

Have Accounting Standards Affected Deal Structures in Mergers and Acquisitions? Evidence from Earnouts

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October 27, 2011

We are grateful for the research assistance of Cami Gatton, Leah Geissman, Kaiser Mock, Teresa Wojnarowski, and Ye Zhang, and the financial support of the Broad and Fisher Colleges of Business for research support. We are especially grateful to Jim Dondero and Jay Wachowicz for helping us understand the importance of the changes to SFAS 141(R) for valuation professionals. We thank Anne Beatty, Marcus Burger, Michael Jung, Wayne Guay, Derek Oler, Mitch Oler, K. Ramesh, Ro Verrecchia, and Clare Wang for their helpful suggestions and comments. We also thank workshop participants at Michigan State University and the BYU Accounting Research Symposium for helpful comments.

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Abstract

In this study we examine the question: Have new accounting standards for mergers and acquisitions affected whether and how firms use earnouts? Earnouts are payments to target shareholders in an acquisition contingent on the achievement of certain future performance criteria. Subsequent to the issuance of SFAS 141(R) which requires recognition of the earnout on acquiring firms' financial statements, we hypothesize and find significant differences in the use and size of earnouts. Specifically, we find that public firms employ earnouts less frequently in acquisitions completed under the new standard. We also find that after SFAS 141(R), public firms use smaller earnouts when acquiring a firm from an industry with greater earnings volatility and when the public acquirer has a history of reporting predictable earnings. Finally, we find under SFAS 141(R), larger earnouts yield smaller return responses and less active trading at the time of deal announcement, consistent with investors having less complete information prior to the release of required SFAS 141(R) disclosures.

1. Introduction

When there is significant uncertainty surrounding the future prospects of an acquisition target's business, acquirers often employ "earnouts" to mitigate the risk of overpayment (Kohers and Ang 2000; Datar et al. 2001; Cain et al. 2011).¹ Under conditions of economic uncertainty, employing an earnout serves as an extremely useful tool to facilitate mergers and acquisitions (M&A). However, recent changes in financial reporting standards have significantly altered the financial reporting landscape for firms employing earnouts in M&A transactions. Effective for firms with fiscal years beginning after December 15, 2008, SFAS 141(R) now requires (1) recognition of the expected earnout liability at fair value, and (2) periodic re-measurement of the liability resulting in gain or loss recognition in post-acquisition earnings (Financial Accounting Standards Board 2007).² Under prior financial reporting standards, no liability recognition was required. Furthermore, earnouts had no income effect as they were recorded as increases in goodwill when paid. The new recognition and re-measurement requirements for earnouts create unpredictable volatility in acquirers' post-acquisition earnings (KPMG, 2008; PriceWaterhouseCoopers, 2010a).

In this paper, we investigate whether and how changes brought about by SFAS 141(R) have affected earnout contracts in M&A. More specifically, we examine whether firms with greater incentive to report predictable earnings are less likely to use earnouts in M&A transactions after SFAS 141(R). Additionally, we investigate whether firms using earnouts

¹ In M&A transactions involving an earnout, payments to the target firm shareholders consist of two components: first, an upfront fixed payment and second, additional future payments contingent upon some observable measure of performance. Similarly, contingent consideration arrangements are used requiring an additional payment conditional on the resolution of some uncertain future event (e.g. obtaining regulatory approval to market a new drug). Throughout the paper, we refer to both types of contingent payment arrangements as "earnouts".

² The FASB and IASB jointly issued SFAS 141(R) and IFRS 3(R), superseding SFAS 141 and IFRS 3. These changes in financial reporting for U.S. GAAP have been codified under ASC Topic 805, Business Combinations.

under SFAS 141(R) reduce the size of the potential future earnout payments as an alternative mechanism to mitigate the financial statement effects of accounting for earnouts. Under the new standard, gain and loss recognition can also be avoided for certain types of equity-based earnout payments.³ Thus, we also examine whether these types of equity-based earnouts have become increasingly prevalent under SFAS 141(R).

Studying changes in the use of earnout contracts in M&A is important for several reasons. An extensive stream of literature documents that, on average, acquirers experience a decline in firm value as a result of overpayment for acquisitions (Roll, 1986; Jensen, 1986; Bruner, 2002; Harford et al., 2011). Earnouts represent a contracting mechanism designed to mitigate the risk of overpayment in the presence of information asymmetries between target and acquiring firms (Kohers and Ang, 2000; Datar et al., 2001; Reuer et al., 2004; Cain et al., 2011). To the extent that changes in financial reporting for M&A transactions reduce the use of earnouts by acquirers, the risk of overpayment may increase.

Our study also highlights a new and important factor influencing the design of contracts in M&A transactions. Accounting for earnout contracts has distinctly different financial statement effects after SFAS 141(R) and acquirer financial reporting concerns should be considered in a post-SFAS 141(R) landscape. All else equal, re-measurement of earnout liabilities contributes to less predictable post-acquisition earnings under SFAS 141(R). Thus, acquirers seeking to report predictable post-acquisition earnings may avoid using earnouts under the new financial reporting regime (PriceWaterhouseCoopers, 2010b).

³ Earnouts are not subject to re-measurement and gain or loss recognition under SFAS 141(R) if two conditions are met; (1) the earnout is settled in a fixed number of the acquirer's shares, and (2) the performance benchmark is based solely on the future performance of the firm. If the earnout depends on other factors such as regulatory approval, beating a market-based performance benchmark, employee retention, etc. the earnout liability must be re-measured each reporting period with gains and losses recognized in income.

To capture differences in the incentive to report predictable earnings across the firms in our sample, we split acquiring firms based on their ownership structure – public and private. Prior literature suggests, various factors contribute to greater incentive to report predictable earnings patterns in public firms (Bartov, 1993; DeAngelo et al., 1996; Barth et al., 1999; Beatty et al., 2002; Graham et al., 2005; Petrovits, 2006). In addition, public firms face greater external scrutiny from informational intermediaries and diverse groups of widely dispersed shareholders vis-à-vis private firms. Specifically, public firms are required to disseminate financial information on a periodic basis (e.g. quarterly and annual earnings reports, unaudited quarterly financial statements, and audited annual financial statements), producing a series of publicly observable signals about firm performance over time. This external scrutiny also contributes to greater incentive for public firms to report predictable earnings to reduce noise in publicly observable measures of performance.

In contrast, private firms do not have similar public financial reporting requirements nor do they have a market-driven incentive to report predictable earnings. Yet, private firms play a significant role in the M&A market. Barger et al. (2008) show that private acquiring firms account for roughly 30 to 40 percent of deal volume between 2000 and 2005, the majority of which is attributed to private-equity bidders. Boone and Mulherin (2008) also show that private bidders account for about half of the bids received in both seller-initiated auction deals and negotiated deals.⁴ In our sample of acquisitions completed between 2007 and 2010, private firms play a major role, accounting for nearly 45 percent of deal volume. Splitting our sample based on acquiring firm ownership not only captures important cross-sectional variation in the

⁴ See pg. 4 Table 1 in Boone and Mulherin (2008).

incentive to report predictable earnings, but also allows us to understand differences in the behavior of groups of firms competing in the market for corporate control.

We hypothesize that firms with greater incentive to report predictable earnings are less likely to employ earnouts in M&A deals completed under SFAS 141(R). Using a sample of 7,884 U.S. M&A transactions completed over the period from 2007 – 2010, we find evidence consistent with this hypothesis. Specifically, we find public acquirers are less likely to use earnouts after SFAS 141(R). We also hypothesize and find potential future earnout payments for public acquirers are smaller post-SFAS 141(R); even more so for public acquirers with greater incentive to report predictable earnings, and in deals involving target firms operating in industries with more volatile earnings. Finally, we hypothesize and find firms with greater incentive to report predictable earnings are more likely to structure contracts to include equity-based earnout payments that meet the criteria to avoid gain or loss recognition under SFAS 141(R). Taken together, these results suggest the financial reporting incentive to report predictable earnings plays an important role in acquirers' decisions to employ earnouts under SFAS 141(R).

In additional analyses, we find that investors react differently to announcements of earnout deals under the new financial reporting regime. Although SEC Form 8-K disclosure requirements for announcement of M&A transactions did not change, investors are now aware that new information about earnout liabilities will be disclosed subsequently in acquirers' financial statements.⁵ We find abnormal return variances and trading volumes surrounding the

⁵ Investors could also be aware that earnouts will affect liabilities and earnings that will be reported in financial statements for future periods, but may be unable to predict the effect at the time of deal announcement.

deal announcement to be lower in earnout deals following SFAS 141(R), consistent with greater investor uncertainty and less active trading at the time of deal announcement.

This research has two main contributions to the literature. First, we contribute to the literature documenting how acquirer incentives affect M&A transaction structure. Earnouts are a contractual mechanism used in M&A to mitigate the risk of overpayment when the acquirer faces some significant uncertainty about the target's business. Some acquirers may trade-off the short-term benefits associated with the ability to report predictable earnings and become increasingly prone to overpayment. Prior literature suggests management incentives heavily influenced firms to structure transactions in order to use the "pooling of interests" method of accounting at the expense of outside shareholders (Robinson and Shane, 1990; Aboody et al., 2000; Weber, 2004). We add to this literature by documenting how the incentive to report predictable earnings influences M&A deal structure in a new way under current financial reporting standards.

Second, we add new evidence to the literature documenting the factors affecting the likelihood and magnitude of earnouts in M&A deals. Prior literature shows that acquirers are more likely to use earnout contracts in deals involving targets with greater information asymmetries (Datar et al., 2001; Reuer et al., 2004). More recently, Cain et al. (2011) find support for the view that earnout contracts are designed to mitigate problems associated with valuation uncertainty about the target. Specifically, they find that earnout size is positively associated with proxies for the target valuation uncertainty. Similarly, we find that earnout size is positively associated with proxies for the uncertainty about target value, but under SFAS 141(R) acquirers reduce the size of earnouts when (1) they historically have reported more predictable earnings, and (2) target industry characteristics present a risk of earnings volatility to

their post-acquisition firm earnings. While prior research on the use and size of earnouts focuses primarily on the informational characteristics of *target* firms, our paper is the first to demonstrate that *acquiring* firms' financial reporting incentives can also affect these decisions.

The remainder of the paper is organized as follows: in Section 2, we explain the hypotheses and research design. In Section 3, we discuss our sample selection process and present descriptive statistics on the earnout contracts before and after SFAS 141(R). We present our main results in Section 4 and our additional analyses of the market's reaction to earnout deal announcements in Section 5. Section 6 concludes the study.

2. Hypotheses development and research design

2.1. Changes in the use and size of earnouts

An earnout is defined as a contract calling for a contingent future payment to target shareholders upon achievement of certain criteria over a specified period following the transaction closing date. These criteria can range from meeting targeted numbers for ROA to the performance of the acquirer's stock. They can also be based on non-financial objectives such as obtaining FDA approval to market a new drug or continued employment of key executives.⁶ The FASB significantly changed accounting for earnouts when issuing SFAS 141(R). Under the prior standard, there was no recognition on the acquirer's financial statements of expected earnout payments at the time of the acquisition, and earnouts were recognized as an increase in goodwill at the time they were ultimately paid. Effective for fiscal years beginning after December 15, 2008, earnouts must be measured at fair value, recognized as a liability on the acquirer's balance sheet, and then re-measured each reporting period, resulting in gain or loss

⁶ Cain et al. (2011) find earnouts are most commonly based on cash flow (32.1%), sales (31.5%), and non-financial (12.2%) performance benchmarks for deals completed between 1994 and 2003.

recognition on the acquirer's income statement. If an earnout payment is actually made, any difference between the payment and the liability also results in gain or loss recognition. If no payment is made, the liability is written-off resulting in a gain. A summary of the changes in accounting for earnouts is shown in Figure 1.

