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Fair Value Accounting for M&As and Contingent Consideration Arrangements

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ABSTRACT

SFAS 141(R) requires firms to recognize the fair value of contingent considerations ("earnouts") included in acquisition agreements. This new requirement alters the information environment and acquiring firms' financial statements. We find that SFAS 141(R) influences the use of earnouts, where acquiring firms with the greatest financial reporting concerns are less likely to use earnouts. We also show that the fair value estimates and subsequent fair value adjustments provide valuable information to market participants beyond the financial statement effects. Together, our results suggest that fair value estimates alter how firms contract and are informative to the market.

1. Introduction

Contingent considerations (hereafter "earnouts") are provisions of acquisition agreements that provide sellers with additional payments if specified future events occur or conditions are met. These contracted outcomes, which generally extend one to five years after the acquisition, may be based on financial performance metrics, such as revenue and earnings targets, and/or non-financial performance hurdles, such as FDA approval and clinical trial success. Recently, Statement of Financial Accounting Standards (SFAS) 141(R) (2007) significantly altered the accounting treatment of earnouts: firms are now required to recognize the fair value of an earnout at the acquisition date and include this earnout fair value in the purchase price.[1] This study investigates whether and how SFAS 141(R) influences the use and design of earnouts. We also explore the information content of earnouts focusing on the market valuation of the new information recognized due to this change in accounting regulation.

Prior to SFAS 141(R), firms did not recognize the costs of earnouts at the time of the acquisition. Rather, earnouts were recognized when the corresponding contingencies were resolved and the payments made (or when it was reasonably assured that payments will be made). Consequently, the impact of earnouts on the acquirer's financial statements was minimal. Furthermore, the expected value of an earnout was neither included in the acquisition price, nor recognized in the financial statements at the acquisition date, nor disclosed in the financial statement footnotes. In contrast, SFAS 141(R) now requires firms to estimate the fair value of an earnout at the acquisition date, include this fair value in the purchase price, and recognize a corresponding liability or equity.[2] In addition, firms must adjust the earnout fair value at each

[1] Section 2 provides a detailed description of the change in the accounting treatment of earnouts, the required disclosed and recognized information, and the financial reporting implications.

[2] Under SFAS 141(R), an earnout can be classified as a liability or equity depending on the structure of the earnout payments (when earnout payments consist of cash payments, transfers of other assets, and/or equity payments settled

reporting date until the contingency is resolved, and record these fair value adjustments through earnings.

SFAS 141(R) influences the information environment of acquisitions that contain earnout provisions on at least four dimensions: i) estimating, recording, and adjusting earnout fair values introduce additional subjectivity and complexity to the reporting process of acquisitions, ii) recognizing earnout fair values increases the reported purchase price of acquisitions, iii) re-measurement of earnout fair values in each reporting period may impact the volatility of post-acquisition earnings, iv) earnout fair values may provide additional information to the market about the acquirer's expectations regarding the value of the target firm and/or the likelihood that the target will achieve the contracted outcomes. As a result, SFAS 141(R) may alter the costs and benefits of this contract feature and the terms of such contracts. In addition, the change in the information environment may influence the market's valuation of earnouts and acquisitions more generally.

Based on these effects, we address three research questions. First, we investigate the relation between SFAS 141(R) and the propensity to include earnout provisions in acquisition agreements. Second, we examine whether and how the financial reporting implications of earnouts introduced by SFAS 141(R) influence the use of earnout provisions. Finally, we study the information content of the newly recognized earnout information (i.e., earnout fair values and adjustments) mandated by SFAS 141(R) by examining market responses and valuations of earnouts, acquisitions as a whole, and earnout fair value adjustments.

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with a variable number of shares, an earnout is classified as a liability, whereas when earnout payments consist of equity payments settled with a fixed number of shares, an earnout is classified as equity). We focus primarily on earnouts classified as liabilities because the preponderance of earnouts fall within the guidelines of liability classified earnouts. See Section 2 for further details on differences in the accounting treatment of liability and equity classified earnouts.

Prior studies on earnouts shed light on the benefits of this contract feature, primarily examining the circumstances where earnout provisions are more likely to be included in acquisition agreements. Kohers and Ang (2000), Datar et al. (2001), and Chatterjee et al. (2004) suggest that earnouts help acquiring firms hedge risk and reduce the costs of acquisition when there is greater information asymmetry about the target firms. Kohers and Ang (2000) and Chatterjee et al. (2004) also provide evidence that acquisition premiums are greater when earnouts are included in acquisition agreements. More recently, Cain et al. (2010) examine the terms of earnout provisions and find that earnouts are larger when targets operate in industries with high growth or high return volatility, consistent with earnouts being structured to minimize the costs of valuation uncertainty. Our study contributes to this stream of literature by focusing on how the change in the accounting for earnouts influences the information environment surrounding this contract feature and their use in acquisition agreements.

We find that earnout provisions are more common in the period following the adoption of SFAS 141(R), after controlling for other known determinants of earnout provisions. Our results also suggest that concerns about additional leverage and earnings volatility reduce the probability of including earnout provisions after the adoption of SFAS 141(R). Finally, we find evidence that the earnout fair values and subsequent adjustments provide incremental information to the market beyond changes in earnings.

Together, our results provide evidence that SFAS 141(R) influences the use and information content of earnout provisions used in acquisitions. In addition, the market responds to earnout fair value adjustments beyond simply their impact on earnings. Our study contributes to the understanding of accounting regulation on contract design, while also illustrating how mandated disclosure can improve the information environment in a way that is relevant to market

participants. The results of our study shed light on how changes in financial reporting regulation influence contract design and how the market values new information recognized in financial statements associated with fair value estimates and subsequent adjustments.

2. Earnouts

2.1. Accounting for Earnouts

The accounting for earnouts was initially specified in Accounting Principles Board Opinion (APB) No. 16 (1970). Under APB 16, future payments to be made as part of a business combination agreement should have been included in the purchase price and recorded at the acquisition date if these payments were made "unconditionally" with amounts determinable at the acquisition date (e.g., amounts placed in escrow for a specific period of time). However, if these payments are contingent on the outcome of future events, as for earnouts, then these contingent payments should have been disclosed at the time of acquisition, but not recorded as a liability until the contingency was resolved. When the contingency was resolved, the corresponding payments were recognized as an addition to the purchase price and generally recorded as an increase to goodwill.

Statement of Financial Accounting Standards (SFAS) No. 141 (2001) superseded APB 16 but did not substantially modify the accounting for, and disclosure of earnouts. In 2007, however, SFAS 141 was revised to include significant changes to the accounting treatment of earnouts. Specifically, SFAS 141(R) requires the acquirer to recognize all assets acquired and liabilities assumed, measured at their fair values as of the acquisition date.[3] Accordingly, the fair value of an

[3] SFAS 141(R) applies to acquisitions completed on or after the beginning of the first annual reporting period beginning on or after December 15, 2008. SFAS 141(R) is now Accounting Standards Codification (ASC) 805. For familiarity reasons, we will refer to SFAS 141(R) throughout this study when referring to the current accounting rules for business combinations, i.e., SFAS 141(R) and ASC 805.

earnout must be estimated as of the acquisition date and included in the acquisition's purchase price. When earnout payments are in the form of cash payments, transfers of other assets, and/or equity payments settled with a variable number of shares, the earnout fair value is recorded as a liability, and subsequent adjustments to the fair value of the earnout liability must be recorded through earnings at each reporting date until the contingency is resolved. When earnout payments are in the form of equity payments settled with a fixed number of shares, the earnout fair value is recorded as equity, with subsequent settlement differences accounted for within equity as the contingency is resolved. In our sample, approximately 3% of the earnout provisions in the post-SFAS 141(R) period are classified as equity. As a result, much of our discussion focuses on earnouts classified as liabilities.

Prior to the adoption of SFAS 141(R), an earnout impacted the acquirer's financial statements only when i) the contingency was resolved, and ii) earnout payments were made, or it was reasonably assured they would be made. Hence, the financial reporting implications were minimal. On the balance sheet, (short-term) liabilities were recognized after the contingency was resolved but before the payments were made (usually for an average of a few months). On the income statement, the assets recorded when earnout payments were made, generally in the form of goodwill, may have resulted in future impairments and related expenses. Note that this income statement effect was indirect and may have occurred long after the acquisition was completed, the contingency was resolved, and the earnout payments were made.

The new accounting requirements for earnouts introduced by SFAS 141(R) considerably changed the impact of earnouts on acquirers' financial statements. Following the adoption of SFAS 141(R), earnouts impact the acquirer's financial statements as of the acquisition date as follows. On the balance sheet, the fair value of the earnout is now estimated and recognized in

the purchase price, which increases assets with the fair value of the contingent payment recognized as a liability. Earnout payments are typically settled one to five years after the acquisition. The liabilities are recognized as long-term liabilities in most cases.[4] Finally, for liability classified earnouts, in each reporting period after the acquisition date and until the contingency is entirely resolved, changes in the earnout fair value are recorded through earnings on the income statement.

