

## Valuing Earnouts in Uncertain Times: an Overview of FAS 141R Requirements

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FAS 141R's requirements related to the valuation of contingent consideration present new opportunities as well as new challenges for valuation specialists. Although the number of FAS 141R engagements may not increase compared to those under FAS 141, their scope will enlarge if there is contingent consideration. In addition, clients and auditors will have a difficult time understanding and testing the accuracy or reasonableness of the values that analysts derive for earnouts, especially when complex methods have been used.

It seems unlikely, however, that the need to comply with FAS 141R will have a meaningful impact on the frequency with which companies use earnouts in acquisitions. New data analysis, performed for this article, show that transactions in some industries may entail more earnouts than others, although the current economic environment may be responsible for those differences.

### What are earnouts and why are they used?

The Statement of Financial Accounting Standards No. FAS 141R (FAS 141R) became effective for fiscal years beginning after December 15, 2008. Among its many changes, FAS 141R now requires entities to value contingent consideration (commonly referred to as an "earnout"), upon acquisition, when any over- or underestimates of value result in either gains or losses on the income statement.

Earnouts are promises by the buyer to pay the seller additional compensation if a performance benchmark is achieved or a hurdle exceeded within a specified period of time. An unlimited

number of earnout structures exist, varying by such factors as:

- Financial hurdle (level of revenues, gross profit, EBITDA, etc.) or milestone (FDA approval, product launch, etc.);
- Length of earnout period;
- Period-by-period or cumulative earnout hurdle;
- Partial earnout eligibility;
- Capped or uncapped earnout; and
- Call options on earnout by buyer.

When evaluating an earnout, the analyst must have a thorough understanding of the terms to plan the necessary scope of work, fees, and project timeline.

There may be any number of reasons why a particular transaction includes earnouts. Some of the more common objectives seek to:

- Bridge the gap in perception of value between the buyer and seller;
- Motivate sellers who remain in management post-acquisition towards high performance;
- Provide a financing tool for buyer; and
- Defer taxes for seller.

The first reason may result in increased use of earnouts for the foreseeable future.<sup>1</sup>

<sup>1</sup> Brendan J. Radigan and Devin B. Fargnoli., "A Deal Technique for Uncertain Times," *Buyouts Magazine*, (Dec. 1, 2008).

All Transactions					
Deal Value Range (\$M)					
Low	High	All Deals	Earnouts	% of Total	
1.0	5.0	1,565	149	9.5%	
5.1	10.0	1,153	128	11.1%	
10.1	20.0	1,405	146	10.4%	
20.1	30.0	834	75	9.0%	
30.1	40.0	643	67	10.4%	
40.1	50.0	499	38	7.6%	
50.1	100.0	1,373	96	7.0%	
100.1	200.0	1,250	88	7.0%	
200.1	300.0	572	32	5.6%	
300.1	400.0	340	15	4.4%	
400.1	500.0	239	7	2.9%	
500.1	1,000.0	493	19	3.9%	
		10,366	860	8.3%	

**Table 1:** Percent of transactions using earnouts 2003-2007

Biotechnology					
Deal Value Range (\$M)					
Low	High	All Deals	Earnouts	% of Total	
1.0	5.0	19	4	21.1%	
5.1	10.0	8	1	12.5%	
10.1	20.0	17	0	0.0%	
20.1	30.0	11	2	18.2%	
30.1	40.0	7	2	28.6%	
40.1	50.0	10	2	20.0%	
50.1	100.0	10	0	0.0%	
100.1	200.0	14	5	35.7%	
200.1	300.0	8	2	25.0%	
300.1	400.0	6	2	33.3%	
400.1	500.0	4	0	0.0%	
500.1	1,000.0	3	1	33.3%	
		117	21	17.9%	

**Table 3:** Percent of transactions using earnouts 2003-2007--Biotech

Software Industry					
Deal Value Range (\$M)					
Low	High	All Deals	Earnouts	% of Total	
1.0	5.0	152	26	17.1%	
5.1	10.0	121	19	15.7%	
10.1	20.0	109	16	14.7%	
20.1	30.0	58	7	12.1%	
30.1	40.0	45	5	11.1%	
40.1	50.0	37	5	13.5%	
50.1	100.0	92	10	10.9%	
100.1	200.0	66	6	9.1%	
200.1	300.0	37	3	8.1%	
300.1	400.0	21	0	0.0%	
400.1	500.0	16	1	6.3%	
500.1	1,000.0	14	0	0.0%	
		768	98	12.8%	