INSERT FIGURE 1 ABOUT HERE

Around the time of the issuance of SFAS 141(R), corporate executives and other M&A professionals expressed concern that the new accounting requirements for earnouts could contribute to unpredictable volatility in post-acquisition earnings. In a newsletter released by KPMG's Transaction Services group, the firm points out that the new standard will "[c]reate significant risk of postcombination earnings volatility, which may often be difficult to predict and model when providing earnings guidance."⁷ Along these lines, PriceWaterhouseCoopers (2010a) states that SFAS 141(R) may "introduce a level of volatility in the buyer's earnings in post acquisition periods that results from the earnout arrangement."

Similar concerns are expressed in acquirers' post-SFAS 141(R) footnotes, for which we provide several examples in the Appendix. In 2009, Endo Pharmaceuticals Holdings Inc. management decreased their assessment of the probability to make future contingent consideration payments resulting in a gain of \$128.1 million. They state, that "[c]hanges in any of our assumptions may result in a further volatility to the estimated fair value of the acquisition-related contingent consideration...[and] could materially impact our results of operations in future periods." Similarly, Riverbed Technology, Inc. disclosed "[A] change in fair value of the acquisition-related contingent consideration could have a material effect on the statement of operations and financial position in the period of the change in estimate."

⁷ See KPMG (2008) pg. 2.

The ability to report predictable earnings represents one particularly important financial reporting objective. In a survey of more than 400 executives, Graham et al. (2005) report, “[p]redictability of earnings is an over-arching concern among CFOs” and the “executives believe that less predictable earnings...command a risk premium in the market.” These views are consistent with empirical research suggesting predictable earnings are priced at a premium (DeAngelo et al., 1996; Barth et al., 1999). Firms have discretion over the structure of acquisition contracts and incentives to structure them to meet financial reporting objectives (Robinson and Shane 1990; Aboody et al., 2000; Weber, 2004). Specifically, we posit acquirers will avoid earnouts if they are concerned about earnings volatility. As noted in another PriceWaterhouseCoopers (2010b) newsletter, “[T]he simplest way to limit volatility is to eliminate...earn-outs.” Therefore, we hypothesize the following:

H1: Under SFAS 141(R), acquirers with greater incentive to report predictable earnings are less likely to use earnouts.

Cain et al. (2011) examine a sample of 990 acquisitions containing earnouts completed between 1994 and 2003 and analyze the specific contractual terms of acquisition agreements that contain an earnout clause. They find support for the view that earnout contracts are designed to mitigate problems associated with valuation uncertainty. Specifically, earnout size is positively associated with proxies for the uncertainty about target firm value and earnout periods are longer when valuation uncertainty is likely to be resolved over a longer period of time. We extend their work by examining whether *acquiring* firms’ financial reporting incentives could also impact the size of earnout contracts post-141(R).

Datar et al. (2001) assert that significant costs associated with earnouts (e.g. increased contractual complexity, administrative costs, and litigation risk) likely affect the earnout contract as well. The potential financial statement effects of SFAS 141(R) on earnings volatility impose

another cost on acquirers using earnouts and this cost arises only for deals completed *after* SFAS 141(R). One way in which acquirers using earnouts can reduce these costs is to reduce the size of the potential earnout payment relative to the total acquisition cost. Therefore, we expect (1) a general decline in earnout size under SFAS 141(R) for public acquirers, and (2) a more pronounced effect for those acquirers with greater incentive to report predictable earnings. This leads to our second hypothesis:

H2: Under SFAS 141(R), acquirers with greater incentive to report predictable earnings will use smaller earnouts.

Cain et al. (2011) document that earnouts are larger when there is more uncertainty regarding target value. We expect that this result is unlikely to change post-141(R) where there is significant target firm value uncertainty. However, in our study we delineate between target firm value uncertainty and target firm earnings volatility. While volatility in target firm earnings can contribute to valuation uncertainty, it also increases volatility in acquirers' post-acquisition earnings. We hypothesize that post-141(R) earnout size will decrease with target firm earnings volatility if acquiring firms are concerned about their ability to produce predictable earnings.

Our third hypothesis is:

H3: Under SFAS 141(R), acquirers with greater incentive to report predictable earnings will use smaller earnouts in deals involving target firms with greater earnings volatility.

Another way to avoid earnings volatility under SFAS 141(R) is to use certain types of equity-based contingent payment arrangements. Specifically, when the acquirer structures an earnout such that the contingent payment is (1) payable in a fixed number of shares, and (2) tied to the acquirer's own post-acquisition performance, the earnout is classified in and reported in stockholders' equity. These types of earnout arrangements, referred to as "equity-classified" earnouts, are not subject to periodic re-measurement. Moreover, no gain or loss recognition is

required when the earnout is settled. PriceWaterhouseCoopers (2010b) suggests that “[e]arn-outs classified as equity instruments... reduce...volatility and may be a more palatable alternative for all parties when compared to cash earn-outs.” Consequently, we expect firms with greater incentive to report predictable earnings will increase the use of equity-based earnouts under SFAS 141(R). This leads to our fourth hypothesis:

H4: Under SFAS 141(R), acquirers with greater incentive to report predictable earnings are more likely to structure earnout contracts to qualify for equity classification.

In summary, we predict that acquirers with greater incentive to report predictable earnings will use relatively fewer and smaller earnouts under SFAS 141(R). In addition, we posit acquirers will be more likely to structure earnouts to qualify for equity classification under SFAS 141(R) as another means to report predictable earnings. There are, however, at least two reasons why we may fail to find evidence consistent with these predictions. First, unverifiable assumptions used in fair value measurement may enable managers to make opportunistic adjustments to earnout liabilities (Ramanna and Watts, 2011). Therefore, acquirers with greater incentive to report predictable earnings may use relatively more and larger earnouts under SFAS 141(R) to increase discretionary accounting flexibility. We point out, however, that this discretion is short-lived. While the initial fair value measurement and periodic re-measurement of earnout liabilities involve unverifiable estimates, the estimate becomes verifiable at the time the earnout liability is ultimately settled.⁸

⁸ It also may appear that the accounting treatment provides an incentive for reporting entities to inflate fair value estimates for earnouts given the potential to record a subsequent gain on the income statement if the earnout is not paid. However, acquirers inflating the fair value of earnout liabilities must also risk (1) the potential adverse impact on debt covenants (unless the debt covenants contain exclusions for contingent consideration arrangements), and (2) future impairment of the excess goodwill recognized on the acquisition date if no earnout payments are made (Thompson and Schnorbus, 2010).

Second, some earnouts may not increase earnings volatility under SFAS 141(R). If the target comes closer to meeting an earnings-based performance hurdle, an acquirer increases the fair value of the earnout liability, and a loss is recognized. This loss recognition could create a hedging mechanism, smoothing the impact of the target firm's earnings included in the acquirer's post-acquisition earnings. While we acknowledge earnout accounting under SFAS 141(R) could result in a hedge against post-acquisition earnings volatility, this effect (1) depends on initial fair value measurement and re-measurement of the earnout liability in prior periods, and (2) will weaken to the extent expected future earnout payments fail to perfectly covary with the target's earnings.

2.2. Research design

To test our first hypothesis that acquirers with greater incentive to report predictable earnings are less likely to use earnouts after SFAS 141(R), we estimate the logistic regression model shown below in equation (1). The left-hand side variable *earnout* is coded one when the consideration for the deal includes an earnout, zero otherwise. The indicator variable *post141R* is coded one when the deal is completed under SFAS 141(R), zero otherwise. The variable *public acquirer* is also an indicator variable coded one when the acquiring firm is a public company, zero otherwise.

$$\begin{aligned}
 Pr(earnout=1) = \text{logit}(& b_0 + b_1 \textit{post141R} + b_2 \textit{public_acquirer} \\
 & + b_3 \textit{post141R} * \textit{public_acquirer} + b_4 \ln(\textit{dealvalue}) \\
 & + b_5 \textit{subsidiary} + b_6 \textit{private} + b_7 \textit{cross-industry} \\
 & + b_8 \ln(\#\textit{acquisitions}) + b_9 \textit{sd_earnings} \\
 & + b_{10} \textit{R\&D/Sales} + b_{11} \#\textit{employees} + b_{12} \textit{MTB} + e) \quad (1)
 \end{aligned}$$

We argue that a stronger incentive to report predictable earnings exists within public firms relative to private firms. This incentive arises from greater scrutiny placed on publicly

reported earnings numbers by external parties such as regulators, information intermediaries and diverse groups of widely dispersed shareholders. In a related stream of literature, several studies document evidence of greater earnings management by public firms relative to private firms (Beatty and Harris, 1999; Beatty et al., 2002). More generally, prior literature demonstrates that public firms take actions to enhance the predictability of earnings (Bartov, 1993; Fudenberg and Tirole, 1995; Arya et al., 1998; Barton, 2001; Graham et al., 2005; Petrovits, 2006).

We include the indicator variable *public_acquirer* to capture the stronger incentive within public firms to report more predictable earnings than private firms.⁹ The interaction term *post141R*public_acquirer* captures differences in firms' incentives to use earnout contracts in M&A deals under SFAS 141(R), representing the variable of interest for our first hypothesis. In order to properly interpret how the interaction between the variables *post141R* and *public_acquirer* affects the probability of an earnout, we estimate the marginal effect for *post141R*public_acquirer* for each observation in the sample (Ai and Norton, 2003; Hoetker, 2007; Wiersma and Bowen, 2009). Finding a negative and significant marginal effect for *post141R*public_acquirer* provides evidence consistent with our hypothesis that acquirers with greater incentive to report predictable earnings are less likely to use earnouts under SFAS 141(R).

In equation (1), we control for other factors shown in the prior literature to be associated with the likelihood that firms will use earnouts. These factors are closely related with the risk of

⁹ The composition of “strategic” versus “financial” acquirers likely differs across public and private firms. Traditionally, strategic buyers are corporations (either public or private) engaged in the same or similar line of business, while financial buyers are private equity groups (PEGs) and individuals. PEGs likely comprise a significantly larger portion of the sample for private acquirers relative to public. Thus, splitting our sample into groups of public and private acquirers also captures how PEGs' incentives in M&A differ (e.g. buy low and exit high) from strategic-public acquirers. Similar to strategic-private acquirers, private-equity financial acquirers do not have financial reporting incentives like a public strategic acquirer.

overpayment by the acquirer. Datar et al. (2001) show that earnouts are less likely in larger deals so we include the variable $\ln(\text{dealvalue})$, defined as the log of the dealvalue reported by SDC. Target firms that are either subsidiaries of public firms or privately held are more likely to be involved in earnout deals (Kohers and Ang 2000; Datar et al. 2001). Therefore we include the indicator variable $\text{subsidiary}(\text{private})$ coded one when the target is a subsidiary of a public firm (a private firm), zero otherwise. Following Datar et al. (2001), we also include the control variables cross-industry and $\ln(\#\text{acquisitions})$. We define cross-industry as an indicator variable equal to one when the target and acquiring firms' 3-digit SIC codes differ, zero otherwise. The variable $\ln(\#\text{acquisitions})$ is defined as the log of the number of acquisitions completed in the target's primary 4-digit SIC in the year of the transaction.