In addition to the impact of earnouts on the acquirer's financial statements, SFAS 141(R) introduces the following financial reporting effects: i) the determination, recording, and re-measurement of earnout fair values introduce further subjectivity and complexity to the reporting process of acquisitions; ii) the recognition of earnout fair values in the purchase price increase the reported cost of an acquisition; iii) the re-measurement of earnout fair values in each reporting period introduce volatility to earnings post-acquisition; and iv) the quarterly gains/losses recorded when adjusting earnout fair values may be opposite to the underlying performance of the acquired business, e.g., if the acquired business performs well (poorly), the earnout fair value may be adjusted up (down) with a resulting loss (gain) recorded.[5] As discussed in numerous practitioner articles and echoed in the arguments set forth in the 110 comment letters sent to the Financial Accounting Standards Board opposing the new accounting rules for earnouts, these financial reporting effects may reduce the attractiveness of earnout arrangements

[4] For equity classified earnouts, the earnout fair value recorded as equity dilutes the acquirer's equity at the time of the acquisition.

[5] In SFAS 141(R), the Financial Accounting Standards Board discusses the fact that these "counterintuitive" gains/losses may be (partially) offset by related transactions (such as asset impairments or reductions of other liabilities) (c.f., B358-B360). However, and as discussed in a few comment letters, these counterintuitive gains/losses may not be offset by any related transaction.

for acquirers as they are the financial statement *preparers* bearing the costs of these financial reporting effects.[6]

At the same time, SFAS 141(R) may provide additional valuable information regarding earnouts to market participants, the financial statement users. Prior to SFAS 141(R), an acquirer disclosed in the financial statement footnotes the following information pertaining to earnouts: the maximum amount of earnout payments (almost systematically), the expiration date of the earnout period (frequently), the payment schedule (occasionally), and the earnout thresholds to achieve for the target firm to receive the payments (rarely). Earnout provisions were generally provided as part of the acquisition agreement attached to the corresponding 8-K, 10-Q, or 10-K filing. In addition to these disclosures, an acquirer must now estimate the fair value of an earnout, which consists of two important pieces of information: i) the specific discount rate used, and ii) the acquirer's expectations of the acquired business' future performance and likelihood that the earnout thresholds will be achieved. In addition, subsequent earnout fair value adjustments provide information regarding revisions in the acquirer's expectations of the likelihood that the acquired business will achieve the earnout thresholds. These changes in expectations may provide market participants with information regarding the target firm's true worth and the realized benefits of the acquisition. Note that Pre-SFAS 141(R), market participants had no information regarding acquirers' expectations of the earnout thresholds being achieved and the corresponding earnout payments. Furthermore, because SFAS 141(R) requires firms to estimate earnout fair values in a way that directly impacts the financial statements, this information is more prominent and easily accessible to financial statement users.

[6] See Appendix B for a summary of the main arguments in favor and against the change in the accounting for earnouts discussed in the comment letters received by the FASB.

2.2. Prior Literature on Earnouts

Although numerous papers examine mergers and acquisitions, only a few papers consider earnouts. The prior work sheds light on the benefits of earnouts, primarily examining the circumstances where earnout provisions are more likely to be included in acquisition agreements. Kohers and Ang (2000) study a sample of earnout provisions over the period 1984 to 1996, Datar et al. (2001) analyze acquisitions completed between 1990 and 1997, and Chatterjee et al. (2004) examine a sample of earnouts in the U.K. from 1998 to 2001. All three studies reach similar conclusions: earnouts help acquirers hedge risk and reduce the costs of acquisition when there is greater information asymmetry about the target firm.[7] Overall, they find that earnout provisions are more likely to be included when targets are small, privately held, service companies, with high return on assets and relatively large amounts of intangible assets, from different industries than acquirers, and operating in high-tech industries with high research and development (R&D), high sales growth, and high market-to-book ratios. Kohers and Ang (2000) and Chatterjee et al. (2004) also provide evidence that acquisition premiums are greater when earnouts are included in the acquisition agreement, where acquisition premiums are measured using transaction values divided by the targets' total assets, EBITDA, or book value. More recently, Cain et al. (2010) examine the terms of earnout provisions included in acquisitions completed between 1994 and 2003. Their findings suggest that earnouts are larger when the targets operate in industries with high growth or high return volatility, consistent with earnouts being structured to minimize the costs of valuation uncertainty.

[7] Kohers and Ang (2000) also conclude that earn-outs serve to retain target managers. Indeed incentive payments to target managers are occasionally included in earn-out provisions. However, for accounting purposes, under APB 16 and SFAS 141(R), such payments are not considered as part of an earn-out and are recognized as compensation expense over the appropriate period (generally the length of the earn-out). Under SFAS 141(R), these incentive payments are not included in the purchase price along with the estimated earn-out fair value.

We build on prior studies of earnout provisions focusing on how the change in the accounting for earnouts influences the information environment surrounding earnout provisions and their use in acquisition agreements. As such, we provide evidence on the influence of regulation contract design and the information environment, and how required disclosures help reconcile information asymmetries between insiders and less informed market participants.

3. Hypothesis Development

Our first research question investigates the propensity to include earnout provisions in acquisition agreements and the terms used in these provisions. We focus on the adoption of SFAS 141(R), and control for the known determinants of earnouts provided by prior literature. We conjecture that the adoption of SFAS 141(R) played a role in the use and design of earnouts. As discussed in Section 2.1, prior to SFAS 141(R), firms engaged in acquisitions with earnouts disclosed very little information regarding these provisions. Furthermore, firms did not recognize, disclose, or even estimate earnout fair values. In contrast, SFAS 141(R) now requires firms to estimate earnout fair values, include these fair values in purchase prices, recognize related liabilities (or equity), and adjust these earnout fair values quarterly while recording these adjustments through earnings.

This new accounting standard alters the information environment of earnouts on at least two dimensions. First, the estimated earnout fair value reveals information about the acquirer's discount rate and, perhaps more importantly, reveals management expectations of the likelihood the acquired business will achieve the thresholds outlined in the earnout provisions. Second, because the earnout fair value is included in the purchase price along with the corresponding

liability (or equity), financial reporting implications result from the implementation of SFAS 141(R) from the acquisition date through the resolution of the contingency.

The financial reporting consequences and additional information recognized in financial statements after the adoption of SFAS 141(R) may influence the propensity to include earnouts in acquisition agreements. From one perspective, acquirers may be less likely to include earnouts if they are concerned about revealing information regarding their expectations of the targets' future performance and their estimated value of the acquisition. Furthermore, firms may be reluctant to bear the financial reporting costs of estimating earnout fair values, reporting increased purchase prices, increasing their liabilities (or diluting their book-value of equity), and the bearing the influence of adjusting earnout fair values on earnings including the potential impact on the volatility of their earnings. Alternatively, partly due to these financial reporting costs, the additional earnout information provided and recognized in financial statements may consist of a costly and therefore credible signal (as suggested in Spence 1973 or in the IPO literature as in Leland and Pyle 1977). For instance, through this signal, acquirers may wish to disclose information regarding their estimation of the acquisition's value, their estimation of the target's value, their expectations of the likelihood the target will achieve the earnout thresholds, and/or their ability to estimate earnout fair values. As a result, acquirers may be more likely to include earnouts.

This discussion leads to our first hypothesis, which is non-directional because of the competing forces discussed above:

H1: The propensity to include earnout provisions in acquisition agreements changes following the adoption of SFAS 141(R).

To disentangle the financial reporting costs introduced by SFAS 141(R), we provide a second set of hypotheses that focus on the financial reporting implications of earnouts after the

adoption of SFAS 141(R). This set of hypotheses, which is derived from our second research question on the motivation for including earnout provisions in acquisition agreements, suggests that acquiring firm characteristics may influence the use and design of earnout provisions in acquisition agreements. More specifically, acquiring firms may be less likely to use earnouts following the adoption of SFAS 141(R) when they are concerned about the financial reporting costs associated with the new accounting regulation.

The first financial reporting cost is the additional reported liability (for liability classified earnouts) that results from earnout provisions after the adoption of SFAS 141(R). The corresponding hypothesis is as follows:

> *H2a: Firms are less likely to include earnout provisions in acquisition agreements following the adoption of SFAS 141(R) when they are concerned about reporting increased liabilities.*

The second financial reporting implication involves the resolution of the contingency over time and the impact of earnout fair value adjustments on earnings. Earnout fair value adjustments may impact earnings in several ways. From one perspective, earnings volatility may decline because gains/losses resulting from fair value adjustments may be negatively correlated with other elements of earnings, offsetting their impact on earnings, and decreasing the overall earnings volatility. Alternatively, gains/losses resulting from earnout fair value adjustments may be correlated with the acquiring firm's underlying earnings stream and in turn may exacerbate the existing earnings volatility. Regardless of the impact on earnings volatility, earnout fair value adjustments negatively impact earnings when the target's performance is better than predicted, and positively impact earnings when the target's performance is worse than expected. Appendix C provides an example of earnout fair value adjustments and the impact on reported liabilities and earnings. The related hypothesis is as follows:

H2b: Firms are less likely to include earnout provisions in acquisition agreements following the adoption of SFAS 141(R) when they are concerned about the effects of earnout fair value adjustments on reported earnings.

