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EXECUTIVE COMPENSATION

A New Spotlight on Director Pay

by *Edward C. Archer*

To an almost unprecedented extent, directors are under siege. Boards are confronting a continuing sluggish economy, a stream of allegations of accounting and business improprieties, and intense criticism of oversight practices. These issues have intensified shareholder and media attention on the appropriate roles and responsibilities of directors—particularly audit and compensation committee operations—and their adherence to good corporate governance practices.

As a consequence, board service today has become far more demanding than even just a decade ago, entailing a more extensive time commitment, a deeper understanding of business issues, including often-complex compensation arrangements, and a greater degree of accountability and commitment to shareholders. Although this focus in certain respects has contributed—and will continue to contribute—to major improvements in board procedures, it has prompted some qualified candidates to think twice about accepting a director nomination.

These issues also are affecting director pay programs, making our third annual survey of board remuneration all the more compelling. The report reviews pay practices among a broad-based group of 1,079 companies in 26 industries, with revenues ranging from \$50 million to \$8 billion, and was conducted in collaboration with the National Association of Corporate Directors (NACD) and the Center for Board Leadership (see sidebar entitled “About the 2001–2002 Director Compensation Survey”).

Continued on page 2

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CONTENTS

EXECUTIVE COMPENSATION

- Bridging the Governance Gap Between
Executive Compensation and Insider
Equity Transactions** 7
by Sharon Hendricks

CORPORATE GOVERNANCE REFORM

- A Preview of the Upcoming Corporate
Governance Reform** 16
by Sanjay Shirodkar

DIRECTOR LIABILITY

- Do Exculpation Clauses Provide Protection
to Directors in Suits Brought by Creditors
in a Bankruptcy?** 23
by Arthur S. Gabinet and Kevin T. Kerns

D&O LIABILITY

- New York Court Exposes Directors and
Officers to Personal Liability** 28
by Michelle Roth Parker and
Tania M. Saison-Dodd

MERGERS AND ACQUISITIONS

- An Examination of Goodwill
Valuation Methodologies** 35
by Brian C. Becker, Kim Sperduto,
and Marian K. Riedy

PRACTICE CORNER

- The Ethical Case for Chief Governance
Officers after “Enron”** 41
by Terry Gallagher

MERGERS AND ACQUISITIONS

An Examination of Goodwill Valuation Methodologies

by *Brian C. Becker, Kim Spurduto, and Marian K. Riedy*

With the collapse of Enron, all eyes are on corporate accounting practices. This heightened scrutiny of accounting and financial reporting by the public, the Congress, and regulatory agencies makes it imperative for companies to show the validity and consistency of their accounting methodologies.

Although accounting for goodwill and other intangibles has not been a major issue in the Enron investigation, it holds center stage in the financial statements of many companies, and in certain business transactions. Indeed, intangible assets represent an increasing portion of the value of all business assets. According to some studies, although intangible assets had relatively little value 20 years ago, current market valuations suggest that intangibles are worth approximately six times the value of tangible assets.¹

It is generally known that intangibles comprise a substantial percentage of the value of all assets in certain high-tech industries, and in sectors heavily engaged in research and development (R&D). The phenomenon, however, is widespread. For example, American Airlines had a market capitalization of approximately \$6.5 billion in October of 1996. It then spun off a new company for its SABRE reservation system—essentially an intangible asset. SABRE's market capitalization was immediately \$3.3 billion, or approximately half of the value of American Airlines.² Similarly, in-process intangibles (e.g., R&D) contributed 57 percent to IBM's \$3.3 billion purchase of Lotus Development Corporation in 1995. A full 100 percent of the acquisition price was attributed to intangibles.³

While the public markets implicitly value intangibles through stock prices, explicit valuations are required in many accounting contexts, including (1) purchase price allocations in mergers and acquisitions; (2) testing for asset impairment; and (3) buy-in payments relating to qualified cost sharing arrangements. In making these explicit valuations of intangibles, the goal of applying

valid and consistent methodologies can be particularly difficult to meet, in part because intangible assets have less rigid valuation standards than do tangible assets, for which accounting rules prescribe detailed methodologies through depreciation. Because the standards are less rigid, different valuation methodologies are used to value and account for goodwill and other intangibles.

In this article, we describe methodologies in the search for clarity and consistency in accounting for goodwill. Specifically, we describe four valuation methodologies that all incorporate appropriate economic/financial principles. We then focus on one context in which an explicit valuation of goodwill must be made pursuant to new standards issued by the Financial Accounting Standards Board (FASB)—testing for goodwill impairment. The new standards set forth several methodologies to use in valuing goodwill to test it for impairment, including two of those described herein. It is helpful for the practitioner to understand the various methodologies and the differing contexts in which they have traditionally been used in order to best implement the new accounting standards regarding goodwill.