To capture variation in information asymmetry for target firms, prior studies use a variety of industry-level data to proxy for the target's informational characteristics.¹⁰ We include four industry-level measures used throughout the literature constructed using Compustat industry medians in the year of the transaction. First, sd_earnings is defined as the industry median standard deviation of earnings before extraordinary items for all Compustat firms over the three year period prior to the completion of the deal. The second measure, R\&D/Sales , is defined using the industry median ratio of R&D expense to sales. The third measure, $\#\text{employees}$, is the median number of employees within the target's industry. Fourth, MTB , is the industry median market-to-book ratio.

To test our hypotheses regarding earnout size, we estimate Tobit regressions of equation (2) similar to Cain et al. (2011). The dependent variable, earnout_size , is the ratio of the value of

¹⁰ Industry-level data is used due to the prevalence of private target firms in the sample for which no firm-specific financial information is publicly available.

the earnout to the value of the total consideration exchanged in the deal. We include the indicator variable *post141R* in the model to test our hypothesis that following SFAS 141(R), firms with greater incentive to report predictable earnings will decrease the size of the earnouts they employ. The earnout size analysis is performed on only public acquirers using earnouts given the requirement for publicly available financial statement information in equation (2); hence, all acquirers in this sub-sample have greater incentive to avoid the inherent volatility in earnings associated with earnouts after SFAS 141(R). Finding a negative significant coefficient on *post 141R* is consistent with H2.

$$\begin{aligned} \text{earnout_size} = & b_0 + b_1 \text{post141R} + b_2 \text{acquirerEPRED} + b_3 \text{sd_earnings} \\ & + b_4 \text{R\&D/Sales} + b_5 \text{cross-industry} + b_6 \text{dealvalue/acquirerMV} \\ & + b_7 \text{post141R*acquirerEPSVOL} + b_8 \text{post141R*sd_earnings} \\ & + b_9 \text{post141R*R\&D/Sales} + b_{10} \text{post141R*cross-industry} + e \end{aligned} \quad (2)$$

Dichev and Tang (2009) document that earnings volatility reduces earnings predictability and point out that earnings volatility arises from two sources: 1) economic shocks, and 2) the accounting determination of net income. We interact the *post141R* indicator variable with *acquirerEPRED* in the model to test our hypothesis that acquirers with greater incentive to report predictable earnings reduce the size of the earnouts they employ following SFAS 141(R). To construct the variable *acquirerEPRED*, we take the negative of the standard deviation in acquirers' earnings-per-share over the five year period prior to the completion of the deal.¹¹ Consistent with Dichev and Tang (2009), we interpret greater volatility in earnings to indicate earnings are less predictable. Thus, we argue that acquirers historically reporting less volatile earnings are more likely to have stronger incentive to report predictable earnings. Due the

¹¹ We take the negative of the standard deviation of earnings-per-share so that more negative values represent less predictable earnings (Dichev and Tang, 2009).

presence of extreme observations in the data, we then replace the negative of the standard deviation of acquirers' earnings-per-share with its quintile rank. The interaction term $post141R*acquirerEPRED$ captures how the incentive to report more predictable earnings affects $earnout_size$, following the recognition of the earnout liability under SFAS 141(R). Consistent with H2, we expect $post141R*acquirerEPRED$ will be negatively associated with $earnout_size$.¹²

Following Cain et al. (2011), we control for the relative bargaining power between the target and acquirer using the variable $dealvalue/acquirerMV$, defined as the ratio of the value of the deal reported by SDC to the market value of the acquiring firm at the end of the year prior to the deal.¹³ We also control for target firm information asymmetry with the variables $sd_earnings$, $R\&D/Sales$, and $cross-industry$ (as previously defined). Each variable is interacted with $post\ 141R$ in various specifications of the regression.¹⁴ To test our third hypothesis that earnout size will decrease with target firm earnings volatility, we expect the coefficient on the interaction term $post\ 141R*sd_earnings$ to be negative. For the remaining interaction terms proxying for the presence of information asymmetry, we make no signed predictions on whether variation in earnout size is more or less sensitive to these industry characteristics SFAS 141(R).

To test H4, we estimate equation (3) using a logistic regression. The dependent variable, $equity_earnout$, is an indicator variable coded one if (1) the earnout is payable in a fixed number of shares, and (2) tied to the acquirer's post-acquisition performance. To obtain data on earnout

¹² When using the negative of raw standard deviation in earnings-per-share, we find a negative but insignificant association for the interaction term in our earnout size regression which we attribute to the presence of extreme observations in the underlying data.

¹³ As this variable requires acquirer equity market values, equation 2 is estimated including only acquisitions involving public acquirers

¹⁴ Cain et al. (2011) interact industry-level measures of information asymmetry with an indicator variable for 'non-private' targets (e.g. public firms and subsidiaries) to see whether presumably lower information asymmetry for such firms affects earnout size. Some support for this hypothesis is found for only R&D/Sales.

structure, we search acquirers' 10-K filings in the year of deal completion and read all available disclosures pertaining to each earnout deal. Similar to equation (2), we perform this analysis only for public acquirers using earnouts given the requirement for publicly available financial statement information.

$$\begin{aligned}
 pr(\text{equity_earnout}=1) = \text{logit}(& b_0 + b_1 \text{post141R} + b_2 \text{dealvalue/acquirerMV} \\
 & + b_3 \text{subsidiary} + b_4 \text{private} + b_5 \text{cross-industry} \\
 & + b_6 \ln(\# \text{acquisitions}) + b_7 \text{sd_earnings} + b_8 \text{R\&D/Sales} \\
 & + b_9 \text{\#employees} + b_{10} \text{MTB} + e)
 \end{aligned} \tag{3}$$

As H4 predicts acquirers will be more likely to use earnout structures qualifying for equity classification under SFAS 141R, we expect the coefficient on *post141R* will be positive and significant. Similar to equation (1), we control for factors shown in the prior literature to be associated with the likelihood that firms will use earnouts as they might also affect the structure of the earnout. We control for deal size and the relative bargaining power for the target and acquirer with the variable *dealvalue/acquirerMV*.

3. Sample and descriptive statistics

3.1. Sample

We obtain our sample from the Securities Data Corporation (SDC) Platinum Mergers & Acquisitions database and summarize our sample selection criteria in Table 1. The sample begins with the 22,779 acquisitions listed on SDC that were completed between 2007 and 2010 where greater than 50 percent of the firm was acquired and both the acquirer and target are U.S. companies. Of this set, SDC identifies 765 deals, or 3.4 percent, that include an earnout as part of the acquisition agreement. This rate of earnout use is slightly below the 3.9 percent reported in Cain et al. (2011) from 1994 to 2003, the 4.1 percent observed in Datar et al. (2001), and the 5.6 percent observed in Kohers and Ang (2000).

INSERT TABLE 1 HERE

The sample size decreases as we require firm and industry-level data to test our hypotheses. We require that SDC reports the value of the consideration exchanged in the transaction (dealvalue), resulting in the loss of 14,789 observations (only 29 of these observations include an earnout). We also require industry-level data for target firms which are unreported by SDC for 106 deals (5 earnout deals). This reduces our sample size to 7,884 deals with data necessary to test our first hypothesis regarding the likelihood that an acquiring firm will use an earnout contract. Of this sample, SDC reports that 731 deals include an earnout. To test our hypotheses regarding earnout size, we lose 424 of the 731 earnout deals with missing Compustat data for the acquiring firms. For our tests of equation (2), we lose an additional 180 observations because of the five years of earnings-per-share data requirement to compute *acquirerEPRED*. Finally, we are unable to obtain 10-K disclosures on earnout deals for 34 acquisitions to estimate equation (3).

3.2. Descriptive statistics

As shown in Panel A of Table 2, the rate of earnout use has decreased over the sample period from 3.6 and 3.5 percent in 2007 and 2008 before SFAS 141(R), to 3.0 and 3.1 percent in 2009 and 2010 following SFAS 141(R). This is contrary to the 1994-2003 trend reported by Cain et al. (2011) that earnouts increase in frequency from 3.1 percent to 6.8 percent in 2003.¹⁵ This apparent change in the use of earnouts before and after SFAS 141(R) is statistically significant, and generally consistent with our hypothesis that acquirers will decrease the use of earnouts post-141(R). Table 2 Panel A also shows that while the size of deals after SFAS 141(R)

¹⁵ Datar et al. (2001) document that over their sample period from 1990 to 1997 there is little change in the average level (4.1 percent) of reported earnouts on an annual basis, although they see the number of total acquisitions more than double.

(mean=319.5 million; median=23.5 million) is significantly smaller than before (mean=417.3 million; median=35.0 million), earnout size does not exhibit the same pattern. Table 2 Panel A shows that there is a marginally statistically significant increase in earnout size post-141(R). The mean (median) earnout value reported by SDC before SFAS 141(R) is 24.8 million (4.0) million versus 36.7 million (5.1 million) after SFAS 141(R). A similar pattern is also observed for the size of earnouts relative to total deal value. While these univariate trends are not consistent with our prediction, we note that other contemporaneous factors can influence earnout size.¹⁶ We control for these factors later in our multivariate tests.

INSERT TABLE 2 HERE

Panel B of Table 2 reports descriptive statistics on other deal characteristics for the transactions in our sample and changes over time. Several trends where differences are statistically significant are noteworthy. We find that a greater percentage of acquisition targets are subsidiaries of public firms post-141(R) (31.8 percent versus 33.8 percent). Private companies make up a smaller proportion of acquisition targets post-141(R), decreasing from 62.3 percent to 60.0 percent. We also observe changes in the method of payment before and after SFAS 141(R). Specifically, cash acquisitions decline from 54.8 to 50.9 percent. The percentage of deals where the acquirer exclusively uses its own stock increases from 6.7 to 9.1 percent.

Table 3 reports the descriptive statistics for our sample of firms, by the pre vs. post-141(R) period and then within those periods conditional on whether the deal includes an earnout. Deals with earnouts have significantly different characteristics than deals without earnouts for both time periods. Specifically, earnout deals involve a public acquirer (*public_acquirer*) more

¹⁶ Cain et al (2011) document that earnouts are complex, multidimensional contracts exhibiting substantial heterogeneity in the size of the potential earnout.

frequently than non-earnout deals across both periods. In the pre-141(R) period, the size of earnout deals ($\ln(\text{dealvalue})$) is smaller than deals without earnouts. Subsidiaries are less likely to be acquired in earnout deals, but private firms are more likely to be acquired in deals involving earnouts in both periods. In addition, earnouts are more common in industries experiencing greater acquisition volume. Target industry characteristics between earnout and non-earnout deals are also significantly different. Earnouts are more likely with targets in industries in which R&D expenditures are higher, the numbers of employees are smaller, and book-to-market ratios are higher. The results reported in Table 3 are largely consistent with descriptive statistics reported in Cain et al. (2011) and other prior studies except we find that cross-industry acquisitions and acquisitions of targets with volatile earnings are less likely to involve an earnout in both periods pre-or post-141(R).

INSERT TABLE 3 ABOUT HERE

Table 4 reports the pairwise Pearson product-moment correlation coefficients for key variables of interest and control variables. We find a statistically significant negative correlation between earnouts and the post141(R) reporting period indicator. As expected, we also find a statistically significant positive correlation between the target industry median ratio of R&D-to-sales and the median industry market-to-book ratio. All other variables exhibit significant correlations with the earnout indicator variable. We use these variables as controls in our multivariate tests.¹⁷

INSERT TABLE 4 ABOUT HERE

4. Results

¹⁷ Many of the variables exhibit significant pairwise correlations. Therefore, we compute variable inflation factors for each regression we estimate later in the paper. Analysis of the variance inflation factors indicates little concern that our results are significantly influenced by multicollinearity.