Opposing forces to this set of hypotheses that focus on the financial reporting concerns come from the benefits derived from earnout provisions as documented in prior literature (e.g., resolving moral hazard concerns). In addition, managers may prefer the financial reporting *flexibility* associated with earnout provisions such as having the opportunity to manipulate earnings when recognizing fair value adjustments.

Our third research question focuses on the market's valuation of the new earnout information provided and recognized in financial statements following the adoption of SFAS 141(R) (i.e., earnout fair values and earnout fair value adjustments, if any). Prior to SFAS 141(R), acquirers could voluntarily disclose details of earnouts. However, as discussed above, acquirers generally only provided the maximum amounts of earnout payments. Under SFAS 141(R), the new earnout disclosures recognized in financial statements provides the market with information about the expected cash flows of the acquirer and management's expectations of the likelihood the acquired business will achieve the earnout thresholds. Finally, because SFAS 141(R) requires firms to include the earnout fair value in the purchase price along with other information about the contingency, we predict that market participants find earnout fair values to be informative and we conjecture that they use this information when considering the return on an acquisition. Together, this leads to our next hypothesis:

H3a: The market values initial earnout fair values recognized in financial statements following the implementation of SFAS 141(R).

In addition to earnout fair values providing additional information to market participants at the time of the acquisition, subsequent fair value adjustments in each reporting period provide further information. Earnout fair value adjustments are informative on at least two dimensions.

First, as discussed in Section 2.1, for liability classified earnouts, fair value adjustments have a direct effect on earnings and liabilities: increases (decreases) in the likelihood of achieving earnout thresholds increase (decrease) the earnout liability and are recorded as a loss (gain) in earnings. In addition to the financial reporting implications, fair value adjustments signal a change in the acquiring firms' expectations of the target's future performance, where an increase (decrease) in the liability indicates that the likelihood of the target achieving the earnout thresholds is greater (lower) than previously anticipated. Because an increase (decrease) in the liability would have a negative (positive) effect on earnings, but a positive (negative) signal about the likelihood of the target achieving the earnout thresholds, these two effects compete. Furthermore, as discussed in Section 2.1, earnout fair value adjustments provide a signal about the likelihood of the target achieving the earnout thresholds and the required obligation, but may also be interpreted as a signal about the target firm's worth and the benefits of the acquisition. This affords us an opportunity to test whether the earnings effect or the signal revealed by the fair value adjustment dominates with respect to the market's use of the earnout fair value adjustment information based on the following hypothesis:

> *H3b: The market values earnout fair value adjustments provided and recognized in financial statements following the implementation of SFAS 141(R).*

If the financial reporting implication of the fair value adjustment dominates, we expect the market to respond to the change in earnings that result from fair value adjustments. If, instead, the information revealed by the fair value adjustments dominates, we expect the market to respond more to the new information about the likelihood of achieving the earnout thresholds. More specifically, the market would respond negatively (positively) to a decline in earnings that results from an increase in the likelihood of achieving the earnout thresholds if the financial reporting effect (signal revealed by the fair value adjustments) dominates.

4. Empirical Tests and Results

4.1. Data and Sample Selection

We obtain data from the following sources: the Thomson Reuters Securities Data Company (SDC) Platinum Mergers and Acquisitions database, the Compustat annual and quarterly database, and the CRSP daily returns database. We first identify acquisition agreements that include earnout provisions using the SDC database, which identifies whether acquisitions contain earnout provisions by recording the maximum value of the earnout payments.

Our initial sample includes 11,488 acquisitions by U.S. public acquirers with nonmissing deal values in the SDC database, positive acquirer total assets and book value of equity in the Compustat database, and sufficient data to construct our explanatory variables.[8] Our sample period spans July 1, 2001 to May 31, 2011, covering only post-SFAS 141 observations to ensure a relatively homogeneous reporting environment. Out of these 11,488 acquisitions, 9,813 (1,675) are completed pre- (post-) SFAS 141(R), and 972 contain earnout provisions (798 pre- and 174 post-SFAS 141(R)).

We also supplement our sample of earnout provisions with acquisitions that are covered by the SDC database but marked as having a missing deal value and/or a missing maximum value of earnout payments. For these acquisitions, we search corporate filings in the Securities Exchange Commission's Electronic Data Gathering, Analysis, and Retrieval (EDGAR) database for any earnout related information, and compile these supplemental observations. For the post-

[8] The data required to construct explanatory variables are: quarterly Compustat data for the acquiring firm for at least eight of the prior 12 quarters prior to the acquisition announcement date, acquiring firm's closing stock price in the CRSP database prior to acquisition announcement date, annual Compustat data for at least three firms in the same three-digit SIC industry as the target firm in the year prior to the acquisition announcement date.

SFAS 141(R) period, we are able to identify 164 additional observations, for a total of 338 acquisitions with earnout provisions.

Finally, to gather additional detailed information on the earnout provisions of the 338 acquisition agreements that include earnouts in the post-SFAS 141(R) period, we hand-collect initial earnout fair value estimates and subsequent earnout fair value adjustments as well as earnout design details (such as starting date, evaluation period, performance metric, payment structure, etc.) from corporate filings (forms 8K, 10Q, and 10K) in the EDGAR database. See Appendix A for an example of the earnout related information available in corporate filings.

4.2. The Propensity of Including Earnout Provisions

Our first hypothesis predicts that the adoption of SFAS 141(R), which requires firms to recognize earnout fair values on their financial statements and adjust the corresponding earnout liability over time (which impacts earnings), influences the use of earnouts in acquisition agreements. To provide evidence on the relation between the adoption of SFAS 141(R) and the use of earnout provisions, we investigate cross-sectional variation across firms that engage in acquisitions with earnout provisions relative to other firms that engage in acquisitions without such a contingent contract.

Following the adoption of SFAS 141(R), firms may be reluctant to bear the financial reporting costs of estimating earnout fair values, reporting increased purchase prices, and increasing their liabilities (for liability classified earnouts). In addition because firms' earnout fair value adjustments may impact their earnings' volatility, firms may be less likely to include earnout provisions in their acquisitions. Together, we predict that firms with greater financial reporting concerns are less likely to contract with earnouts after the adoption of SFAS 141(R).

Specifically, we predict that acquiring firms with greater leverage are more concerned about increasing their leverage ratio, and thus less likely to include earnout provisions. We also predict that acquiring firms are less likely to include earnout provisions when they are more concerned about the volatility in their reported earnings. Thus, we expect a negative relation between earnout provisions and the standard deviation of past earnings, a string of positive earnings, and a stream of earnings growth.

We also consider other determinants of earnouts documented in the prior literature. We expect larger acquisitions and greater information asymmetry to result in a greater probability of an earnout provision. Earnout provisions reduce the reported value of an acquisition prior to the adoption of SFAS 141(R), which may benefit the firm by reducing the liability and goodwill generated by the acquisition. Targets in industries with more intangible assets are generally more difficult to value and involve greater information asymmetry.

The basic model we employ is as follows:

$$\begin{aligned} Earnout = {} & \beta_0 + \beta_1 AcqLEV + \beta_2 AcqEarnStd + \beta_3 AcqProfit + \beta_4 AcqEarnInc \\ & + \beta_5 TranVal + \beta_6 TranValMVE + \beta_7 PrevDeal + \beta_8 TargetQ \\ & + \beta_9 TargetRNDSale + \beta_{10} TargetEMPAT + \beta_{11} TargetPrivate \\ & + \beta_{12} TargetCrossInd + \beta_{13} TargetForeign + \beta_{14} Post141R + \varepsilon \end{aligned} \quad (1)$$

The explanatory variables related to the determinants of earnouts are consistent with prior research (e.g., Datar et al. 2001). To test the relation between SFAS 141(R) and earnout provisions, we also include an indicator variable that equals one if the acquisition occurred after the adoption of SFAS 141(R), zero otherwise. Finally, to test H2a and H2b, we include interaction terms of all explanatory variables in Equation (1) with the post-SFAS 141(R) indicator variable.

4.2.1. Univariate Analysis on the Use of Earnout Provisions

Table 1 provides statistics on the use of earnouts over our sample period. On average, 8.5 percent of deals include an earnout. In addition, although the number of deals declines considerably towards the latter period of our sample, the proportion of deals that include an earnout increases from approximately 7.0 to 7.9 percent in 2001-2006 to approximately 9.5 to 11.5 percent in 2008-2011.

Focusing on acquiring firm characteristics displayed in Panel A of Table 2, we find striking differences between firms that engage in acquisitions with earnout provisions relative to those that do not. Focusing first in the period prior to the adoption of SFAS 141(R), we find that firms that acquire with earnout provisions have significantly lower leverage, higher standard deviation of earnings, and reported fewer non-negative earnings. The transaction values of acquisitions with earnouts are significantly smaller than acquisitions without earnouts. Acquiring firms that make significantly fewer deals over the prior three years in the same 3-digit SIC industry as the target include more earnouts. We also find that earnings growth over the prior 12 quarters, and the transaction value scaled by the market value of the acquirer, are not significantly different between firms that include earnouts in their acquisition agreements compared to firms that do not include such provisions. Together, these univariate statistics are consistent with acquiring firms being more likely to include earnouts when there are incentives to reduce the reported acquisition price and they are less informed about the target industry.