**Table 2:** Percent of transactions using earnouts 2003-2007--Software

Financials and Natural Resources Industries					
Deal Value Range (\$M)					
Low	High	All Deals	Earnouts	% of Total	
1.0	5.0	221	16	7.2%	
5.1	10.0	194	6	3.1%	
10.1	20.0	316	12	3.8%	
20.1	30.0	217	4	1.8%	
30.1	40.0	184	8	4.3%	
40.1	50.0	130	5	3.8%	
50.1	100.0	366	8	2.2%	
100.1	200.0	412	12	2.9%	
200.1	300.0	169	4	2.4%	
300.1	400.0	93	2	2.2%	
400.1	500.0	73	1	1.4%	
500.1	1,000.0	178	8	4.5%	
		2,553	86	3.4%	

**Table 4:** Percent of transactions using earnouts 2003-2007—Financials and Natural Resources

**Earnout frequency.** Using the Thomson ONE Banker database, we searched transactions that closed during the five-year period between January 1, 2003 and December 31, 2007, in which the buyer acquired 75% to 100% of the outstanding equity. For additional searches, we varied such criteria as whether contingent consideration was used; the location of buyer and seller; public status, date range, deal size, and industry, etc. Tables 1-4 provide selected search results.

Based on this data and transaction analysis, we drew the following conclusions:

- Consistent with the goal of bridging the buyer's and seller's value expectations, we found that earnouts were more frequently used in transactions when the target was in an industry

with relatively higher uncertainty and typically higher intangible asset value (such as the software and biotechnology industries).

- In those industries characterized with relatively less uncertainty and lower intangible asset value (such as financial and natural resources industry), we found that earnouts were less frequently used.
- Earnouts were generally used more frequently in smaller than larger deals. Biotechnology was the exception to this trend, with earnouts used more frequently in larger deals (albeit based upon a relatively small sample size).

As to the size of earnout payments relative to overall purchase price, a study of 1985-1999

transactions indicated that, for transactions including an earnout, the average portion of purchase price represented by earnouts ranged from a low of 15% in 1999 to a high of 88% in 1994.<sup>2</sup> Consistent with our findings, earnouts during 1985-1999 appear in a fairly small percentage of the overall transaction activity.

Based on this historical analysis, the frequency with which an appraiser will need to value an earnout will depend primarily on the transaction size and target industry. Valuation specialists working on smaller and/or more technology-intensive industries may confront earnouts far more frequently.

**FAS 141R guidance.** Under FAS 141R, contingent consideration must be valued as of the acquisition date and as of each reporting date thereafter until the liability is settled. Some of the more important aspects of FAS 141R concerning contingent consideration are discussed below.

### Initial Measurement

The FASB's decision to require the valuation of contingent consideration came about because "the delayed recognition of contingent consideration in ...previous standards on business combinations was unacceptable." (paragraph B346). Prior standards ignored that the acquirer's agreement to make contingent payments is often the obligating event in a business combination transaction. "Although the amount of the future payments the acquirer will make is conditional on future events, the obligation to make them if the specified future events occur is unconditional...Failure to recognize that obligation or right at the acquisition date would not faithfully represent the economic consideration exchanged at that date."

### Periodic Re-Measurements

After the initial valuation and recognition of the contingent consideration (in terms of

accounting entries, by debiting goodwill and crediting a contingent liability), FAS141R makes two changes to the measurement of the contingent consideration. First, "Some changes in the fair value of contingent consideration that the acquirer recognizes after the acquisition date may be the result of additional information about the facts and circumstances that existed at the acquisition date that the acquirer obtained after that date. Such changes are measurement period adjustments in accordance with paragraphs 51-55." (paragraph 65) Such measurement period adjustments, which may extend no longer than *one year* from the acquisition date, would not impact the income statement.

Second, "changes resulting from events after the acquisition date, such as meeting an earnings target, reaching a specified share price, or reaching a milestone on a research and development project, are not measurement period adjustments. The acquirer shall account for changes in the fair value of contingent consideration that are not measurement period adjustments as follows:...(c)ontingent consideration classified as an asset or a liability is remeasured to fair value at each reporting date until the contingency is resolved. The changes in fair value are recognized in earnings..." (paragraph 65)

Therefore, there are two ways the initial valuation of an earnout may change: on periodic re-measurement or on settlement. In either instance, an initial overestimate of the earnout value would result in the subsequent recognition of a gain, and an initial underestimate would result in the subsequent recognition of a loss. However, although such treatment could provide an incentive for clients to report a higher earnout value through the potential to recognize a subsequent gain, the countermeasure is that any goodwill recorded as a result of the earnout's initial fair value measure will remain on the acquirer's books even if no earnout payments are made. As a result, such goodwill would be subject to annual impairment testing under FAS 142.