4.1. Use of earnouts after SFAS 141(R)

In Table 5 Panel A, we provide univariate evidence suggesting the use of earnouts decreased following SFAS 141(R). The overall percentage of deals involving earnouts decreases from 3.65 percent to 3.03 percent post-SFAS 141(R) (p-value=0.012). Panels B and C of Table 5 report that the statistically significant change in the use of earnouts after SFAS 141(R) is limited to firms with greater incentive to report predictable earnings. Specifically, 7.23 percent of all deals prior to SFAS 141(R) include an earnout when the acquirer is a public firm. Following SFAS 141(R), the percentage declines to 5.83 (p-value=0.006). In panel C, we do not find a significant change in earnouts used by non-public acquirers. This result is consistent with our first hypothesis. Specifically, we find that publicly traded acquirers seem to curtail their use of earnouts in the post-141(R) period.

INSERT TABLE 5 ABOUT HERE

To control for other factors influencing the use of earnouts, we estimate equation (1) using a logistic regression and report results in Table 6 Panel A. The statistical significance of the parameter estimates are assessed using heteroskedasticity robust standard errors, clustered by year. Model (1) is a benchmark regression excluding our variables of interest. With the exception of the coefficient on *cross-industry*, all significant coefficients have signs consistent with prior literature.¹⁸ We find that when we include the variables of interest in model (2) the coefficient on *post141R*public_acquirer* variable is significantly negative. Since the probability of earnout use also depends on the values of all other covariates for each observation, we assess

¹⁸ Cain et al. (2011) hypothesize that target manager effort is more important in cross-industry acquisitions; therefore, we would expect the coefficient on cross-industry to be positive. However, Cain et al. (2011) fail to find support for this hypothesis, noting it is likely that those situations in which target manager effort is most important are also those for which target manager effort is measured imprecisely.

the sign and significance of the *post141R*public_acquirer* interaction using the Ai and Norton (2003) marginal effects procedure. Specifically, we compute the marginal effect of *post141R*public_acquirer* for each observation and report the results in Table 6 Panel B. The average marginal effect for all observations is -1.35 percent and the average z-statistic is -2.35, statistically significant at the 0.05 level, providing support for H1. Given an unconditional probability of an earnout of 9.40 percent, the marginal effect is also economically significant. Moreover, the marginal effect is always negative, and statistically significant for 83.35 percent of the sample.¹⁹ Overall, this suggests that acquirers with greater incentive to report predictable earnings have become less likely to use earnouts following SFAS 141(R).

INSERT TABLE 6 ABOUT HERE

We also plot the magnitude and significance of the marginal effect for each observation in Figure 2. A noteworthy pattern emerges in Figure 2, suggesting that public acquirers become increasingly sensitive to the potential income effects of earnouts in deals involving the most highly uncertain targets. As the predicted probability of an earnout increases, the marginal effect becomes more negative. The observation with the lowest predicted probability of an earnout (0.08 percent) has a marginal effect of -0.03 percent which is not distinguishably different from zero (z-statistic= -1.38). However, as the predicted probability of an earnout increases to the 25th percentile (2.63 percent), the marginal effect is -1.01 percent and statistically significant (z-statistic= -2.77). The marginal effect remains significant and continues to follow this downward trend as the predicted probability of an earnout becomes more likely. At the maximum predicted probability of an earnout (47.68 percent), the marginal effect reaches a statistically significant -5.19 percent (z-statistic= -2.82).

¹⁹ A z-statistic < -1.96 corresponds to a p-value < 0.05.

INSERT FIGURE 2 ABOUT HERE

4.2. Size of earnouts after SFAS 141(R)

Turning to our hypotheses regarding earnout size, we estimate Tobit regressions of equation (2) and report our results in Table 7. In model (1), we include the industry-level target information asymmetry measures, allowing us to estimate the regression over a sample of 307 earnout deals completed by public companies. After controlling for the substantial heterogeneity in the size of the potential earnout payments documented in prior studies, we find a negative and significant coefficient on *post141R*, which indicates earnouts are significantly smaller across all public firms in the sample under the new financial reporting regime.

INSERT TABLE 7 ABOUT HERE

Consistent with H3, the coefficient for *post141R*sd_earnings* is negative and significant, suggesting earnout size decreases with target firm earnings volatility following SFAS 141(R). Other interaction terms do not exhibit the same behavior.²⁰ We also find that the coefficient on *sd_earnings* itself is positive and significant in model (1), suggesting that it simultaneously captures target firm information asymmetry. Taken together, these results are consistent with acquirers using relatively smaller earnouts in the presence of information asymmetry due to concerns about the adverse impact of target earnings volatility under SFAS 141(R).

In model (2), we add the variable *acquirerEPRED* to capture greater incentive for acquirers to report predictable earnings. As this requires us to obtain a time-series of firm-specific data for acquiring firms, the sample size is reduced to 127 observations. Even with the

²⁰ Following Cain et al. (2011) we also use the earnout prediction model to estimate the first-stage selection equation for Heckman regressions. We continue to find support for H2 and H3. However, the inverse mills ratio is not significantly different from zero. Results are also qualitatively similar when we estimate equation (2) using OLS regressions.

reduced sample, we find support for H2 as the coefficient on *post141R* remains negative and significant and the coefficient on the *post141R*acquirerEPRED* interaction is also negative and significant.²¹ This suggests that those acquirers with historically more predictable earnings reduce the size of earnouts to an even greater degree relative to other public companies following SFAS 141(R). The coefficient on *post141R*sd_earnings* remains negative and significant when including *acquirerEPRED* in the model. This suggests that *acquirers'* financial reporting incentives and the properties of the *target* firms' earnings are distinct factors associated with the size of earnouts under SFAS 141(R).

4.3. Analysis of equity-classified earnouts

We report the results of estimating equation (3) in Table 8. With the exception of *dealvalue/acquirerMV*, *ln(#acquisitions)*, and *sd_earnings*, all other control variables exhibit significant associations with the probability of earnout structures qualifying for equity classification. After controlling for other factors possibly affecting the use and structure of earnouts, we find results consistent with H4. The positive significant coefficient on *post141R* suggests public acquirers that use earnouts are more likely to use earnout structures qualifying for equity classification under the new financial reporting standard. In doing so, acquirers are able to avoid recognizing gains and losses associated with re-measurement and the eventual settlement of earnout liabilities in earnings.

INSERT TABLE 8 ABOUT HERE

4.4. Robustness tests

²¹ We obtain similar results when using an alternative proxy for acquirer earnings predictability, coded one when the standard deviation of residuals from a firm-specific regression of current period on lagged earnings-per-share is above the sample median, zero otherwise.

We conduct several robustness tests to assess whether our results are driven by potential alternative explanations. Due to a lack of public disclosure requirements, most deals involving private acquiring and target firms are unobservable and not reported by SDC. Thus, we acknowledge a lack of public disclosure requirements in deals involving private targets and acquirers potentially confounds our ability to make reliable inferences regarding changes in the use of earnouts by public acquirers relative to private acquirers. Therefore, we exclude all acquisitions involving private targets and re-estimate equation (1).²² Results are reported in Table 9 Panel A. While this significantly reduces our sample of earnouts both pre- and post-SFAS 141(R), the coefficient on *post141R*public_acquirer* variable remains negative and significant. Additionally, the marginal effect of the *post141R*public_acquirer* becomes significantly negative around the median of the distribution for the predicted probability of an earnout. This result provides further support for our hypothesis and rules out the potential alternative explanation that the observed decrease in the use of earnouts by public companies is driven by acquisitions of private targets.

INSERT TABLE 9 ABOUT HERE

Next, we examine whether our results differ when analyzing the likelihood of earnouts over a longer period of time. We extend the sample period back to 2002, the first full year in which the previous accounting standard (SFAS 141) requiring all transactions to be accounted for using the purchase method came into effect. This increases the sample size to 19,660 transactions, of which 1,679 involve an earnout. The coefficient on the

²² By excluding all deals involving private targets, we avoid comparing changes in the likelihood of using earnouts for public acquirers to an unobservable portion of the M&A deal market (transactions involving private targets and private acquirers).

*post141R*public_acquirer* interaction term continues to be negative and significant. However, the marginal effect of the *post141R*public_acquirer* weakens, becoming significant only in the upper region of the distribution for the predicted probability of an earnout ($pr(earnout=1)=40.54$ percent; marginal effect= -7.24; z-statistic=-2.61).

We also examine whether the earnout size results are similar over this extended time period by re-estimating equation (2). Results are reported under model (1) in Table 9 Panel B. Similar to our primary results, we find that the coefficient on *post141R* and the *post141R*acquirerEPRED* interaction term are negative and significant. When we include *acquirerEPRED* to capture greater acquiring firm incentive to report predictable earnings, the *post141R*sd_earnings* interaction term is negative but insignificant suggesting target firm characteristics play a less important role relative to the time period in our main analysis.

Finally, we consider whether financing constraints that affect acquirers' ability to fund acquisitions in 2007 through 2010 influence earnout size. If acquirers use earnouts as a form of financing, financing decisions associated with the credit crisis might also be correlated with *earnout_size*. We create two indicator variables, *debt* and *equity*, controlling for the use of debt and equity financing, and add them to equation (2). The coefficient on *debt* is negative and significant indicating that acquirers using debt to finance acquisitions also employ smaller earnouts. The coefficient on *equity* is not significant. Most importantly, we continue to find *post141R*, *post141R*acquirerEPRED*, and *post141R*sd_earnings* to be negatively and significantly associated with *earnout_size*. Thus, we continue to find support for H2 and H3 after controlling for the potential effects of financing constraints on earnout size.

5. Additional analysis of the market reaction to earnout deal announcements

When an acquiring and target firm sign an acquisition agreement, both have an affirmative duty to disclose material information in Form 8-K including whether or not the deal calls for an earnout and the amount of the potential future payments.²³ The information investors receive on the announcement day is the same before and after SFAS 141(R); however, they know that they will receive future information about the probability of the earnout payment when the acquirer discloses the fair value estimate of the earnout liability in its financial statements under SFAS 141(R). Moreover, investors will continue to receive new information enabling them to revise their initial expectations as the earnout liability is re-measured in future periods. Therefore, we explore the implications of SFAS 141(R) for how market participants use information released at the time the deal is announced in their investment decisions.

To examine whether investors react differently pre- and post-SFAS 141(R) to the announcement of earnout deals we estimate various specifications of equation (4). We use three variables capturing how investors respond to the information contained in acquisition announcements. The first variable, *AVAR*, proxies for the information content of the announcement of the M&A transaction and is defined as the stock return variance over the event window ($t+0, t+1$), scaled by the pre-event period (up to 120 trading days) stock return variance (Beaver, 1968; Landsman and Maydew, 2002; Warner et al., 1988). The stock return variance over the pre-event estimation period, which is the denominator, is the variance of residuals from a two-factor market and industry model. We use the CRSP value-weighted market portfolio return and the value-weighted Fama-French 30 industry portfolio return in the two-factor model.

²³ The duty to disclose information about signing an acquisition agreement arises from the requirement to publicly report entry into a material definitive contract under the Securities and Exchange Act of 1934.