Moving to the target firm characteristics presented in Panel B of Table 2, we find that earnouts are more common when the Tobin's Q of the target industry is larger, the target industry's R&D to sales ratio is greater, the target industry's number of employees to assets is

greater, and the target is private. Together, these results suggest that earnouts are more common when there is greater risk and greater information asymmetry about the target.

Considering the period following the adoption of SFAS 141(R), we find comparable differences among firms that include earnout provisions as those documented in the period prior to the revised statement. However, the differences in the acquirers' standard deviation of earnings, the likelihood of including earnouts given the number of past deals in the target's industry, the target industry's employees to assets ratio do not remain statistically significant after the adoption of SFAS 141(R). Despite these dissimilarities, the results continue to suggest that earnouts are more prevalent when there is greater risk associated with the acquirer and greater information asymmetry about the target.

4.2.2. Probit Analysis on the Use of Earnouts

We provide in Panel A of Table 3 parameter estimates of a probit model of Equation (1). Column (1) reports the results of the basic model. The results indicate that earnout provisions are negatively associated with leverage, positive earnings, and the number of deals in the same 3-digit SIC industry of the target over the prior three years. Earnouts are also positively related with acquisitions of privately held targets and targets that operate in industries with high R&D to sales ratio and high growth opportunities as measured by Tobin's Q. These results are broadly consistent with prior literature. Column (2) reports the results after including an indicator for acquisitions following the adoption of SFAS 141(R). The positive, significant coefficient on *Post141R* confirms the univariate results presented in Table 1 and suggests that earnout provisions are more likely when firms are required to recognize the fair value of earnout

provisions. The coefficients on the other determinants of earnout provisions are of similar sign and significance after including the post-SFAS 141(R) indicator.

Column (3) reports results after including interactions of *Post141R* with the acquirer, deal, and target characteristics. Although we include the full set of interaction terms, we only report coefficients for interactions on characteristics that are statistically significant in the basic model reported in Column (1). Panel B of Table 3 reports the marginal effects of the *Post141R* indicator variable and the complete set of interaction terms. The negative and significant marginal effect for the interaction of *Post141R* with leverage suggests that leverage is *more* negatively associated with earnout provisions after SFAS 141(R) requires firms to report earnout fair values and recognize earnouts as liabilities. This negative relation is consistent with our hypothesis that financial reporting considerations influence the propensity of including earnout provisions in acquisitions. The negative and significant marginal effects for the interaction of *Post141R* with the standard deviation of earnings and with the fraction of quarters with non-negative earnings further support our hypothesis that firms are less likely to use earnout provisions when they are more sensitive to the reported earnings implications of earnout fair value adjustments.

Overall, our results are consistent with H1 that the change in the financial reporting landscape due to SFAS 141(R) alters the propensity to include earnout provisions in acquisitions. More specifically, consistent with H2a, firms are less likely to include earnout provisions in acquisition agreements when they are concerned about the effect of earnout fair values on reporting increased liabilities. In addition, firms are less likely to include earnout provisions following the adoption of SFAS 141(R) when they are concerned about the effects of earnout fair value adjustments on earnings levels and volatility, as predicted by H2b. These documented

relations persist after considering information asymmetry as a motivation for including earnout provisions in acquisition agreements. Together, the results suggest that in aggregate, more firms acquire with earnings after the adoption of SFAS 141(R), but the financial reporting concerns are negatively related with this contract feature. This suggests that at least in some cases, SFAS 141(R) increased the benefits of contracting with earnouts. We explore one of these motivations, signaling additional information, by exploring the information content of earnout fair values and adjsutments in the following section.

4.3. Market Valuation of Earnout Fair Values

To provide evidence on whether earnout provisions reveal information to the market, we examine cumulative market adjusted returns around acquisition announcement dates and effective dates. We test for a relation between reported earnout fair values and market adjusted returns around the acquisition. We estimate the following model on the sample of firms that include earnout provisions in acquisition agreements after the adoption of SFAS 141(R):

$$CAR = \beta_0 + \beta_1 TranValMVE + \beta_2 EOValMVE + \beta_3 Stock + \beta_4 CrossInd + \beta_5 Private + \beta_6 Public + \beta_7 Small + \varepsilon \quad (2)$$

We measure *TranValMVE* as either i) the ratio of the transaction value (including the maximum earnout payment amount) to the acquirer's market value of equity measured prior to the acquisition announcement date (*TranValMVE*), or ii) the ratio of the transaction value excluding the earnout related component to acquirer market value of equity (*TranValNoEOMVE*). We exclude the earnout related component from the transaction value when we explicitly include the earnout value, measured as either i) the maximum value of the earnout (*EOMAXMVE*), or ii) the fair value of the earnout (*EOFVMVE*) and the difference between the maximum and fair value of the earnout (*EORestMVE*), where

TranVal = TranValNoEO + EOMax and *EOMax = EOFV + EORest*. We also include target firm and deal characteristics in line with prior research (e.g., Moeller et al. 2005). Specifically, our variables consider whether the deal included stock as a component of the payment (*Stock*), whether the target operates in a different industry than the acquirer (*CrossInd*), whether the target is a private firm (*Private*), whether the target is a public company (*Public*), and whether the target is in the lower 25th percentile of the NYSE (*Small*).[9] The dependent variable is the cumulative market adjusted returns to the acquiring firm from one day prior to the announcement date through one day following the filing date of the first quarterly report (10Q/10K) after the acquisition. We use this return window because the first quarterly report after the acquisition is where the initial earnout fair value is disclosed and recognized for the first time by the acquirer. For this analysis, we restrict the sample to observations for which the acquisition announcement and effective dates are in the same fiscal quarter.

Table 4 presents results from the estimation of Equation 2. Column (1) represents the basic model. We find a positive relation between market adjusted returns and transaction values. The other determinants are not significantly related with market adjusted returns, except that acquisitions of public firms are negatively related to market adjusted returns. Column (2) focuses on the market response to information about the maximum earnout payments. It is important to note that the maximum earnout payment was the common information provided about an earnout prior to the adoption of SFAS 141(R). Thus, this test informs the value relevance of disclosing this information. We do not find a significant relation between market adjusted returns and transaction values with or without maximum earnout payment amounts. Column (3) presents results after including the earnout fair values. There is a positive and significant relation between

[9] Note that there are a few other possible classifications for target firms aside from public or private, such as subsidiary.

the earnout fair values and market adjusted returns around the acquisition. We also include the difference between earnout fair values and maximum earnout payment amounts but find no relation. We also do not find a relation between market adjusted returns and transaction values in this specification. Together these results suggest that earnout fair values inform the market about the value of acquisitions after controlling for other characteristics, including transaction values. This is consistent with H3a, which predicts that the market values initial earnout fair values.

4.4. Market Valuation of Earnout Fair Value Adjustments

We next turn to the market valuation of earnout fair value adjustments. H3b predicts that the market values earnout fair value adjustments because they provide information about changes in expectations regarding the likelihood that the target will achieve the earnout thresholds. These changes in expectations may be seen as signals regarding the target's worth and the benefits of the acquisition.

To provide evidence on whether the market values information revealed by earnout fair value adjustments, we test cumulative market adjusted returns around earnings announcements. We isolate the effect of the fair value adjustment on the earnings two ways. First, to establish that the market reacts to the change in earnings for our sample, we estimate the following basic model:

$$CAR = \beta_0 + \beta_1 \Delta EARN + \varepsilon \qquad (3)$$

where, CAR is the cumulative market adjusted returns for the period starting two trading days after the prior quarter earnings announcement through one trading day after the current earnings announcement, and ΔEARN is the difference between current earnings per share and earnings per share at the end of the quarter one year prior, scaled by the stock price at the beginning of the

quarter. Column (1) of Table 5 presents parameter estimates of Equation (3). Consistent with prior studies, there is a significant positive relation between market adjusted returns in changes in earnings.

We then decompose ΔEARN into the change in the earnout fair value and the remaining change in earnings. Specifically, we estimate the following model:

$$CAR = \beta_0 + \beta_1 \Delta EARN\ ADJ + \beta_2 EO + \varepsilon \qquad (4)$$

where, EO is the earnings effect of the earnout fair value adjustment, ΔEARN ADJ is the change in earnings adjusted for the earnings effect of the change in the earnout liability. A positive coefficient on EO would suggest the effect on earnings dominates the signal about the changes in expectations, while a negative coefficient would suggest the signal about the changes in expectations dominates.

Column (2) of Table 5 provides parameter estimates of Equation (4). While we find a positive and significant coefficient on the adjusted change in earnings, we find a negative and significant coefficient in the earnout adjustment. These significant coefficients suggest two important relations with respect to market valuations of earnout fair value adjustments. First, consistent with H3b, the market values earnout fair value adjustments. However, the negative coefficient suggests the market responds to the signal about the changes in expectations more than it does to the effect on earnings. That is, the signal about the target firm's worth and the benefits of the acquisition outweigh the financial reporting impact of the adjustment on earnings.