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<sup>2</sup> Robert F. Bruner, "Technical Note on Structuring and Valuing Incentive Payments in M&A: Earnouts and Other Contingent Payments to the Seller," Darden Business Publishing (Virginia, 2001), Exhibit 1.

## Disclosure Requirements

The disclosure requirements related to the initial measurement of contingent consideration are set forth in paragraph 68(g):

For contingent consideration arrangements and indemnification assets:

1. the amount recognized as of the acquisition date
2. a description of the arrangement and the basis for determining the amount of the payment
3. an estimate of the range of outcomes (undiscounted) or, if a range cannot be estimated, that fact and the reasons why a range cannot be estimated. If the maximum amount of the payment is unlimited, the acquirer shall disclose that fact.

As a result of the third item, clients may ask valuation specialists—in addition to estimating the fair value of the earnout—to provide some sensitivity analysis to support the new disclosure requirements.

**Valuation of earnouts.** Before covering specific valuation methodologies, it's useful to review Appendix B of FAS 141R. The following three excerpts discuss the FASB's additional considerations in valuing contingent consideration:

[A] contingent consideration arrangement is inherently part of the economic considerations in the negotiations between the buyer and seller ... The Boards observed that information used in those negotiations often will be helpful in estimating the fair value of the contingent obligation assumed by the acquirer. (paragraph B348)

The Boards noted that most contingent consideration obligations are financial instruments and many are derivative instruments. Reporting entities that use such instruments extensively, auditors, and valuation professionals are familiar with the use of valuation techniques for estimating the fair values of financial instruments. The Boards concluded

that acquirers should be able to use valuation techniques to develop estimates of the fair values of contingent consideration obligations that are sufficiently reliable for recognition. The Boards also observed that an effective estimate of zero for the acquisition-date fair value of contingent consideration, which often was the result of Statement 141 and IFRS 3, was unreliable. (paragraph B349)

The Boards concluded that the negotiations between buyer and seller inherent in a contingent consideration arrangement in a business combination provide better evidence of its fair value than is likely to be available for most share-based payment arrangements with performance conditions. (paragraph B351)

These excerpts touch on important factors for the valuation specialist to consider in valuing earnouts:

- An earnout is an option on future acquired company performance sold by the acquirer to the target seller;
- The conclusion that an earnout has a fair value of \$0 may not be supportable, especially if approached as an option on future company performance; and
- Rather than simply focusing on the reported transaction price (as was perhaps the prior practice under FAS 141), a valuation specialist may need to focus more on the background of the negotiation process and the evolution of the purchase price, including the earnout.

The complexity of an earnout valuation will largely be determined by the complexity of its features. The primary methods to value an earnout will likely be either a discounted cash flow method, perhaps supplemented by a Monte Carlo simulation; or an option-based methodology (Black Scholes, binomial, etc.). Our discussion focuses on earnouts with financial hurdles. Earnouts based on milestones (e.g., FDA approval) will often require advanced valuation techniques, including real options analysis.

## Discounted Cash Flow method

A discounted cash flow analysis (DCF) using the selected *most likely* or, alternatively, the more theoretically correct *expected* projected financial information (PFI) may initially appear to offer a straightforward method to value an earnout: The valuation specialist would simply compare the PFI to the appropriate earnout hurdle(s) to determine whether an earnout was expected to be paid; the amount of the expected payment; and its timing. Assuming the earnout risk was determined to be similar to that of the overall PFI (i.e., weighted average cost of capital for target), the valuation specialist would simply discount the earnout payments back to the measurement date to estimate the fair value of the earnout. (Note: The use of the acquisition internal rate of return to value the earnout is also possible, but is complicated by the circularity created because the earnout is an element of the purchase price.)

However, despite the appealing simplicity of this approach, its deficiencies would in most cases lead to an incorrect fair value estimate. For example, assume an earnout based on \$5 million EBITDA in year one but the selected PFI for year one EBITDA is only \$4 million, then the single PFI approach would conclude the fair value of the earnout is \$0. This is incorrect, as illustrated by viewing an earnout as an option. Similar to “at the money” or “out of the money” stock option grants (which most valuation specialists, clients, and auditors are familiar with under FAS 123R), any earnout would theoretically have a positive, non-zero fair value as of the acquisition date. (Note: Materiality thresholds may mean that an auditor is comfortable with a client reporting a \$0 value for an earnout in some transactions).

Since a DCF should theoretically use an *expected value* PFI (meaning, probability weighted cash flows), typical scenarios would result in the PFI exceeding the earnout hurdle. If this was not true, the acquirer or target would not be likely to spend the time and money to create the earnout structure. The greater the uncertainty (or the more dispersed the probability distribution of the PFI), the greater the

likelihood that the actual financial performance will result in an earnout payment.

