0.13	-0.15	0.88	-4.69	-1.57	0.12
CASH				-0.50	-1.85*	0.07	-0.43	-1.64	0.11
DIV				-0.56	-1.35	0.18	-0.88	-1.56	0.12
PUB				0.57	1.99**	0.05			
ALOGMV							0.52	2.02**	0.05
AQ							0.86	1.19	0.24
AROA							-16.01	-1.50	0.14
ASGROW							2.71	1.70*	0.09
ALEVERAGE							1.00	0.76	0.45
ATANGIBLE							8.17	1.64	0.11
Year Dummies	Yes			Yes			Yes		
R^2	12.20%			12.85%			17.60%		

Panel C: Dependent variable: Offer Price / Book Value

	(1) N=1752			(2) N=1752			(3) 810		
	Estimate	t-stat	P-value	Estimate	t-stat	P-value	Estimate	t-stat	P-value
Intercept	-0.64	-1.33	0.19	-1.00	-1.64	0.11	-0.92	-1.34	0.19
RESTATE	-0.11	-0.40	0.69	-0.11	-0.41	0.69	0.10	0.28	0.78
LOGMV	-0.04	-0.92	0.36	-0.06	-1.27	0.21	-0.33	-4.52***	0.00
Q	2.32	12.07***	0.00	2.29	12.04***	0.00	2.06	13.14***	0.00
ROA	-1.42	-2.51***	0.01	-1.39	-2.32**	0.02	-1.39	-3.54***	0.00
SGROW	-0.03	-0.69	0.49	-0.04	-0.86	0.39	0.04	0.32	0.75
LEVERAGE	4.36	3.31***	0.00	4.41	3.31***	0.00	5.28	3.82***	0.00
TANGIBLE	-0.57	-1.22	0.23	-0.46	-0.97	0.34	0.47	0.41	0.68
CASH				0.09	0.53	0.60	-0.12	-0.68	0.50
DIV				0.12	1.00	0.32	0.17	0.70	0.48
PUB				0.48	2.94***	0.00			
ALOGMV							0.26	5.67***	0.00
AQ							-0.08	-1.20	0.24
AROA							2.60	3.85***	0.00
ASGROW							0.44	1.61	0.11
ALEVERAGE							-0.31	-0.34	0.74
ATANGIBLE							-0.41	-0.40	0.69
Year Dummies	Yes			Yes			Yes		
R^2	36.62%			36.93%			39.32%		

Panel D: Dependent variable: Offer Price / EPS

	(1) N=1215			(2) N=1215			(3) 572		
	Estimate	t-stat	P-value	Estimate	t-stat	P-value	Estimate	t-stat	P-value
Intercept	40.98	2.57***	0.01	35.86	2.57***	0.01	7.00	0.70	0.49
RESTATE	13.31	1.10	0.27	12.85	1.02	0.31	51.12	1.80*	0.08
LOGMV	-1.66	-0.94	0.35	-1.02	-0.58	0.56	-0.21	-0.17	0.87
Q	17.25	4.55***	0.00	17.25	4.53***	0.00	12.77	2.21**	0.03
ROA	-185.31	-3.88***	0.00	-195.84	-4.23***	0.00	-225.49	-2.73***	0.01
SGROW	-3.05	-2.02**	0.05	-2.43	-1.77*	0.08	23.79	3.04***	0.00
LEVERAGE	-2.73	-0.11	0.91	-3.39	-0.14	0.89	-30.37	-2.56***	0.01
TANGIBLE	38.67	2.30**	0.02	36.91	2.42**	0.02	75.35	2.08**	0.04
CASH				11.23	2.13**	0.04	11.17	2.07	0.04
DIV				-0.76	-0.20	0.84	6.08	1.10	0.28
PUB				-2.40	-0.40	0.69			
ALOGMV							0.81	0.60	0.55
AQ							10.54	2.45**	0.02
AROA							14.48	0.26	0.79
ASGROW							8.55	0.90	0.37
ALEVERAGE							6.16	0.24	0.81
ATANGIBLE							-39.38	-1.49	0.14
Year Dummies	Yes			Yes			Yes		
R^2	5.56%			6.19%			20.64%		

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RESEARCH

RESEARCH INTERESTS

Financial Accounting and Reporting; Role of Financial Analysts; Options Market; Securities Regulations.