Finally, because of the documented asymmetric response to positive and negative changes in earnings, we also estimate Equation (4) splitting positive and negative adjusted changes in earnings along with positive and negative earnout fair value adjustments. Column (3) presents parameter estimates of the expanded model. We find a positive relation between market

adjusted returns and positive earnings changes, but no significant relation with negative earnings changes. We also find a negative relation to positive *and* negative earnout fair value adjustments. This suggests that, consistent with the results in Column (2), the market responds more to the signal about the changes in expectations, independent of the sign of the changes. Together, the evidence presented in Table 5 is consistent with earnout fair value adjustments informing the market in a meaningful way that extends beyond changes in earnings.

5. Conclusion

We investigate the role of SFAS 141(R) on the use of earnout provisions in acquisitions. We also examine the market valuation of the new earnout disclosures recognized in financial statements. Because SFAS 141(R) requires firms to estimate and recognize the fair value of earnouts at the time of an acquisition, the information environment surrounding earnout provisions changed dramatically, which provides an opportunity to explore the costs and benefits of required fair value estimates. The mandated earnout fair value disclosures may have two competing effects on the use of earnout provisions in acquisitions agreements. First, firms may be less likely to include earnout provisions in acquisitions to avoid the costs of estimating fair values and avoid the financial reporting consequences of this contract feature including acquisition values and liabilities in addition to the additional volatility introduced to earnings by the earnout fair value adjustments over time. Alternatively, the additional required information about this contract feature may encourage firms to include earnouts to signal their expectations regarding the value of the target and the likelihood the target will achieve the contracted outcomes in a more credible environment.

Our findings suggest that earnout provisions are more prevalent following the adoption of

SFAS 141(R), after controlling for other known determinants of earnout provisions. At the same time, concerns about additional leverage and earnings volatility imposed by SFAS 141(R) reduce the probability of including earnout provisions in acquisition agreements after the adoption of SFAS 141(R). At the same time, the market values the information content of earnout fair values at the acquisition. In addition, we find evidence that the earnout fair value adjustments provide incremental information to the market beyond the effect on earnings.

Together, our results suggest that SFAS 141(R) influences the use and information content of a contracting mechanism used in acquisitions. In addition, the market responds to the signal revealed by fair value adjustments beyond their impact on earnings. Our study contributes to the understanding of accounting regulation on contract design, while also illustrating how mandated disclosure can improve the information environment in a way that is relevant to market participants.

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Appendix A

In this appendix, we provide an example representative of the earnout disclosures available in corporate filings (emphasis added).

McAfee, Inc., SEC Filing 10-Q for Quarter ended September 30, 2009, filed November 6, 2009, pages 12-14.

MCAFEE, INC. AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

4. Business Combinations
2009 Acquisitions

On September 1, 2009, we acquired 100% of the outstanding shares of MX Logic, Inc. ("MX Logic"), a Software-as-a-Service provider of on-demand email, web security and archiving solutions for $138.5 million. The MX Logic purchase agreement provides for earn-out payments totaling up to $30.0 million contingent upon the achievement of certain MX Logic revenue targets. The $24.6 million fair value of the earn-out payments has been accrued for a total purchase price of $163.1 million.

The MX Logic contingent consideration arrangement requires payments up to $30.0 million that will be due and payable if certain criteria in relation to revenue recognized on the sale of MX Logic products are met during the three-year period subsequent to the close of the acquisition. The fair value of the contingent consideration arrangement of $24.6 million was determined using the income approach with significant inputs that are not observable in the market. Key assumptions include discount rates consistent with the level of risk of achievement and probability adjusted revenue amounts. The expected outcomes were recorded at net present value. Subsequent changes in the fair value of the liability will be recorded in earnings. As of September 30, 2009 the range of outcomes and the assumptions used to develop the estimates had not changed significantly, and the amount accrued in the financial statements increased by $1.0 million. The increase in fair value was due to expected achievement of the earn-out payments at an earlier date than originally assumed and an increase in the net present value of the liability due to the passage of time.

On June 1, 2009, we acquired 100% of the outstanding shares of Solidcore Systems, Inc. ("Solidcore"), a provider of whitelisting technology that controls and protects the applications installed on a computer, for $32.1 million. The Solidcore purchase agreement provides for earn-out payments totaling up to $14.0 million contingent upon the achievement of certain Solidcore financial and product delivery targets. The $8.4 million fair value of the earn-out payments has been accrued for a total purchase price of $40.5 million.

The Solidcore contingent consideration arrangement requires payments up to $14.0 million that will be due and payable if certain criteria in relation to amounts billed to customers for

Solidcore products are met during the three-year period subsequent to the close of the acquisition and if certain criteria in relation to product development and integration are met within eighteen months of the acquisition. The fair value of the contingent consideration arrangement of $8.4 million was determined using the same approach described above for the MX Logic earn-out. As of September 30, 2009, the range of outcomes and the assumptions used to develop the estimates had not changed, and the amount accrued in the financial statements increased by $0.4 million. The increase in fair value was due to an increase in the net present value of the liability due to the passage of time.

The preliminary allocation of the purchase price was based upon preliminary estimates and assumptions that are subject to change within the purchase price allocation period (generally one year from the acquisition date). The primary areas of the purchase price allocation that are not yet finalized are related to certain tax elections for Solidcore, as well as the measurement of certain deferred tax assets and liabilities for both Solidcore and MX Logic. Our preliminary purchase price allocation for Solidcore and MX Logic are as follows (in thousands):

	Solidcore	MX Logic	Total 2009 Acquisitions
Technology	$ 14,100	$ 36,100	$ 50,200
Customer contracts and related relationships	600	34,500	35,100
Other intangibles	2,100	3,900	6,000
Goodwill	17,679	96,343	114,022
Deferred tax assets	20,996	22,458	43,454
Cash	892	320	1,212
Other assets	1,400	5,853	7,253
Total assets acquired	57,767	199,474	257,241
Accrued liabilities and other liabilities	1,972	2,215	4,187
Deferred revenue	2,435	1,817	4,252
Deferred tax liabilities	12,825	32,354	45,179
Total liabilities assumed	17,232	36,386	53,618
Net assets acquired	$ 40,535	$ 163,088	$ 203,623

Our management determined the purchase price allocations for these acquisitions based on estimates of the fair values of the tangible and intangible assets acquired and liabilities assumed. We utilized recognized valuation techniques, including the income approach for intangible assets and earn-out liabilities and the cost approach for certain tangible assets, and we used a discount rate reflective of the risk of the respective cash flows. Goodwill for Solidcore resulted primarily from our expectation that we will now be able to provide our customers with an end-to-end compliance solution that includes whitelisting and application trust technology, antivirus, antispyware, host intrusion prevention, policy auditing and firewall technologies. We intend to

incorporate Solidcore's technologies into our vulnerability and risk management business, integrating it with our McAfee ePolicy Orchestrator in 2009. The goodwill for Solidcore may be deductible for tax purposes, depending on certain tax elections that have not been finalized. Goodwill for MX Logic resulted primarily from our expectation that we will be able to deliver a comprehensive cloud-based security portfolio to our customers. The goodwill for MX Logic is not deductible for tax purposes.

In January 2009, we acquired 100% of the outstanding shares of Endeavor Security, Inc. ("Endeavor"), an intrusion prevention and detection company, for $2.5 million. The Endeavor purchase agreement provides for an earn-out payment totaling $1.0 million contingent upon the achievement of certain Endeavor financial targets during the two-year period subsequent to the close of the acquisition. The fair value of the earn-out of $0.7 million at acquisition was accrued, for a total purchase price of $3.2 million. As of September 30, 2009 the range of outcomes and the assumptions used to develop the estimates had not changed, and the amount recognized in the financial statements increased by $0.1 million. The increase in fair value was due to an increase in the net present value of the liability due to the passage of time. We recorded $1.4 million of goodwill, which is not deductible for tax purposes. We did not provide the purchase price allocation for Endeavor in the table above because the effect of this acquisition was not material to our condensed consolidated balance sheets.

The results of operations for these acquisitions have been included in our results of operations since their respective acquisition dates. The financial impact of these results is not material to our condensed consolidated statements of income and comprehensive income. In connection with the MX Logic acquisition, we recognized $1.0 million of acquisition related costs that were expensed in the current period and are included in general and administrative expenses in our condensed consolidated statements of income and other comprehensive income for the period ended September 30, 2009.

Appendix B

In this appendix, we provide a summary of the arguments in favor and against expressed in the comment letters received by the FASB on SFAS 141(R).

There are 157 letters commenting on the change in accounting for contingent considerations: 37 agree with the new accounting treatment, 110 disagree, and 10 do not express an opinion.

The main arguments *in favor* of the new rule provided in the comment letters are summarized below:

- Although it is difficult to measure the fair value of earnouts, both the acquirer and the target must have formed certain expectations when completing the acquisition. The new accounting rule simply forces them to quantitatively recognize these expectations.

- Earnouts should be measured at fair value, consistent with the fact that other considerations are also measured at fair value.

- Including earnouts in the acquisition cost allows to fully recognize the cost of the transaction, not solely the consideration exchanged on the acquisition date, therefore improving the relevance of financial statements. The relevance gained outweighs the reliability lost.

- An earnout is a possible future sacrifice of economic benefits, so a relevant obligation should be reflected in financial statements.