We compute the numerator as the mean squared estimation errors of the event returns, calculated from the model estimated for the pre-event period.

The second variable, *ASPR*, captures information asymmetry. We compute *ASPR* as the mean daily acquirer bid-ask spread over the event window, scaled by the pre-event mean daily bid-ask spread. Daily bid-ask spreads are calculated with intraday quotes obtained from the *TAQ* database. The third variable, *AVOL*, is defined as the mean daily trading volume during the event window scaled by the mean daily values over the pre-event period. Daily trading volumes are calculated using CRSP. *AVOL* captures differences in investors' beliefs as reflected in their abnormal trading response to the deal announcement during the information event window (Kim and Verrecchia, 1994, 1991) but more simply put, captures how active trading is on the announcement.

$$\begin{aligned}
 \text{market reaction} = & b_0 + b_1 \text{earnout_size} + b_2 \ln(\text{dealvalue}) + b_3 \text{cash} + b_4 \text{stock} \\
 & + b_5 \text{cross-industry} + b_6 \text{tender} + b_7 \text{multibid} + b_8 \ln(\text{acquirerMV}) \\
 & + b_9 \text{acquirerBTM} + b_{10} \text{sd_earnings} + b_{11} \text{R\&D/Sales} \\
 & + b_{12} \text{\#employees} + b_{13} \text{MTB} + e
 \end{aligned} \tag{4}$$

We allow all parameter estimates in equation (4) to vary pre- and post-SFAS 141(R) by estimating the regression separately for each sub-sample period. The variable of interest is *earnout_size*, which proxies for the presence and size of an earnout. In addition to including controls for target firm information asymmetries, we also control for other factors shown in prior literature to affect market reactions to acquisition announcements. Specifically, we add controls for the form of consideration with the variables *cash* and *stock*, both coded one when the acquirer uses solely cash or stock-based consideration, zero otherwise. We also control for deals where the offer is made directly to the shareholders of the target firm with the variable *tender*, and bidding competition with the variable *multibid*. These additional controls are indicator

variables coded one when the deal is a tender offer or has multiple competing bidders, zero otherwise. We also control for the size of the acquiring firm using $\ln(acquirerMV)$, defined as the log of the acquirer's market value in the year prior to the acquisition. In addition, we control for the acquirer's growth opportunities with $acquirerBTM$, computed as the acquirer's book-to-market ratio for the year prior to the acquisition.

INSERT TABLE 10 ABOUT HERE

Results of estimating equation (4) are reported in Table 10. In model (1) for the pre-141R subsample, we find no significant association between $AVAR$ and $earnout_size$ suggesting the presence and size of earnouts has no effect on the information content of deal announcements. However, for the post-141(R) subsample we find a negative and significant association between $AVAR$ and $earnout_size$. In model (2), we find the presence and size of earnouts have no significant effect on bid-ask spreads at the time of deal announcement in the pre- and post-141R periods. Similarly, the coefficient on $earnout_size$ is insignificant for the pre-141R period in model (3). However, we find a significant negative association between $AVOL$ and $earnout_size$ in the post-141R period. Similar to the results in model (1), this is consistent with earnout deal announcements having lower perceived information content when deals involve increasingly large earnouts under SFAS 141(R). Taken together, the results in models (1) and (3) suggest that investors trade fewer shares around the announcement of earnout deals post-141(R) as they await more information about the expected future earnout payments in the acquirers' SFAS 141(R) financial statement disclosures.

6. Conclusion

In this study we examine the question: Have new accounting standards for M&A transactions affected how firms use earnouts? We hypothesize and find that there are significant

changes in the use and the size of earnouts accounted for under SFAS 141(R). Specifically, we find that public firms, which have a greater financial reporting incentive to report predictable earnings, significantly reduce the frequency and size of earnouts in M&A transactions completed under the new reporting regime. Additionally, these public acquirers reduce the size of earnouts to a greater degree when they have a history of reporting more predictable earnings prior to deal completion, and when they are involved in acquisitions of target firms from industries with greater earnings volatility. Examining market reactions around deal announcements, we find lower abnormal return variances and abnormal volume reactions for deals involving increasingly larger earnouts under SFAS 141(R). This suggests that investors trade less around deal announcement dates while awaiting future information about the fair value of earnout payments disclosed in acquirers' financial statements.

Our contribution to the literature is two-fold. We highlight how changes in M&A deal structure are influenced by acquirers' financial reporting objectives. Prior research on the use and size of earnout contracts in M&A focuses on the informational characteristics of target firms, whereas our paper is the first to demonstrate how acquiring firm financial reporting incentives affect these decisions. Our study also demonstrates how exogenous changes to the financial reporting regime for business combinations can affect transaction structure and potentially the wealth of the individual shareholders.

Appendix

Examples of Earnout Disclosures (Emphasis Added)

Endo Pharmaceuticals Holdings, Inc. (2009 10-K)

The Indevus Shares were purchased at a price of \$4.50 per Indevus Share, net to the seller in cash, plus contractual rights to receive up to an additional \$3.00 per Indevus Share in contingent cash consideration payments (referred to as the Offer Price), pursuant to the terms of the Agreement and Plan of Merger, dated as of January 5, 2009. Accordingly, the Company paid approximately \$368 million in aggregate initial cash consideration for the Indevus Shares and entered into the Aved™ Contingent Cash Consideration Agreement and the Octreotide Contingent Cash Consideration Agreement (each as defined in the Merger Agreement), providing for the payment of up to an additional \$3.00 per Indevus Share in contingent cash consideration payments, in accordance with the terms of the Offer. The total cost to acquire all outstanding Indevus Shares pursuant to the Offer and the Merger could be up to an additional approximately \$267 million, if Endo is obligated to pay the maximum amounts under the Aved™ Contingent Cash Consideration Agreement and the Octreotide Contingent Cash Consideration Agreement. The fair value of those potential obligations is \$58.5 million at December 31, 2009.

...

The range of the undiscounted amounts the Company could pay under the Aved™ Contingent Cash Consideration Agreement is between \$0 and approximately \$175 million. The fair value of the contractual obligation to pay the Aved™ contingent consideration recognized on the Acquisition Date was \$133.1 million. We determined the fair value of the obligation to pay the Aved™ contingent consideration based on a probability-weighted income approach. This fair value measurement is based on significant inputs not observable in the market and thus represents a Level 3 measurement within the fair value hierarchy.

...

The range of the undiscounted amounts the Company could pay under the Octreotide Contingent Cash Consideration Agreement is between \$0 and approximately \$91 million. The fair value of the octreotide contractual obligation to pay the contingent consideration recognized on the Acquisition Date was \$39.8 million. We determined the fair value of the contractual obligation to pay the Octreotide Contingent Consideration Payment based on a probability-weighted income approach. This fair value measurement is based on significant inputs not observable in the market and thus represents a Level 3 measurement within the fair value hierarchy.

As of December 31, 2009, the fair value of the acquisition-related contingent consideration decreased by approximately \$128.1 million from the acquisition date primarily reflecting management's current assessment of the decreased probability that we will be obligated to make contingent consideration payments under the Aved™ Contingent Cash Consideration Agreement within the specified contractual timeframe, as well as the anticipated timeline for the NDA filing and FDA approval of octreotide. **The decrease in the liability was recorded as a gain** and is included in the Acquisition-related items line item in the accompanying Consolidated Statements of Operations. **Changes in any of our assumptions may result in a further volatility to the estimated fair value of the acquisition-related contingent consideration. Such additional changes to fair value could materially impact our results of operations in future periods.**

Riverbed Technology, Inc. (2009 10-K)

Pursuant to the merger agreement we made payments totaling \$23.1 million in cash for all of the outstanding securities of Mazu promptly following the closing. In addition, we will potentially make additional payments ("acquisition-related contingent consideration") totaling up to \$22.0 million in cash, based on achievement of certain bookings targets related to Mazu products for the one-year period from April 1, 2009 through March 31, 2010 (the "Earn-Out period"), with up to \$16.6 million to be paid to Mazu shareholders and up to \$5.4 million to be paid to former employees of Mazu as an incentive bonus

provided generally that such former Mazu employees are employees of Riverbed at the time the acquisition-related contingent consideration is earned.

The total acquisition date fair value of the consideration transferred was estimated at \$33.0 million, which included the initial payments totaling \$23.1 million in cash... and the estimated fair value of acquisition-related contingent consideration to be paid to Mazu shareholders totaling \$9.9 million. A liability was recognized for an estimate of the acquisition date fair value of the acquisition-related contingent consideration based on the probability of achievement of the bookings target. Any change in the fair value of the acquisition-related contingent consideration subsequent to the acquisition date, including changes from events after the acquisition date, such as changes in our estimate of the bookings that are expected to be achieved, will be recognized in earnings in the period the estimated fair value changes. The fair value estimate is based on the probability weighted bookings to be achieved over the Earn-Out period. Actual achievement of bookings below \$16.0 million would reduce the liability to zero and achievement of bookings of \$35.0 million or more would increase the liability to \$16.6 million. **A change in fair value of the acquisition-related contingent consideration could have a material effect on the statement of operations and financial position in the period of the change in estimate. During the year ended December 31, 2009, we recorded a gain of \$1.3 million, due to our change in estimate of the fair value of acquisition-related contingent consideration to stockholders.**

NuVasive, Inc. (2009 10-K)

On May 8, 2009 (the Closing Date), the Company completed the purchase of all of the outstanding shares of Cervitech, Inc., a Delaware corporation (Cervitech), pursuant to a Share Purchase Agreement dated April 22, 2009 (the Purchase Agreement) for an initial payment of approximately \$49 million consisting of cash totaling approximately \$25 million and the issuance of 638,261 shares of NuVasive common stock to certain stockholders of Cervitech.

In addition to the initial payment, the Company may be obligated to make an additional milestone payment of \$33 million if the U.S. Food and Drug Administration (FDA) issues an approval order allowing the commercialization of Cervitech's PCM device in the United States with an intended use for treatment of degenerative disc disease. The milestone payment may be made in cash or a combination of cash and up to half in NuVasive common stock, at the Company's discretion.