Valuation Methodologies

Goodwill (and other intangibles) is valued using a number of techniques. Depending on the context, valuations apply: (1) the market capitalization method; (2) the declining royalty method; (3) the discounted cash flow method; and (4) the benchmark comparison method—among other methods. Each of these methods incorporates appropriate economic/financial principles, if properly applied.

Market Capitalization Method

The market capitalization method is often applied in academic studies and in the related party buy-in/cost sharing context. The market capitalization method for valuing specific intangible property is theoretically applied in this manner: (1) add the company's market capitalization (the product of the market price multiplied by the number of outstanding shares) to the company's liabilities to arrive at its "enterprise" value, and (2) sub-

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tract the value of all tangible and *other* intangible assets from the enterprise value to compute the worldwide value of goodwill.

One common misapplication occurs when practitioners estimate relatively low values for the other intangibles by applying different valuation methodologies than the one applied to the goodwill being valued. For example, it is generally inconsistent to value the other intangibles using a markup on development costs unless the markup accounted for the risks incurred at each stage of development.⁴

The criticism that a company's market value fluctuates too much and/or is not indicative of its value has no foundation.

Most of the criticism of goodwill and other intangibles' valuation (for tax purposes) has been directed toward the theory of market capitalization. One article criticizes the use of the market capitalization method on a number of grounds.⁵ Among other points, these authors argue: (1) it is too difficult to separate out the values of the various types of intangibles, and (2) the market capitalization of the firm includes current and expected future intangibles, while the value should only include current intangibles.

Other practitioners also criticize the market capitalization approach, although not quite as severely.⁶ They reason that a company's market value can show wide swings over short periods of time for reasons independent of the value of transferred intangibles. Further, they note that the market capitalization may overstate firm value during periods when the market is in a "bubble." Another critic implies that the market capitalization method essentially requires the purchaser to pay twice for future intangibles (*i.e.*, through its own future development costs).⁷

While any method is subject to application error, the market capitalization method is theoretically sound and these primary criticisms are generally unfounded. The first criticism focuses on the difficulty in determining the values of the other intangibles. Even an imprecise calculation can serve as an order of magnitude test of reasonableness, however, in conjunction with the appli-

cation of another methodology. That is, if another valuation method calculated that goodwill is worth 2 percent of the company's total enterprise value, it is reasonable to examine whether the tangible assets and other intangibles could realistically be worth the remaining 98 percent.

The criticism that a company's market value fluctuates too much and/or is not indicative of its value has no foundation. A company's value varies because the expectations of its future profits are updated constantly, as investors in the market become aware of changes in the economy/industry/company. This is one of the principal foundations on which modern finance theory rests—the theory of efficient markets.

It is difficult to see the logic of the final criticism: The current market value of a company includes "future" intangibles so that a market capitalization approach leads to double payment—purchase price plus future development expenditures—for the same future intangibles. The current market value of a company includes the discounted expected value of work-in-process intangibles based on the probability of commercial success and the time value of money. For example, the market may assign \$50 million in value to an intangible with a 50 percent probability of ultimate commercial success (defined as \$100 million in incremental profits). If the development of this intangible concludes without creating any commercial sales, the value of the company would drop by \$50 million. Similarly, if the development generates a profit of \$100 million with certainty, the market adjusts upward by an additional \$50 million.⁸

Declining Royalty Approach

The declining royalty method is commonly employed in the related party buy-in/cost sharing context using the royalties generated/paid for such intangibles as a proxy for value. The declining royalty approach assumes that, absent continued development, intangibles lose value over the course of time. In essence, the declining royalty approach determines the market price (*i.e.*, royalty rate) for goodwill throughout its "useful life." With depreciation, such royalty rates will decline over time. The declining royalty method would theoretically determine the royalty payment during any specific year of the intangible's useful life in these three steps:

1. Define the (un-depreciated) market royalty rate for the intangible based on benchmarks, profitability, or some other measure;
2. Estimate for each year of the intangible's useful life in the future, the portion of the intangibles' (expected) *value* in that year that has already been developed;⁹ and
3. Multiply the values computed in the two previous steps to determine "declining" royalty rates for each year remaining in the intangible's useful life.

After forecasting revenues, the royalty rate structure created previously can be translated into royalty payments. The present value of such payments defines the intangible value under this method.

Another potential problem with the declining royalty approach is the potential difficulty of estimation.

The declining royalty method also has faced some detractors. The criticisms are not focused on its theoretical rationale, but rather on its typical *application* whereby the proportion of future *value* that has already been developed is computed based simply on past and future development *costs*. That is, this type of application of the declining royalty method does not account for different levels of risk at different stages of development.