- Earnouts should not be ignored in financial statements simply because of uncertainty. Uncertainty exists in almost all accounting measures. Making an estimate and subsequently adjusting that estimate, makes more sense than recording nothing at all.

- Earnout fair value changes after the acquisition date are more likely to be the result of events happening after the acquisition, therefore these fair value changes should not impact the purchase price determined on the acquisition date.

- Earnouts fair value of equity classified earnouts should not be remeasured because additional equity interests are issued based upon subsequent changes in the stock price, which occur after the acquisition date.

- Earnouts fair value of liability classified earnouts should be remeasured because gains and losses resulting from changes in the liability impact economic resources following the acquisition date.

The main arguments *against* the new rule provided in the comment letters are summarized below:

- The requirement to recognize earnout fair values is counter-intuitive and inconsistent with the underlying cause of this contingency. Usually an earnout arrangement arises because the acquirer and the target cannot agree on the fair value of the target. In these circumstances, how can the acquirer determine the fair value of the earnout?

- The fair value measurement of earnout liabilities is very subjective and arbitrary, leading to less reliable and less comparable financial statements.

- The adjustments of earnout fair values through earnings will cause excessive volatility in earnings and lead to illogical outcomes. When the acquired business meets certain performance targets, the acquirer may need to record a loss. However, when the acquired business performs poorly, the acquirer may need to record a gain. Although the gain can be offset by recognizing goodwill impairments, goodwill is tested for impairment at the reporting unit level under SFAS 142, and therefore reductions in fair value of the expected earnout payments may not necessarily correlate to impairment charges of goodwill. Also, because of the potential negative impact on earnings, firms may have incentives to initially overstate the liability to avoid future charges to earnings. These factors may distort operating results and mislead financial statement users.

- As an alternative treatment, post-acquisition change in earn-out fair values should be included in the purchase price, impacting goodwill rather than earnings. This alternative treatment is consistent with the underlying cause of earnout payments, because these payments arise when parties cannot reliably determine the proper purchase price.

- Why are the earnout fair values of equity classified earnouts not remeasured on a periodic basis? Any contingency (both equity and liability) should be remeasured. If the earnout fair values of equity classified earnouts are not remeasured, some firms may intentionally structure acquisitions to classify the earnouts as equity.

- If the contingency is not probable and measurable, then the related information (earnout initial fair value and fair value adjustments) will not be relevant. Hence, the cost-benefit constraint present in all FASB statements will be violated.

- Earnouts paid should be considered as part of the business combination, so any changes in fair value should adjust the purchase price. However, fair value change may also be a result of post-acquisition events; in this case the change should impact earnings. Firms should be able to distinguish between fair value changes related to events on and prior to the acquisition date, and fair value changes related to post-acquisition events (profit-sharing). These two types of arrangements should be treated differently.

Appendix C

In this appendix, we provide a simplified hypothetical example of fair value adjustments and a payment of a liability classified earnout.

Assume the following:

Year 1

- Company P acquires Company T with cash consideration of $40M and earnout payments in cash of up to $50M payable three years following the acquisition based on the net sales and EBITDA of Co. T.
- Fair value of the identifiable net assets of Co. T is $37M.
- Fair value of the earnout at the time of the acquisition is $30M.
- No change in the earnout fair value at the end of year 1.

Year 2

- Fair value of the earnout at the end of year 2 is $35M.

Year 3

- Payment of earnout is $28M (assume earnout payment is not related to any identifiable asset).

Accounting Transactions Pre-SFAS 141(R)

	Assets			=	Liab	+	SE
Year 1	Cash -40	Co. T +37	Goodwill +3				
Year 2							
Year 3	Cash -28		Goodwill +28				

Accounting Transactions Post-SFAS 141(R)

	Assets			=	Liab	+	SE
Year 1	Cash -40	Co. T +37	Goodwill +33		EO Liab +30		
Year 2					EO Liab +5		Loss -5
Year 3	Cash -28				EO Liab -7		Gain +7

Table 1: Acquisition and Earnout Frequency, by Year

Year	Total Deals	Earnouts	Earnouts / Total Deals
2001*	655	45	0.069
2002	1323	97	0.073
2003	1184	94	0.079
2004	1405	110	0.078
2005	1470	111	0.076
2006	1460	112	0.077
2007	1364	126	0.092
2008	970	104	0.107
2009	603	64	0.106
2010	823	78	0.095
2011*	324	37	0.114
Total	11581	978	0.084

Description: Post SFAS 141 deals from SDC Platinum M&A database for U.S. public acquirers with non-missing transaction values, positive acquirer total assets and book value of equity, and sufficient data required to construct acquiring firm and target industry control variables. The sample includes deals with effective dates in the period that spans July 1, 2001 to May 31, 2011 (* corresponds to a period less than a full calendar year).

Table 2: Earnout Selection Summary Statistics

Panel A: Acquirer and deal characteristics									
			AcqLev	AcqEarnStd	AcqProfit	AcqEarnInc	TranVal	TranValMVE	PrevDeal
Pre 141R	No Earnout (N=9093)	mean	0.505	0.028	0.775	0.603	3.921	0.156	0.369
		median	0.503	0.009	0.917	0.583	3.813	0.048	0.000
	Earnout (N=804)	mean	0.394	0.044	0.691	0.605	3.523	0.156	0.297
		median	0.370	0.016	0.833	0.583	3.446	0.074	0.000
	Difference	t-stat	**12.695**	**-7.342**	**7.404**	-0.278	**6.195**	0.008	**3.583**
		pval	**0.000**	**0.000**	**0.000**	0.781	**0.000**	0.994	**0.000**
		chi2	**110.669**	**130.164**	**31.305**	0.009	**33.760**	**45.873**	**6.171**
		pval	**0.000**	**0.000**	**0.000**	0.924	**0.000**	**0.000**	**0.013**
Post 141R	No Earnout (N=1510)	mean	0.494	0.030	0.794	0.554	4.246	0.141	0.265
		median	0.499	0.010	0.917	0.583	4.202	0.048	0.000
	Earnout (N=174)	mean	0.365	0.037	0.702	0.597	3.897	0.134	0.305
		median	0.350	0.019	0.833	0.583	3.850	0.071	0.000
	Difference	t-stat	**7.355**	-1.614	**4.079**	**-3.065**	**2.361**	0.341	-1.082
		pval	**0.000**	0.107	**0.000**	**0.002**	**0.018**	0.733	0.280
		chi2	**36.820**	**17.331**	**4.896**	**7.862**	**4.951**	**7.409**	0.565
		pval	**0.000**	**0.000**	**0.027**	**0.005**	**0.026**	**0.006**	0.452

Panel B: Target characteristics								
			TargetQ	TargetRNDSale	TargetEMPAT	TargetPrivate	TargetCrossInd	TargetForeign
Pre 141R	No Earnout (N=9093)	mean	1.598	0.034	4.267	0.463	0.345	0.171
		median	1.487	0.000	4.073	0.000	0.000	0.000
	Earnout (N=804)	mean	1.779	0.052	4.662	0.755	0.345	0.170
		median	1.692	0.063	4.386	1.000	0.000	0.000
	Difference	t-stat	**-10.044**	**-9.377**	**-2.613**	**-16.107**	0.026	0.036
		pval	**0.000**	**0.000**	**0.009**	**0.000**	0.979	0.971
		chi2	**87.618**	**68.514**	**25.811**			
		pval	**0.000**	**0.000**	**0.000**			
Post 141R	No Earnout (N=1510)	mean	1.390	0.037	3.436	0.433	0.359	0.215
		median	1.330	0.000	3.246	0.000	0.000	0.000
	Earnout (N=174)	mean	1.578	0.071	3.638	0.718	0.270	0.195
		median	1.483	0.068	3.611	1.000	0.000	0.000
	Difference	t-stat	**-6.460**	**-7.527**	-0.699	**-7.253**	**2.329**	0.604
		pval	**0.000**	**0.000**	0.485	**0.000**	**0.020**	0.546
		chi2	**25.133**	**47.714**	**18.690**			
		pval	**0.000**	**0.000**	**0.000**			

Description: Acquirer, deal, and target characteristics for post SFAS 141 deals from SDC Platinum M&A database for U.S. public acquirers with non-missing transaction values, positive acquirer total assets and book value of equity, and sufficient data required to construct acquiring firm and target industry control variables. The sample includes deals with effective dates in the period that spans July 1, 2001 to May 31, 2011. Post-SFAS 141(R) earnouts include those with effective dates in fiscal years that begin on or after December 15, 2008.