The arrangement requires the Company to pay an additional amount not to exceed \$33 million in the event that Cervitech's device receives FDA approval. The fair value of the contingent consideration at the Closing Date was determined to be \$29.7 million using a probability-weighted discounted cash flow model. This fair value measurement is based on significant inputs not observable in the market. The key assumptions in applying this approach were the interest rate and the probability assigned to the milestone being achieved. **Management will remeasure the fair value of the contingent consideration at each reporting period, with any change in its fair value resulting from either the passage of time or events occurring after the acquisition date, such as changes in the estimate of the probability of achieving the milestone, being recorded in the current period's earnings.** During the year ended December 31, 2009, there were no changes in estimate to affect the fair value of the contingent consideration liability other than accretion related solely to the passage of time. **For the year ended December 31, 2009, the Company recorded approximately \$1.0 million in expense to reflect the change in the fair value of the contingent consideration and increasing the fair value of the contingent consideration liability to \$30.7 million at December 31, 2009. The \$1.0 million change in fair value is recorded in the statement of operations as sales, marketing and administrative expenses**

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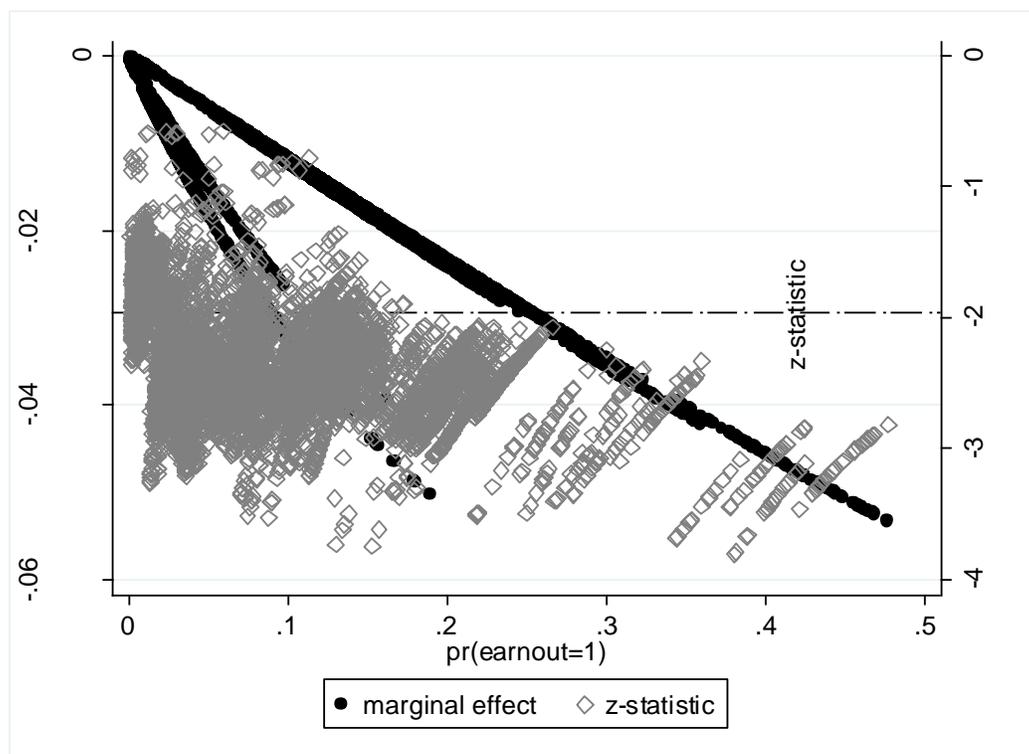
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Figure 1

Accounting for earnout contracts before and after SFAS 141(R)

| | Effective Date of Merger | Quarterly Re-Measurements | Settlement Date of Earnout |
|-------------------------|--|--|---|
| Pre-SFAS 141(R) | <i>No Recognition of Contingent Consideration</i> | <i>Probability of Payout Increases</i> | <i>Payout</i> |
| | | No Entry | Dr.) Goodwill Cr.) Cash/Stock |
| | <i>Recognition of Contingent Consideration at Fair Value</i> | <i>Probability of Payout Decreases</i> | <i>No Payout</i> |
| | | No Entry | No Entry |
| Post-SFAS 141(R) | <i>Recognition of Contingent Consideration at Fair Value</i> | <i>Probability of Payout Increases</i> | <i>Payout</i> |
| | | Dr.) Loss Cr.) Liability | Dr.) Loss in Earnings Dr.) Liability Cr.) Cash/Stock Cr.) Gain in Earnings |
| | <i>Recognition of Contingent Consideration at Fair Value</i> | <i>Probability of Payout Decreases</i> | <i>No Payout</i> |
| | | Dr.) Liability Cr.) Gain | Dr.) Liability Cr.) Gain in Earnings |

Figure 2Marginal effect of the *post141R*public_acquirer* interaction on earnout probability

| | percentiles of pr(earnout=1) | | | | | | |
|-----------------|------------------------------|-------|-------|-------|-------|-------|-------|
| | Min | 10th | 25th | 50th | 75th | 90th | Max |
| pr(earnout=1) | 0.08 | 1.30 | 2.63 | 7.44 | 13.20 | 20.71 | 47.68 |
| marginal effect | -0.03 | -0.16 | -1.01 | -2.55 | -1.56 | -2.50 | -5.33 |
| z-statistic | -1.38 | -2.22 | -2.77 | -2.46 | -2.57 | -2.52 | -2.82 |

Notes: We use the Ai and Norton (2003) procedure to compute marginal effects and test statistics for each observation ($n=7,884$). The marginal effect of the *post141R*public acquirer* interaction term is plotted on the left-vertical axis, and z-statistics are plotted on the right-vertical axis. The horizontal axis plots the predicted probability of *earnout=1*. All z-statistics plotted below the dashed horizontal line are statistically significant at the 0.05 level or better.

Table 1
Sample selection

| | all deals | earnouts |
|--|-----------|----------|
| Number of completed deals where % acquired > 50 | 22,779 | 765 |
| Less: dealvalue not reported by SDC | 14,789 | 29 |
| missing industry-level data | 106 | 5 |
| observations with required data for earnout likelihood (equation (1)) [1] | 7,884 | 731 |
| Less: missing Compustat data for <i>acquirerMV</i> [2] | | 424 |
| missing acquirer time-series data to calculate <i>acquirerEPRED</i> [3] | | 180 |
| missing/insufficient acquirer 10-K disclosures [4] | | 34 |
| Number of observations with required data for: | | |
| earnout size analysis (equation (2) model (1)) [1] – [2] | | 307 |
| earnout size analysis (equation (2) model (2)) [1] – [2] – [3] | | 127 |
| equity-classified earnout analysis (equation (3)) [1] – [2] – [4] | | 273 |

Table 2
Descriptive statistics on completed deals

| | year completed | | | | pre-141R | post-141R | |
|--|----------------|---------|---------|---------|-----------|-----------|-----|
| | 2007 | 2008 | 2009 | 2010 | | | |
| Panel A: Deal market activity | | | | | | | |
| <u>Deal volume</u> | | | | | | | |
| All deals | 7,575 | 6,038 | 4,314 | 4,852 | 13,679 | 9,100 | |
| Earnout deals | 274 | 210 | 128 | 148 | 499 | 276 | |
| % of earnout deals | 3.6 | 3.5 | 3.0 | 3.1 | 3.6 | 3.0 | ** |
| <u>Deal value (\$millions)</u> | | | | | | | |
| All deals: | | | | | | | |
| total | 1,376,114 | 680,739 | 437,322 | 541,410 | 2,060,385 | 975,199 | |
| mean | 488.2 | 326.0 | 303.7 | 329.5 | 417.3 | 319.5 | ** |
| median | 40.1 | 27.0 | 14.6 | 37.0 | 35.0 | 23.5 | *** |
| Earnout deals: | | | | | | | |
| total | 7,225 | 3,701 | 4,328 | 4,842 | 12,094 | 9,837 | |
| mean | 27.3 | 17.9 | 35.8 | 32.9 | 24.8 | 36.7 | * |
| median | 3.9 | 4.2 | 3.8 | 5.4 | 4.0 | 5.1 | |
| <u>Earnout value / Deal value (%)</u> | | | | | | | |
| mean | 26.4 | 29.6 | 29.4 | 31.0 | 27.5 | 31.1 | * |
| median | 20.1 | 22.8 | 22.2 | 23.6 | 21.1 | 24.2 | |
| Panel B: Deal characteristics (% of sample) | | | | | | | |
| <u>Target ownership</u> | | | | | | | |
| Public | 5.9 | 4.9 | 6.1 | 5.5 | 5.4 | 5.8 | |
| Subsidiary | 30.7 | 33.3 | 36.6 | 31.3 | 31.8 | 33.8 | *** |
| Private | 63.1 | 61.4 | 57.0 | 62.7 | 62.3 | 60.0 | *** |
| Other (J.V., Mutual, Gov't) | 0.3 | 0.4 | 0.3 | 0.5 | 0.4 | 0.4 | |
| <u>Acquirer ownership</u> | | | | | | | |
| Public | 45.4 | 44.8 | 43.2 | 46.3 | 45.4 | 44.5 | |
| Non-public | 54.6 | 55.2 | 56.8 | 53.7 | 54.6 | 55.5 | |
| <u>Method of payment</u> | | | | | | | |
| Cash | 55.6 | 53.8 | 46.5 | 54.9 | 54.8 | 50.9 | *** |
| Stock | 5.8 | 8.0 | 11.5 | 7.1 | 6.7 | 9.1 | *** |

Notes: Descriptive statistics are shown above for all completed deals reported by SDC from 2007 – 2010 where at least 50% of the targets' shares were acquired. *, **, and *** indicates differences are statistically significant at p-value < 0.10, 0.05, and 0.01, respectively.

Table 3
Summary statistics

| | earnout deals (<i>earnout</i> =1) | | | | | | non-earnout deals (<i>earnout</i> =0) | | | | | |
|-----------------------------|------------------------------------|---------------|--------------|--------|-------|--------|--|--------|-------|--------|-------|--------|
| | n | mean | p50 | Sd | p25 | p75 | n | mean | p50 | sd | p25 | p75 |
| Pre-141R | | | | | | | | | | | | |
| <i>public_acquirer</i> | 478 | 0.900 | 1.000 | 0.301 | 1.000 | 1.000 | 4,460 | 0.655 | 1.000 | 0.475 | 0.000 | 1.000 |
| <i>ln(dealvalue)</i> | 478 | 3.335 | 3.258 | 1.511 | 2.219 | 4.332 | 4,460 | 3.724 | 3.637 | 2.098 | 2.079 | 5.142 |
| <i>subsidiary</i> | 478 | 0.257 | 0.000 | 0.438 | 0.000 | 1.000 | 4,460 | 0.409 | 0.000 | 0.492 | 0.000 | 1.000 |
| <i>private</i> | 478 | 0.728 | 1.000 | 0.445 | 0.000 | 1.000 | 4,460 | 0.441 | 0.000 | 0.497 | 0.000 | 1.000 |
| <i>cross-industry</i> | 478 | 0.515 | 1.000 | 0.500 | 0.000 | 1.000 | 4,460 | 0.605 | 1.000 | 0.489 | 0.000 | 1.000 |
| <i>ln(#acquisitions)</i> | 478 | 5.960 | 5.943 | 1.228 | 5.328 | 7.396 | 4,460 | 5.568 | 5.645 | 1.176 | 4.844 | 6.006 |
| <i>dealvalue/acquirerMV</i> | 192 | 0.450 | 0.076 | 1.304 | 0.028 | 0.349 | 1,106 | 0.602 | 0.119 | 1.685 | 0.028 | 0.399 |
| <i>sd_earnings</i> | 478 | 10.442 | 6.170 | 25.183 | 4.438 | 7.956 | 4,452 | 11.418 | 6.625 | 21.206 | 4.438 | 11.613 |
| <i>R&D/Sales</i> | 475 | 0.093 | 0.099 | 0.081 | 0.011 | 0.132 | 4,402 | 0.056 | 0.011 | 0.075 | 0.000 | 0.107 |
| <i>#employees</i> | 478 | 1.073 | 0.520 | 2.050 | 0.405 | 0.942 | 4,452 | 1.549 | 0.520 | 2.994 | 0.298 | 1.840 |
| <i>MTB</i> | 478 | 1.688 | 1.646 | 0.575 | 1.145 | 2.039 | 4,452 | 1.616 | 1.532 | 0.607 | 1.145 | 2.039 |
| Post-141R | | | | | | | | | | | | |
| <i>public_acquirer</i> | 268 | 0.862 | 1.000 | 0.346 | 1.000 | 1.000 | 2,784 | 0.628 | 1.000 | 0.484 | 0.000 | 1.000 |
| <i>ln(dealvalue)</i> | 268 | 3.423 | 3.349 | 1.613 | 2.290 | 4.431 | 2,784 | 3.340 | 3.178 | 2.087 | 1.631 | 4.825 |
| <i>subsidiary</i> | 268 | 0.321 | 0.000 | 0.468 | 0.000 | 1.000 | 2,784 | 0.451 | 0.000 | 0.498 | 0.000 | 1.000 |
| <i>private</i> | 268 | 0.657 | 1.000 | 0.476 | 0.000 | 1.000 | 2,784 | 0.395 | 0.000 | 0.489 | 0.000 | 1.000 |
| <i>cross-industry</i> | 268 | 0.511 | 1.000 | 0.501 | 0.000 | 1.000 | 2,784 | 0.615 | 1.000 | 0.487 | 0.000 | 1.000 |
| <i>ln(#acquisitions)</i> | 268 | 5.646 | 5.733 | 1.176 | 5.141 | 7.044 | 2,784 | 5.222 | 5.268 | 1.167 | 4.673 | 5.743 |
| <i>dealvalue/acquirerMV</i> | 117 | 0.308 | 0.097 | 0.728 | 0.034 | 0.315 | 667 | 0.416 | 0.095 | 1.217 | 0.028 | 0.306 |
| <i>sd_earnings</i> | 268 | 14.596 | 7.871 | 28.576 | 6.714 | 10.719 | 2,780 | 21.376 | 9.234 | 39.273 | 6.714 | 25.225 |
| <i>R&D/Sales</i> | 266 | 0.093 | 0.098 | 0.066 | 0.030 | 0.121 | 2,741 | 0.053 | 0.013 | 0.064 | 0.001 | 0.102 |
| <i>#employees</i> | 268 | 1.099 | 0.706 | 1.450 | 0.439 | 1.095 | 2,780 | 1.629 | 0.706 | 3.360 | 0.142 | 1.828 |
| <i>MTB</i> | 268 | 1.842 | 1.743 | 0.381 | 1.632 | 2.106 | 2,780 | 1.675 | 1.696 | 0.494 | 1.428 | 1.964 |