PUBLICATIONS AND ACCEPTED PAPERS

Analysts' Earnings Forecast, Recommendation and Target Price Revisions (with Ronen Feldman and Joshua Livant). Accepted for publication in *Journal of Portfolio Management.*

Cover Me: Managers' Responses to Decreases in Analyst Coverage (with Divya Anantharaman). *The Accounting Review*, Vol. 86, No. 6, November 2011.

Analysts' Responsiveness and the Post Earnings Announcement Drift. *Journal of Accounting & Economics*, Vol. 46, No. 1, September 2008.

Revenue Recognition Timing and Attributes of Reported Revenue: The Case of Software Industry's Adoption of SOP 91-1. *Journal of Accounting & Economics*, Vol. 39, No. 3, September 2005.

Regulation FD and the Financial Information Environment: Early Evidence (with Frank Heflin and K.R. Subramanyam). *The Accounting Review*, Vol. 78, No. 1, January 2003.

WORKING PAPERS

Does Investment Efficiency Improve after the Disclosure of Material Weaknesses in Internal Control over Financial Reporting? (with Mei Cheng and Dan Dhaliwal). To be revised and resubmitted for 5th round review at *Journal of Accounting & Economics*.

Option Prices Leading Equity Prices: Do Option Traders Have an Information Advantage? (with Wen Jin and Joshua Livnat). Presented at the 2011 *Journal of Accounting Research* Conference; under 3nd round review at *Journal of Accounting Research*.

Information Interpretation or Information Discovery: Which Role of Analysts Do Investors Value More? (with Joshua Livnat). Presented at the 2011 *Review of Accounting Studies* Conference; to be revised and resubmitted for 2nd round review at *Review of Accounting Studies*.

Internal Control over Financial Reporting and Post-IPO Performance. To be revised and resubmitted for 3rd round review at *Contemporary Accounting Research*.

The Economic Consequences of Financial Reporting Quality for the Market for Corporate Control: Evidence from Financial Restatements (with Amir Amel-Zadeh).

Risk Factor Disclosure and Stock Return Synchronicity in the Banking Industry.

Earnings Guidance and Managerial Myopia (with Mei Cheng and K.R. Subramanyam).

Sarbanes-Oxley Act and Insider Trading Around Financial Restatement Announcements (with Oliver Li).

PAPER PRESENTATIONS AND DISCUSSIONS

Conferences

Review of Accounting Studies Conference (2011).

Journal of Accounting Research Conference (2011).

SUFE-NTU-CITYU Accounting Research Camp (2011 Discussant).

Eastern Finance Association Annual Conference (2010).

AAA Annual Meeting (2006, 2007, 2008 discussant, 2009 presenter and discussant).

AAA Financial Accounting and Reporting Section Mid-Year Meeting (2005, 2006, 2009).

Chinese Four School Accounting Conference (2009).

Columbia Burton Workshop (2004, 2008).

USC PhD Alumni Consortium (2008).

Pac Ten Doctoral Consortium (2007 panelist).

Minnesota Empirical Accounting Conference (2007).

New York University Accounting Summer Camp (2005).

Seminars

City University of Hong Kong (2011).

George Washington University (2011).

Hong Kong University of Science and Technology (2011).

Sothern Methodist University (2011).

University of California at Irvine (2003, 2011).

University of Hong Kong (2011).

New York University (2003, 2010).

Ohio State University (2010).

Shanghai JiaoTong University (2007, 2010).