Variable Definitions: *AcqLev* is the Ratio of total liabilities to total assets for the acquirer prior to acquisition. *AcqEarnStd* is the standard deviation of acquirer income before extraordinary items (scaled by total assets), measured over the twelve quarters prior to acquisition. *AcqProfit* is the fraction of quarters for which the acquirer reported non-negative earnings, measured over the twelve quarters prior to acquisition. *AcqEarnInc* is the fraction of quarters for which the acquirer reported earnings greater than or equal to earnings four quarters prior, measured over the twelve quarters prior to acquisition. *TranVal* is the log of the total transaction value (including the maximum earnout value). *TranValMVE* is the ratio of total transaction value divided by the acquirer market value of equity (MVE), MVE measured prior to the transaction. *PrevDeal* is the log of the number of previous acquirer deals involving targets from the same 3-digit SIC as the current deal in the prior three years. *TargetQ* is the tobin's Q of target industry measured using annual data prior to acquisition, where Q= (total assets-book value of equity+market value of equity)/total assets (industry median). *TargetRNDSales* is the ratio of R&D to sales of target industry measured using annual data prior to acquisition (industry median). *TargetEMPAT* is the ratio of employees to total assets of target industry measured using annual data prior to acquisition (industry median, multiplied by 1M). TargetPrivate is an indicator variable equal to one if the target is private, zero otherwise. *TargetCrossInd* is an indicator variable equal to one if the 3-digit SIC of the acquirer (both primary and secondary) and primary SIC of the target are different, zero otherwise. *TargetForeign* is an indicator variable equal to one if the target is based outside of the United States, zero otherwise. *Post141r* is an indicator variable equal to one if the acquisition effective date is after SFAS 141R has been enacted, zero otherwise.

Table 3: Earnout Selection Probit Results

$$
\begin{aligned}
Pr(eo_{it}=1) \quad = \quad & \Phi(\beta_0+\beta_1 AcqLev_{it}+\beta_2 AcqEarnStd_{it}+\beta_3 AcqProfit_{it}+\beta_4 AcqEarnStd_{it}+\beta_5 TranVal_{it} \\
& +\beta_6 TranValMVE_{it}+\beta_7 PrevDeal_{it}+\beta_8 TargetQ_{it}+\beta_9 TargetRNDSale_{it}+\beta_{10} TargetEMPAT_{it} \\
& +\beta_{11} TargetPrivate_{it}+\beta_{12} TargetCrossInd_{it}+\beta_{13} TargetForeign_{it}+\beta_{14} Post141R_{it})
\end{aligned}
$$

Panel A: Probit Results			
	(1)	(2)	(3)
VARIABLES	eo	eo	eo
AcqLev	-0.693***	-0.675***	-0.620***
	(-7.192)	(-6.969)	(-5.811)
AcqEarnStd	0.286	0.279	0.483
	(0.705)	(0.683)	(1.106)
AcqProfit	-0.206**	-0.212**	-0.162*
	(-2.432)	(-2.503)	(-1.747)
AcqEarnInc	0.119	0.134	0.0585
	(1.153)	(1.290)	(0.526)
TranVal	0.0128	0.00925	0.00649
	(0.918)	(0.667)	(0.430)
TranValMVE	0.0630	0.0760	0.0825
	(0.928)	(1.120)	(1.137)
PrevDeal	-0.144***	-0.138***	-0.153***
	(-3.370)	(-3.244)	(-3.397)
TargetQ	0.0995**	0.137***	0.156***
	(2.102)	(2.801)	(3.002)
TargetRNDSale	1.788***	1.568***	1.054**
	(3.936)	(3.484)	(2.049)
TargetEMPAT	0.00482	0.00597	0.00543
	(1.014)	(1.252)	(1.060)
TargetPrivate	0.578***	0.577***	0.580***
	(14.36)	(14.30)	(13.19)
TargetCrossInd	0.00470	0.00828	0.0276
	(0.113)	(0.199)	(0.618)
TargetForeign	-0.0463	-0.0515	-0.0425
	(-0.976)	(-1.086)	(-0.804)
Post141R		0.171***	0.375
		(3.187)	(1.196)
AcqLev*Post141R			-0.481*
			(-1.950)
AcqEarnStd*Post141R			-1.931*
			(-1.939)
AcqProfit*Post141R			-0.485**
			(-2.486)
AcqEarnInc*Post141R			0.469
			(1.535)
Constant	-1.600***	-1.687***	-1.711***
	(-12.28)	(-12.64)	(-12.08)
Observations	11,581	11,581	11,581
Pseudo R2	0.0839	0.0857	0.0899

Robust z-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.10

Panel B: Marginal Effects for Earnout Selection Probit Model Interaction Terms			
	ME	SE	p
Post141R	0.02	0.01	0.06
AcqLev*Post141R	-0.09	0.04	0.01
AcqEarnStd*Post141R	-0.28	0.15	0.06
AcqProfit*Post141R	-0.08	0.03	0.01
AcqEarnInc*Post141R	0.07	0.05	0.12

Description: Panel A, earnout selection probit regressions with post141R indicator interactions (though not shown, column 3 includes all interaction terms). The dependent variable *eo* is equal to one if the deal includes an earnout, zero otherwise. Panel B, marginal effects for earnout selection probit regression with post141R interaction (column 3 of Panel A). The sample includes deals with effective dates in the period that spans July 1, 2001 to May 31, 2011. Post-SFAS 141(R) earnouts include those with effective dates in fiscal years that begin on or after December 15, 2008. Variable Definitions: *AcqLev* is the Ratio of total liabilities to total assets for the acquirer prior to acquisition. *AcqEarnStd* is the standard deviation of acquirer income before extraordinary items (scaled by total assets), measured over the twelve quarters prior to acquisition. *AcqProfit* is the fraction of quarters for which the acquirer reported non-negative earnings, measured over the twelve quarters prior to acquisition. *AcqEarnInc* is the fraction of quarters for which the acquirer reported earnings greater than or equal to earnings four quarters prior, measured over the twelve quarters prior to acquisition. *TranVal* is the log of the total transaction value (including the maximum earnout value). *TranValMVE* is the ratio of total transaction value divided by the acquirer market value of equity (MVE), MVE measured prior to the transaction. *PrevDeal* is the log of the number of previous acquirer deals involving targets from the same 3-digit SIC as the current deal in the prior 3 years. *TargetQ* is the tobin's Q of target industry measured using annual data prior to acquisition, where Q= (total assets-book value of equity+market value of equity)/total assets (industry median). *TargetRNDSales* is the ratio of R&D to sales of target industry measured using annual data prior to acquisition (industry median). *TargetEMPAT* is the ratio of employees to total assets of target industry measured using annual data prior to acquisition (industry median, multiplied by 1M). TargetPrivate is an indicator variable equal to one if the target is private, zero otherwise. *TargetCrossInd* is an indicator variable equal to one if the 3-digit SIC of the acquirer (both primary and secondary) and primary SIC of the target are different, zero otherwise. *TargetForeign* is an indicator variable equal to one if the target is based outside of the United States, zero otherwise. *Post141R* is an indicator variable equal to one if the acquisition effective date is after SFAS 141R has been enacted, zero otherwise.

Table 4: Acquisition abnormal returns and earnout fair values, post-SFAS 141(R)

$$CAR_{it} = \beta_0 + \beta_1 TranValMVE_{it} + \beta_2 Stock_{it} + \beta_3 CrossInd_{it} + \beta_4 Private_{it} + \beta_5 Public_{it} + \beta_6 Small_{it} + \varepsilon_{it}$$

	(1)	(2)	(3)
VARIABLES	CAR	CAR	CAR
TranValMVE	0.120*		
	(1.743)		
TranValNoEOMVE		0.0471	-0.0307
		(0.464)	(-0.237)
EOMaxMVE		0.237	
		(1.565)	
EOFVMVE			1.089***
			(2.637)
EORestMVE			-0.0384
			(-0.306)
Stock	-0.0469	-0.0472	-0.0429
	(-0.769)	(-0.770)	(-0.700)
CrossInd	0.00912	0.00824	0.00349
	(0.268)	(0.243)	(0.104)
Private	0.0427	0.0408	0.0383
	(0.807)	(0.770)	(0.719)
Public	-0.392***	-0.399***	-0.413***
	(-4.638)	(-4.834)	(-4.461)
Small	0.0342	0.0358	0.0327
	(0.862)	(0.902)	(0.831)
Constant	-0.0467	-0.0451	-0.0443
	(-0.811)	(-0.782)	(-0.765)
Observations	169	169	169
Adjusted R-squared	0.047	0.044	0.055

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.10

Description: The dependent variable is the acquirer cumulative market adjusted return from one day prior to the acquisition announcement date through one day following the 10K/Q filing date (for the filing that contains the initial earnout fair value). All observations have a an earnout fair value disclosed in a 10K/Q filed for the first fiscal quarter end that follows the acquision announcement date. The sample includes post-SFAS 141(R) earnouts (earnouts with effective dates in fiscal years that begin on or after December 15, 2008).

Variable Definitions: *TranValMVE* is the ratio of the deal value (including the maximum earnout value) to acquirer market value of equity (MVE) measured prior to the acquisition announcement. *TranValNoEOMVE* is the ratio of the fixed component of the deal value (no earnout related component included) to acquirer MVE. *EOMaxMVE* (*EOFVMVE*) is the ratio of the earnout maximum (fair) value to acquirer MVE. *EORestMVE* is *EOMaxMVE-EOFVMVE*. *Stock* is an indicator variable equal to one when a portion of the acquisition payment consists of stock, zero otherwise. *CrossInd* is an indicator variable equal to one when the acquirer and target primary SIC codes differ, zero otherwise. *Private* (*Public*) is an indicator variable equal to one when the target is a private (public) company, zero otherwise. *Small* is an indicator variable equal to one when the market capitalization is lower than the 25th NYSE percentile, zero otherwise.