Notes: *earnout* is an indicator variable if the deal includes an earnout, zero otherwise; *post141R* is an indicator variable coded one if the acquisition was completed after SFAS 141R became effective, zero otherwise; *public_acquirer* is an indicator variable for public acquirers, zero otherwise; *ln(dealvalue)* is the natural log of one plus the dealvalue reported by SDC; *subsidiary* is an indicator variable coded one when the target is a subsidiary of a public company, zero otherwise; *private* is an indicator variable coded one when the target is a private company, zero otherwise; *cross-industry* is an indicator variable coded one when the primary 3-digit SIC codes for the target and acquirer differ, zero otherwise; *ln(#acquisitions)* is the natural log of one plus the number of completed deals in the target firm's 2-digit primary SIC; *sd_earnings* is the median of the standard deviation of earnings within the target's primary SIC over the three-year period prior to the deal; *R&D/Sales* is the median ratio of R&D expense to sales within the target's primary SIC in the year of the deal; *#employees* is the median number of employees in the target's primary SIC in the year of the deal; *MTB* is the median market-to-book ratio in the target's primary SIC in the year of the deal; *dealvalue/acquirer MV* is the ratio of the dealvalue reported by SDC to the acquirer's market value as of the end of the fiscal year prior to the deal. Differences in means (medians) assessed using a t-test (Wilcoxon rank sum test). Bold indicates differences are statistically significant at p-value <0.05.

Table 4
Pairwise correlations

| | <u>1</u> | <u>2</u> | <u>3</u> | <u>4</u> | <u>5</u> | <u>6</u> | <u>7</u> | <u>8</u> | <u>9</u> | <u>10</u> | <u>11</u> | <u>12</u> | <u>13</u> |
|-----------------------------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------|-----------|-----------|
| 1 <i>earnout</i> | 1.000 | | | | | | | | | | | | |
| 2 <i>post141R</i> | -0.015 | 1.000 | | | | | | | | | | | |
| 3 <i>public_acquirer</i> | 0.149 | -0.031 | 1.000 | | | | | | | | | | |
| 4 <i>ln(dealvalue)</i> | -0.030 | -0.080 | 0.100 | 1.000 | | | | | | | | | |
| 5 <i>subsidiary</i> | -0.086 | 0.045 | -0.094 | 0.009 | 1.000 | | | | | | | | |
| 6 <i>private</i> | 0.163 | -0.048 | 0.049 | -0.233 | -0.877 | 1.000 | | | | | | | |
| 7 <i>cross-industry</i> | -0.056 | 0.009 | -0.020 | 0.010 | 0.051 | -0.052 | 1.000 | | | | | | |
| 8 <i>ln(#acquisitions)</i> | 0.100 | -0.141 | 0.064 | -0.018 | -0.101 | 0.103 | -0.146 | 1.000 | | | | | |
| 9 <i>sd_earnings</i> | -0.032 | 0.155 | -0.007 | 0.042 | 0.054 | -0.055 | 0.033 | -0.305 | 1.000 | | | | |
| 10 <i>R&D/Sales</i> | 0.154 | -0.021 | 0.054 | -0.037 | -0.072 | 0.064 | -0.093 | 0.647 | -0.210 | 1.000 | | | |
| 11 <i>#employees</i> | -0.047 | 0.012 | -0.065 | 0.004 | 0.057 | -0.045 | 0.064 | -0.447 | 0.240 | -0.303 | 1.000 | | |
| 12 <i>MTB</i> | 0.054 | 0.056 | 0.050 | 0.015 | -0.054 | 0.055 | -0.026 | 0.198 | -0.096 | 0.338 | 0.001 | 1.000 | |
| 13 <i>acquirerEPRED</i> | 0.000 | -0.0379 | 0.000 | 0.289 | 0.004 | -0.062 | -0.078 | -0.005 | 0.142 | 0.227 | -0.059 | 0.093 | 1.000 |

Notes: *earnout* is an indicator variable if the deal includes an earnout, zero otherwise; *post141R* is an indicator variable coded one if the acquisition was completed after SFAS 141R became effective, zero otherwise; *public_acquirer* is an indicator variable for public acquirers, zero otherwise; *ln(dealvalue)* is the natural log of one plus the dealvalue reported by SDC; *subsidiary* is an indicator variable coded one when the target is a subsidiary of a public company, zero otherwise; *private* is an indicator variable coded one when the target is a private company, zero otherwise; *cross-industry* is an indicator variable coded one when the primary 3-digit SIC codes for the target and acquirer differ, zero otherwise; *ln(#acquisitions)* is the natural log of one plus the number of completed deals in the target firm's 2-digit primary SIC; *sd_earnings* is the median of the standard deviation of earnings within the target's primary SIC over the three-year period prior to the deal; *R&D/Sales* is the median ratio of R&D expense to sales within the target's primary SIC in the year of the deal; *#employees* is the median number of employees in the target's primary SIC in the year of the deal; *MTB* is the median market-to-book ratio in the target's primary SIC in the year of the deal; *acquirerEPRED* is the quintile rank of the negative of each acquiring firms' standard deviation of earnings-per-share over the 5-year period prior to the completion of the acquisition.

Pearson product-moment correlation coefficients are reported above. **Bold** indicates statistical significance at p-value < 0.10.

Table 5

Changes in the frequency of earnout deals, pre- and post-SFAS 141R

Panel A: All completed deals

| <i>earnout</i> | pre-141R | post-141R | Total |
|----------------|----------|-----------|--------|
| No | 13,180 | 8,824 | 22,004 |
| Yes | 499 | 276 | 775 |
| Total | 13,679 | 9,100 | 22,779 |
| % earnout | 3.65% | 3.03% | |
| chi-square | 5.288 | | |
| p-value | 0.012 | | |

Panel B: Public acquirers

| <i>earnout</i> | pre-141R | post-141R | Total |
|----------------|----------|-----------|--------|
| No | 5,761 | 3,811 | 9,572 |
| Yes | 449 | 236 | 685 |
| Total | 6,210 | 4,047 | 10,257 |
| % earnout | 7.23% | 5.83% | |
| chi-square | 7.692 | | |
| p-value | 0.006 | | |

Panel C: Non-public acquirers

| <i>earnout</i> | pre-141R | post-141R | Total |
|----------------|----------|-----------|--------|
| No | 7,419 | 5,013 | 12,432 |
| Yes | 50 | 40 | 90 |
| Total | 7,469 | 5,053 | 12,522 |
| % earnout | 0.67% | 0.77% | |
| chi-square | 0.631 | | |
| p-value | 0.427 | | |

Notes: *earnout* is an indicator variable if the deal includes an earnout, zero otherwise; *post141R* is an indicator variable coded one if the acquisition was completed after SFAS 141R became effective, zero otherwise; public acquirer is an indicator variable for public acquirers, zero otherwise.

Table 6

Logistic regressions of the likelihood of earnout deals

Panel A: Logistic regressions

| | (1) benchmark regression | | (2) pre- and post-141R | |
|--|--------------------------|---------|------------------------|--------------|
| | coeff | p-value | coeff | p-value |
| <i>post141R</i> | | | 0.247 | 0.000 |
| <i>public_acquirer</i> | | | 1.239 | 0.000 |
| <i>post141R*public_acquirer</i> | | | -0.286 | 0.000 |
| <i>ln(dealvalue)</i> | 0.062 | 0.111 | 0.033 | 0.374 |
| <i>subsidiary</i> | 2.113 | 0.000 | 2.218 | 0.000 |
| <i>private</i> | 2.987 | 0.000 | 2.848 | 0.000 |
| <i>cross-industry</i> | -0.255 | 0.021 | -0.160 | 0.146 |
| <i>ln(#acquisitions)</i> | -0.018 | 0.489 | -0.033 | 0.209 |
| <i>sd_earnings</i> | -0.001 | 0.822 | -0.001 | 0.710 |
| <i>R&D/Sales</i> | 5.937 | 0.000 | 5.717 | 0.000 |
| <i>#employees</i> | -0.039 | 0.001 | -0.032 | 0.018 |
| <i>MTB</i> | -0.024 | 0.567 | -0.046 | 0.221 |
| Intercept | -5.043 | 0.000 | -5.804 | 0.000 |
| Number obs. | 7,884 | | 7,884 | |
| McFadden's Pseudo R ² | 0.094 | | 0.109 | |
| % correctly predicted | 90.60 | | 90.60 | |

Panel B: Marginal effect analysis for the *post141R*public_acquirer* interaction

| averages for all observations | |
|---|-------|
| pr(<i>earnout</i> =1) | 9.40 |
| marginal effect | -1.35 |
| z-statistic | -2.35 |
| percentage of observations p-value<0.05 | 83.35 |

Notes: The dependent variable in the logistic regression models estimated above is *earnout*, an indicator variable if the deal includes an earnout, zero otherwise; the other variables have been defined in the notes of the previous tables. Statistical significance of the logistic regression parameter estimates are assessed using heteroskedasticity robust standard errors, clustered by year. We use the Ai and Norton (2003) procedure to compute and test the significance of marginal effects for the *post141R*public_acquirer* interaction.