Tsinghua University (2007, 2009, 2010).

University of Illinois at Urbana-Champaign (2003, 2010).

University of Texas at Dallas (2010).

Penn State University (2009).
Washington University in St. Louis (2009).
University of Connecticut (2009).
City University of New York, Baruch (2008).
Cheung Kong Graduate School of Business (2007).
University of Notre Dame (2006).
Columbia University (2003).
Duke University (2003).
Emory University (2003).
Indiana University (2003).
Massachusetts Institute of Technology (2003).
University of California at Berkeley (2003).
University of Iowa (2003).
University of Michigan (2003).
University of Oregon (2003).

INVITED CONFERENCE ATTENDANCE

Center for Accounting Research and Education (CARE) Conference (2006, 2007, 2011).
Minnesota Empirical Accounting Conference (2004, 2010).
University of Toronto Accounting Research Conference (2008).
Review of Accounting Studies Conference (2005).
American Accounting Association New Faculty Consortium (2004).
American Accounting Association Doctoral Consortium (2002).
FASB Doctoral Student Program (2002).
BMAS Conference on Standards-Based Research in Business Measurement, University of Texas, Austin (2002).
Pac Ten Doctoral Consortium (2000).

SELECT PRESS AND OTHER CITATION OF RESEARCH

Bloomberg.com	April, 2008.
Commission on the Regulation of U.S. Capital Markets in the 21st Century: Report and Recommendations (U.S. Chamber of Commerce)	March, 2007.
The Economist	April 29, 2006.
Business Week	August 13, 2001.
Barron's	July 30, 2001.
Bloomberg.com	July 25, 2001.
Los Angeles Times	July 24, 2001 (Feature Article).
Reuters	July 24, 2001 (Feature Article).
The Wall Street Journal	July 24, 2001 (Feature Article).

TEACHING

TEACHING INTERESTS

Financial Accounting; Financial Statement Analysis.

TEACHING EXPERIENCE

Financial Accounting (Columbia, MBA Core Course, 2004, 2007-2011).
Empirical Research in Financial Accounting (Columbia, Ph.D. Course, 2006, 2008, 2009).
Financial Analysis (Columbia, Executive Education Program, 2005, 2007-2011).
Core Concepts of Managerial Accounting (USC, Undergraduate Course, 2002).

HONORS AND AWARDS

Teaching Excellence Award in the MBA Program, Columbia Business School, 2009.
SEC and Financial Reporting Institute Fellowship, 2002.
James S. Ford/Commerce Associates Doctoral Fellowship, 2001.
Doctoral Fellowship, University of Southern California, 1998-2003.
HongKong and Shanghai Banking Corporation (HSBC) Fellowship, 1997.
Price Waterhouse Fellowship, 1996.

SERVICE

AD HOC REVIEWER

AAA Annual Meeting; AAA Financial Accounting and Reporting Section Mid-Year Meeting; The Accounting Review; Contemporary Accounting Research; Journal of Accounting and Economics; Journal of Accounting and Public Policy; Review of Accounting Studies; Journal of Financial Research; Financial Analysts Journal.

PH.D. DISSERTATION COMMITTEE

Helen Hurwitz (2011, placement--St. Louis University)
Divya Anantharaman (2009, placement--Rutgers, The State University of New Jersey).
Woo-Jin Chang (2009, placement--INSEAD).
Feng Chen (2008, placement--University of Toronto).

OTHER

Financial Accounting MBA Core Course Coordinator (2006-2011).
Columbia Ph.D. Comprehensive Exams (2004, 2006-2010).
MBA Committee (2006-2008).
Accounting Search Committee (2003-2005, 2007).
Finance Search Committee (2005-2006).
Co-organizer, Baruch/Columbia/NYU/Rutgers 4 Schools Conference (2005).
Co-organizer for Burton Workshop, Columbia Business School (2004).
Co-organizer for Seminar Series (2004).