Thus, the more theoretically correct methodology entails calculating the earnout payment under each PFI scenario, probability weighting each PFI scenario, and then summing the probability weighted earnout payments under each PFI scenario to calculate the fair value of the earnout. The single PFI or deterministic approach to valuing an earnout would undervalue the earnout in many, if not most, circumstances.

From a practical standpoint, it may be difficult to secure multiple scenarios from a client to perform such an analysis. However, assuming a client’s deal team recognizes that earnouts are not “costless,” they should have some expectations regarding the likelihood that the earnouts will be paid. Although earnout terms can vary widely in prior transactions, the client’s historical payout experience may provide a data point to consider in assessing the likelihood of earnouts being paid under the subject transaction. A valuation specialist can discuss with a client such concepts as “worst case,” “middle case,” “best case”, etc., to develop PFI scenarios for further valuation analysis. The sum of the probability-weighted scenarios should get the analyst back to the expected PFI. Careful scrutiny of such PFI scenarios may reveal that, if the distribution of PFI is asymmetrical in nature, an initial “most likely” or expected PFI will differ significantly from the calculated expected PFI. Obviously, this realization could have ramifications for FAS 141R valuation of the entities’ other assets and liabilities.

Recognizing the limits of deterministic DCF models and the practical difficulties in securing multiple PFI scenarios from a client, the valuation specialist should consider more commonly used—and perhaps more theoretically preferred—alternatives, including Monte Carlo simulation and option-based methodologies.

## Monte Carlo simulation

An analyst could supplement a DCF earnout valuation with a Monte Carlo simulation, which is

most often performed using Excel® add-in software such as Crystal Ball or @Risk. If the client is unable or unwilling to provide multiple scenarios to support a valuation, then the analyst can use probability distributions related to key discrete variables (revenues, market share, margins, etc.) to model the uncertainty related to the single PFI. Although Monte Carlo analysis requires assumptions in addition to those necessitated by a deterministic DCF, the former often provides helpful insights to the valuation specialist, client, and auditor.

For example, standard reports from simulation software can provide the expected value of the earnout; the range of potential earnout payments; the frequency at which an earnout is paid, etc. Additional reports identify the variables with the greatest impact on earnout value, which the analyst could target for further consideration and discussion with the client. In the current environment, auditors and analysts tend to prefer additional documentation to support a financial reporting assignment, and such reports could be valuable.

### Option-based methodologies

An option pricing model (Black Scholes, binomial, etc.) could be used to value an earnout. As mentioned previously, an earnout is, after all, an option of the future performance of the target company. As with any option model, the analysts will need to factor such variables as term to expiration, volatility, underlying asset, current value, strike value, etc. The structure of the earnout could also influence the underlying asset (revenues, earnings, etc.) used within the option pricing model. With earnings-based options (EBITDA, most commonly), the analyst can model revenue by estimating an appropriate volatility of revenue growth rates, using most recent revenue as current price and future revenue as the strike price at the earnout measurement date. After solving the option value of the revenue, the analyst can then apply it to the appropriate expected EBITDA margin and earnout payout formula. However, if the EBITDA margin is highly sensitive to revenue levels, then a different structure would be preferable.

The valuation specialist may need to be creative in determining the volatility input. The more familiar equity valuation would likely provide a poor benchmark by which to select revenue volatility. Although analysts may default to subjective estimates of volatility, they can also use more sophisticated but relatively straightforward calculations to estimate volatility. For example, the analyst could calculate volatility based on the dollar-spread between best or worst case revenue scenarios and, using the confidence interval selected (for example, 95% confidence interval reflects two standard deviations around the mean or expected value), estimate the standard deviation or volatility of revenue.<sup>3</sup> Similar to financial options, earnouts are more valuable the longer the term and the higher the uncertainty (as measured by volatility). Although it may seem counterintuitive, this last point is important for valuation specialists, clients and auditors to remember.

Accurately measuring the value potential from more complex earnout structures will require analysts to create more complex option models, which many may have little to no experience building. Unfortunately, it seems unlikely that during negotiations, a client's deal team will consider a valuation specialist's capacity to perform fair value measurements on more complex earnout structures. Moreover, valuation specialists, clients, and auditors may have difficulty understanding and testing the accuracy or reasonableness of the values being derived for some earnouts. Accordingly, the valuation of earnouts under FAS 141R will present new challenges during both the initial valuation by the valuation specialist as well as the subsequent review by the client, the auditor, and the audit firm's valuation specialists.

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3 Enrique R. Arzac, *Valuation for Mergers, Buyouts, and Restructuring*, John Wiley & Sons, Inc. (NJ 2005), p. 126