Table 7
Analysis of earnout size

| | (1) target earnings volatility | | (2) target and acquirer earnings volatility | |
|--------------------------------|--------------------------------|--------------|---|--------------|
| | coeff | p-value | coeff | p-value |
| <i>post141R</i> | -0.051 | 0.013 | -0.125 | 0.076 |
| <i>acquirerEPRED</i> | | | 0.011 | 0.283 |
| <i>sd_earnings</i> | 0.004 | 0.000 | 0.004 | 0.229 |
| <i>R&D/Sales</i> | 0.866 | 0.000 | 1.187 | 0.000 |
| <i>cross-industry</i> | 0.072 | 0.000 | 0.111 | 0.000 |
| <i>dealvalue/acquirerMV</i> | 0.014 | 0.202 | 0.015 | 0.332 |
| Interactions | | | | |
| <i>post141R*acquirerEPRED</i> | | | -0.042 | 0.001 |
| <i>post141R*sd_earnings</i> | -0.006 | 0.004 | -0.009 | 0.005 |
| <i>post141R*R&D/Sales</i> | 1.079 | 0.000 | 0.576 | 0.114 |
| <i>post141R*cross-industry</i> | -0.053 | 0.505 | -0.011 | 0.859 |
| Intercept | 0.075 | 0.000 | 0.052 | 0.448 |
| Number obs | 307 | | 127 | |
| Pseudo R^2 | 0.156 | | 0.202 | |

Notes: Tobit regressions of earnout size are estimated above for earnout deals only. The dependent variable in the tobit regressions estimated above is *earnout_size*, measured as the ratio of the earnout value to dealvalue reported by SDC; *post141R* is an indicator variable coded one when the acquisition was completed after SFAS 141R became effective, zero otherwise; *cross-industry* is an indicator variable coded one when the primary 3-digit SIC codes for the target and acquirer differ, zero otherwise; *sd_earnings* is the median of the standard deviation of earnings within the target's primary SIC over the three-year period prior to the deal; *R&D/Sales* is the median ratio of R&D expense to sales within the target's primary SIC in the year of the deal; *acquirerEPRED* is the quintile rank of the negative of each acquiring firms' standard deviation of earnings-per-share over the 5-year period prior to the completion of the acquisition.

Statistical significance of the parameter estimates are assessed using heteroskedasticity robust standard errors, clustered by year.

Table 8
Analysis of equity-classified earnouts

| | coeff | p-value |
|----------------------------------|--------------|--------------|
| <i>post141R</i> | 1.096 | 0.002 |
| <i>dealvalue/acquirerMV</i> | -0.168 | 0.698 |
| <i>subsidiary</i> | 11.388 | 0.000 |
| <i>private</i> | 12.593 | 0.000 |
| <i>cross-industry</i> | -1.577 | 0.098 |
| <i>ln(#acquisitions)</i> | -0.049 | 0.802 |
| <i>sd_earnings</i> | -0.036 | 0.518 |
| <i>R&D/Sales</i> | -21.226 | 0.000 |
| <i>#employees</i> | -0.733 | 0.068 |
| <i>MTB</i> | 0.649 | 0.000 |
| Intercept | -13.855 | 0.000 |
| Number obs. | 273 | |
| McFadden's Pseudo R ² | 0.147 | |
| % correctly predicted | 96.70 | |

Notes: The dependent variable in the logistic regression models estimated above is *equity earnout*, an indicator variable if the deal includes an earnout meeting the criteria for equity classification under SFAS 141R, zero otherwise; the other variables have been defined in the notes of the previous tables. Statistical significance of the logistic regression parameter estimates are assessed using heteroskedasticity robust standard errors, clustered by year.

Table 9
Robustness tests

Panel A: Probability of earnout use

| | (1) excluding private targets | | (2) extended sample (2002-2010) | |
|--|-------------------------------|--------------|---------------------------------|--------------|
| | coeff | p-value | coeff | p-value |
| <i>post141R</i> | 0.196 | 0.015 | 0.423 | 0.002 |
| <i>public_acquirer</i> | 0.584 | 0.000 | 1.247 | 0.000 |
| <i>post141R*public_acquirer</i> | -0.216 | 0.000 | -0.263 | 0.023 |
| <i>ln(dealvalue)</i> | -0.043 | 0.175 | 0.000 | 0.992 |
| <i>Subsidiary</i> | 2.007 | 0.000 | 1.925 | 0.000 |
| <i>Private</i> | | | 2.557 | 0.000 |
| <i>cross-industry</i> | -0.174 | 0.034 | -0.125 | 0.026 |
| <i>ln(#acquisitions)</i> | -0.084 | 0.271 | 0.002 | 0.898 |
| <i>sd_earnings</i> | -0.004 | 0.557 | -0.002 | 0.556 |
| <i>R&D/Sales</i> | 6.172 | 0.000 | 4.191 | 0.000 |
| <i>#employees</i> | -0.025 | 0.410 | -0.054 | 0.000 |
| <i>MTB</i> | 0.117 | 0.183 | 0.001 | 0.991 |
| Intercept | -4.856 | 0.000 | -5.763 | 0.000 |
| Number obs. | 4,341 | | 19,660 | |
| McFadden's Pseudo R ² | 0.088 | | 0.107 | |
| % correctly predicted | 94.93 | | 91.45 | |

Panel B: Earnout size

| | (1) extended sample (2002-2010) | | (2) financing constraints | |
|--------------------------------------|---------------------------------|--------------|---------------------------|--------------|
| | coeff | p-value | coeff | p-value |
| <i>post141R</i> | -0.164 | 0.001 | -0.127 | 0.062 |
| <i>acquirerEPRED</i> | 0.001 | 0.255 | 0.012 | 0.235 |
| <i>sd_earnings</i> | -0.001 | 0.720 | 0.004 | 0.202 |
| <i>R&D/Sales</i> | 0.898 | 0.000 | 1.255 | 0.000 |
| <i>cross-industry</i> | 0.065 | 0.085 | 0.108 | 0.000 |
| <i>dealvalue/acquirerMV</i> | 0.006 | 0.569 | 0.015 | 0.314 |
| <i>Debt</i> | | | -0.188 | 0.021 |
| <i>Equity</i> | | | 0.016 | 0.813 |
| Interactions | | | | |
| <i>post141R*acquirerEPRED</i> | -0.037 | 0.006 | -0.045 | 0.002 |
| <i>post141R*sd_earnings</i> | -0.003 | 0.323 | -0.009 | 0.003 |
| <i>post141R*R&D/Sales</i> | 0.882 | 0.000 | 0.503 | 0.168 |
| <i>post141R*cross-industry</i> | 0.041 | 0.210 | 0.002 | 0.965 |
| Intercept | 0.079 | 0.060 | 0.047 | 0.415 |
| Number obs | 267 | | 127 | |
| Pseudo R ² | 0.123 | | 0.211 | |

Notes: Statistical significance of the logistic regression parameter estimates are assessed using heteroskedasticity robust standard errors, clustered by year. *debt* is an indicator variable coded one when the acquirer uses debt to finance the acquisition, zero otherwise; *equity* is an indicator variable coded one when the acquirer uses equity to finance the acquisition, zero otherwise; all other variables are as previously defined.

Table 10
Analysis of acquirer announcement market reactions

| | (1) <i>AVAR</i> | | (2) <i>ASPR</i> | | (3) <i>AVOL</i> | |
|-----------------------|---------------------------|-----------------------------|-------------------------|-------------------------|-------------------------|----------------------------|
| | Pre141R | Post141R | Pre141R | Post141R | Pre141R | Post141R |
| <i>earnout_size</i> | -1.9193 (-0.94) | -7.0257** (-4.15) | 0.0403 (0.61) | 0.1756 (0.48) | 4.1494 (0.87) | -2.4949** (-4.9) |
| <i>ln(dealvalue)</i> | 1.6872* (2.24) | 1.1665*** (7.03) | -0.0378 (-1.81) | -0.0142 (-2.22) | 0.4807*** (5.61) | 0.5876* (2.87) |
| <i>acquirerMV</i> | -1.0883 (-1.96) | -0.1281 (-0.28) | 0.028 (1.55) | 0.0086 (0.5) | -0.4584** (-4.58) | -0.4302 (-1.74) |
| <i>acquirerBTM</i> | -1.4337 (-0.93) | 2.1095 (1.94) | -0.1627 (-1.73) | 0.0281 (0.81) | -0.8037 (-1.39) | 1.0843 (2.21) |
| <i>cross-industry</i> | 0.7767 (1.03) | -0.4412 (-0.6) | -0.055** (-3.18) | 0.0319 (1.06) | 0.6037** (2.95) | 0.555*** (8.05) |
| <i>sd_earnings</i> | 0.0016 (0.17) | -0.0172** (-3.95) | 0.0012 (1.88) | -0.0009** (-5.37) | -0.0025*** (-5.69) | -0.0061* (-3.01) |
| <i>R&D/Sales</i> | -2.5458 (-0.77) | -1.8087 (-0.16) | -0.6491 (-1.93) | -0.4259 (-0.86) | -0.3617 (-0.13) | -0.0245 (-0.02) |
| <i>#employees</i> | -0.1236 (-1.89) | -0.0521 (-1) | 0.0209** (4.15) | -0.0245* (-2.55) | 0.0098 (0.16) | -0.0346 (-0.67) |
| <i>MTB</i> | -1.5644* (-2.43) | 3.5746** (3.66) | -0.0313 (-0.88) | -0.0989* (-2.37) | -0.7124*** (-6.89) | 1.4356** (3.82) |
| <i>cash</i> | -1.4878 (-1.81) | -3.181** (-3.94) | -0.0525** (-3.14) | 0.1026 (0.94) | 0.0144 (0.03) | -1.1226*** (-21.89) |
| <i>stock</i> | -1.2496 (-0.47) | -1.6327* (-2.36) | -0.1121*** (-5.71) | 0.1677 (0.8) | 0.4035 (0.61) | -0.1838 (-0.97) |
| <i>tender</i> | -3.3949 (-1.9) | -4.933** (-4.38) | 0.0835 (0.49) | 0.055 (1.38) | -0.1517 (-0.17) | -1.5922*** (-37.57) |
| <i>multibid</i> | 3.5633 (1.43) | 4.5725*** (11.12) | 0.4894 (0.97) | -0.2005 (-2.29) | 0.6608* (2.64) | 1.0085*** (15.17) |
| intercept | 15.1871 (1.87) | -8.2506 (-1.37) | 0.9871** (3.79) | 0.9219** (3.58) | 7.1095*** (5.25) | 2.0965 (0.95) |
| Number obs | 795 | 201 | 795 | 201 | 784 | 200 |
| Adjusted R^2 | 0.065 | 0.287 | 0.050 | 0.273 | 0.054 | 0.270 |

Notes: *AVAR* is defined as the mean daily stock return variance during the event window, scaled by the stock return variance estimated over the period from 21 to 120 trading days prior to the event. The stock return variance over the event window equals the mean daily squared prediction errors from a two-factor market and industry model, where the market is the CRSP value-weighted market portfolio and the industry factor is the value-weighted (Fama-French 30) industry portfolio for each firm. The stock return variance over the estimation window equals the variance of the residual returns computed from the same two-factor model.; *ASPR* is defined as the mean daily bid-ask spreads during the event window (0,+1), scaled by the mean daily bid-ask spreads over the period from 21 to 120 trading days prior to the event; *AVOL* is the mean daily trading volume during the event window, scaled by the mean daily trading volume over the period from 21 to 120 trading days prior to the event. ***, **, and * indicates market reactions are significantly different from 1.0 at p-value < 0.01, < 0.05, or < 0.10, respectively. Year-fixed effects are included. Differences in means across groups are assessed using a two-tailed t-test, and standard errors are clustered by announcement year. T-statistics are shown in parentheses.