Table 5: Quarterly cumulative market adjusted returns and earnout fair value adjustments, post-SFAS 141(R)

$$CAR_{it} = \beta_0 + \beta_1 \Delta EARN_{it} + \varepsilon_{it}$$

	(1)	(2)	(3)
VARIABLES	CAR	CAR	CAR
Δ EARN	0.122**		
	(2.355)		
Δ EARN ADJ		0.126**	
		(2.552)	
EO		-2.253**	
		(-2.409)	
Δ EARN ADJ POS			0.130**
			(2.183)
Δ EARN ADJ NEG			0.114
			(1.123)
EO POS			-2.039**
			(-1.995)
EO NEG			-3.013*
			(-1.792)
Constant	0.0153***	0.0158***	0.0152***
	(2.806)	(2.883)	(2.629)
Observations	1,065	1,065	1,065
Adjusted R-squared	0.002	0.008	0.007

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.10

Description: The dependent variable is the acquirer cumulative market adjusted return for the period starting two trading days after the prior quarter earnings announcement through one trading day after the current earnings announcement. The sample includes post-SFAS 141(R) earnouts (earnouts with effective dates in fiscal years that begin on or after December 15, 2008).
Variable Definitions: Δ *EARN* is the difference between current and prior four quarter earnings per share, scaled by the stock price at the beginning of the quarter. *EO* is the negative of the value of the change in the earnout liability fair value divided by common shares outstanding and scaled by the stock price at the beginning of the quarter. Δ *EARN ADJ* is the change in earnings adjusted for the change in the earnout liability fair value, measured as Δ *EARN* minus *EO*. Δ *EARN ADJ POS* (*EARN ADJ NEG*) takes the value of Δ *EARN ADJ* when positive (negative), zero otherwise. *EO POS* (*EO NEG*) takes the value of *EO* when positive (negative), zero otherwise.

September, 2011

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PROFESSIONAL EXPERIENCE

Assistant Professor of Accounting, David Eccles School of Business, University of Utah, 2008-present

Visiting Assistant Professor of Accounting, The Wharton School, University of Pennsylvania, 2007-2008

Assistant Professor of Accounting Information and Management, Kellogg School of Management, Northwestern University, 2005-2008

Donald P. Jacobs Scholar/Assistant Professor of Accounting, Kellogg School of Management, Northwestern University, 2005-2006

Research Assistant, University of Oregon, 2002-2005

Instructor, University of Oregon, 2001-2005.

EDUCATION

Ph.D. in Accounting, Lundquist College of Business, University of Oregon, 2005.

Harvard University, B.A., Concentration in Molecular and Cellular Biology, 2000.

AREAS OF INTEREST

Research: Contracting: Stock Option Contracts, Risk-Taking Incentives, Corporate Governance

Teaching: Managerial Accounting, Financial Accounting

REFEREED PUBLICATIONS

"The Incentives of Compensation Consultants and CEO Pay" (with Mary Ellen Carter and Stephen Hillegeist). 2010. *Journal of Accounting and Economics* 49(3): 263-280.

"Determinants of CEO Pay: A Comparison of ExecuComp and Non-ExecuComp Firms ," (with Sandy Klasa and Steve Matsunaga). 2010. *The Accounting Review* 85(5): 1511-1543.

WORKING PAPERS

"The Role of Investor Horizon on Compensation Horizon" (with Jayanthi Sunder) Invited for Resubmission at *The Accounting Review*.

"Stock Option Grant Vesting Terms: Economic and Financial Reporting Determinants" (with Jayanthi Sunder and Tjomme Rusticus). Invited for Resubmission at *The Review of Accounting Studies*

"Executive Equity Divestitures and Equity Granting Patterns". Invited for Resubmission at *The Journal of Management Accounting Research*

"Executive Pay Restrictions: Do They Restrict Firms' Willingness to Participate in TARP?" (with Mary Ellen Carter and Luann Lynch)

"Compensation Peer Groups and their Relation with CEO Pay" (with Mary Ellen Carter).

"The Role of Defined Benefit Pension Plans in Executive Compensation" (with Linda Vincent).

"Industry Specialization and Auditor Quality in U.S. Markets" (with Mike Stein and Ben Whipple).

"Are Ex-Ante CEO Severance Pay Contracts Consistent with Efficient Contracting?" (with John Campbell and Sandy Klasa).

"Fair Value Accounting for M&As and Contingent Consideration Arrangements" (with Richard Carrizosa and Lucile Faurel).

"How Executive Compensation Decisions are Shaped by their Social Context: Advice-taking and Group Judgment" (with Bryan Bonner).

OTHER PUBLICATIONS

"WT1 regulates the expression of the major glomerular podocyte membrane protein Podocalyxin" (with R.E. Palmer, A. Kotsianti, T. Boyd, W. Gerald, and D.A. Haber). 2001. *Current Biology* 11(22): 1805-1809

TEACHING ACTIVITIES

University of Utah, David Eccles School of Business (2008-present)
Core Managerial Accounting, MBA/Professional MBA (5.5/6)
Managerial Accounting, Executive MBA (5.7/6)
Advanced Managerial Accounting, MBA/Professional MBA (5.7/6)

INVITED PRESENTATIONS

American Accounting Association Annual Meetings (concurrent session), August 2003
SUNY Buffalo, February 2005
University of California Los Angeles, February 2005
Duke University, February 2005
Arizona State University, February 2005
University of Arizona, March 2005
University of Southern California, February 2005
Massachusetts Institute of Technology, March 2005
Rice University, March 2005
University of Utah, March 2005
Northwestern University, March 2005
University of Illinois at Chicago, October 2005
American Accounting Association Annual Meetings (concurrent session), August 2006
University of Chicago, October 2006
Financial Accounting and Reporting Section Mid-year Meetings (concurrent session), January 2007
Georgia State University, February 2007
Winter Accounting Conference at the University of Utah, February 2007
American Accounting Association Annual Meetings (concurrent session), August 2007
University of Michigan, October 2007
Massachusetts Institute of Technology, October 2007
University of Pennsylvania, Wharton School, October 2007
Conference on Financial Economics and Accounting, October 2007
Financial Accounting and Reporting Section Mid-year Meetings (concurrent session), January 2008
University of Utah, February 2008
University of Washington, February 2008
NYU Accounting Summer Camp, May 2008

American Accounting Association Annual Meetings (concurrent session), August 2008
Financial Accounting and Reporting Section Mid-year Meetings (concurrent session), January 2009
Management Accounting Section Mid-year Meetings (concurrent session), January 2009

INVITED PRESENTATIONS (Cont.)

American Accounting Association Annual Meetings (concurrent session), August 2009
Duke/UNC Fall Camp, October 2009
Management Accounting Section Mid-year Meetings (concurrent session), January 2010
Ohio State University, April 2010
University of Colorado, Boulder, April 2010
University of Connecticut, October 2010
Journal of Accounting, Auditing and Finance Conference, November 2010
Arizona State University, Schedule September 2011
Boston College, Schedule October 2011
University of Tillburg, Schedule October 2011

PROFESSIONAL ACTIVITIES

Member: American Accounting Association
Ad hoc reviewer:
The Accounting Review
Auditing Journal of Practice and Theory
Contemporary Accounting Research
Corporate Governance: An International Review
Journal of Accounting and Economics
Review of Accounting Studies
Accounting Horizons
American Accounting Association Annual and Mid-Year Conferences

Conference participation:
AAA Annual Meeting, 2003 (*presenter*), 2005 (*presenter/discussant*), 2006 (*presenter/discussant*), 2007 (*discussant*), 2008 (*discussant*), 2009 (*presenter/discussant*), 2010 (*presenter)*
FARS Mid-Year Meeting, 2007 (*presenter*) 2008 (*presenter*), 2009 (*presenter*), 2010 (*presenter)*
Journal of Accounting and Economic Conference, 2005, 2006, 2007, 2008, 2009. 2010
Journal of Accounting Research Conference, 2005, 2006
AAA Management Accounting Section Mid-Year Meeting, 2009 (presenter) 2010 (presenter), 2011 (presenter)
NYU Accounting Summer Camp, 2008 (*presenter),* 2010

PAC-10 Plus Doctoral Consortium (*Panelist, Resident Faculty*), 2005
Review of Accounting Studies Conference, 2008
University of Texas Conference on Accounting and Corporate Governance, 2008
Winter Accounting Conference at the University of Utah, 2006, 2007 (*presenter*), 2008, 2009, 2010 (*presenter),* 2011
Journal of Accounting, Auditing and Finance Conference, 2010 (*presenter)*

HONORS AND DISTINCTIONS

David Eccles Emerging Scholar, University of Utah, 2011.
Masters Teaching Excellence Award, University of Utah, David Eccles School of Business, 2010
Research grant recipient from the Alliance Center for Global Research and Development at INSEAD and the Wharton School, 2008
AAA New Faculty Consortium, February 2005
AAA Doctoral Consortium Fellow, July 2004
Accounting Circle Award for outstanding teaching by a Ph.D. student, May 2004
Lundquist College of Business Roger Best Award for outstanding teaching by a Ph.D. student, May 2004
Accounting Circle Award for Excellence in Research by a Ph.D. Student, May 2003