An earlier article by one of the authors criticized the typical application of this method in that it implies too large a share of value to development expenditures.¹⁰ This article, which observed that earlier stage development expenses are generally riskier and require a higher rate of return than later stage development expenses due to lower success probabilities, is mirrored in a standard valuation textbook entitled, *The Handbook of Advanced Business Valuation*:¹¹

The actual rate of return selected should consider how far along the development is and the perceived confidence of success or failure. If the product is embryonic, the rate of return might well be as high as 50 percent after tax. If the IPRD [in-process R&D] is just an improvement on an existing well-established product line, then rates of return should probably be

pegged at the firm's cost of capital plus a premium depending on the perceived additional risk.

Another potential problem with the declining royalty approach is the potential difficulty of estimation. It may be difficult and speculative to estimate the portion of the intangibles' future *value* that will be created in future years. One can have projections of development expenses, or actual expenditures, when the valuation is conducted after the fact. These expense projections cannot easily translate to value without incorporating hard-to-estimate probabilities of commercial success. Another difficult estimation is often the useful life of certain intangibles, including goodwill. This estimation becomes especially complicated when numerous intangibles are being valued together and relative values must be determined to estimate the weighted average useful life.

Discounted Cash Flow

The discounted cash flow (DCF) approach is perhaps the most commonly applied and taught methodology. It simply puts a present value on the future expected cash flows using a discount rate that is consistent with the risks associated with the investment (cash flows).¹²

The DCF approach is quite common in valuing entire businesses and, in valuing goodwill alone, in purchase price allocation studies conducted in conjunction with mergers/acquisitions. That is, a business' current value is simply the present value of its expected future profits (cash flows). Although the process is relatively direct for valuing businesses, issues can arise regarding the validity of projections, as well as the appropriate discount rate. Among other topics in this area, practitioners still disagree on: (1) whether a smaller firm requires a "premium" to be applied to its discount rate, and (2) the expected differences in returns (discount rates) between stocks and bonds.¹³

In applying the DCF to goodwill valuations, one does not determine the total cash flows of the company or investment, rather it is the *incremental* cash flows generated by the goodwill. In this sense, a company might be able to make sales without the use of its goodwill, albeit at a potentially lower volume, higher unit cost, or lower unit price.¹⁴ The difference in a company's cash flows with—and without—the use of its goodwill (or other intangible property) defines the cash flows that would be discounted in a goodwill valuation.

Discount rate estimation also may take slightly different forms for goodwill/intangible valuation. While business valuations often rely on returns of publicly traded companies (with potential adjustments), discount rates appropriate for different intangibles can vary significantly depending on the risk and stage of development.¹⁵

Benchmark Comparisons

One way to incorporate the only arm's length value typically available regarding a company and its intangible property—its market capitalization—is to consider acquisition studies and other publicly available metrics that determine the ratio of intangible value to market value for similar companies. Studies regarding companies' own purchase price allocations define the portion of the acquisition price made up of intangibles and in-process intangibles. These *studies* are only accessible privately from the acquiring company, but the *results* of such studies are often available to the public. For example, in a thorough empirical study of 375 acquisitions several years ago, Deng & Lev found that 72 percent of the acquisition price was made up of in-process R&D for the median acquisition.¹⁶

Some of these acquired companies may be functionally similar to the company that is being valued. If so, their ratios of goodwill/total value and intangibles/total value can serve as broad benchmarks in a goodwill (or other intangible) valuation.¹⁷

Not only are acquisition-study estimates of goodwill publicly available across different industries, they also are perceived by investors to be credible indicators of value.¹⁸

Valuations in Context—Testing for Goodwill Impairment

In the summer of 2001, the FASB released two new Statements of Financial Accounting Standards (SFAS) dealing with valuing and accounting for businesses and their intangible assets. One of the most discussed changes made by SFAS No. 141, Business Combinations, which replaces Accounting Principles Board Opinion 16 of the same title, is to eliminate “pooling of interests” accounting for business combinations. SFAS No. 142, Goodwill and Other Intangible Assets, replacing Accounting Principles Board Opinion 17, Intangible Assets, makes a number of changes to the

rules of accounting for intangibles. We shall focus on the impact of SFAS No. 142 on testing for goodwill impairment.

In summarizing Statement No. 142, FASB notes, as we have previously, “[I]ntangible assets are an increasingly important economic resource for many entities and are an increasing proportion of the assets acquired in many transactions.”¹⁹ For this reason, “better information about intangible assets was needed.”²⁰

One way to incorporate the only arm's length value typically available . . . is to consider acquisition studies.

That better information includes the elimination of amortization of goodwill. Although Opinion 17 “presumed” that goodwill was a wasting asset, SFAS No. 142 takes the opposite approach, or does not presume that goodwill (and other intangible assets that have indefinite useful lives) is a wasting asset. Accordingly, goodwill will not be amortized, but rather, will be tested at least annually for impairment. SFAS No. 142 also provides specific guidance for testing goodwill for impairment—in order to ensure that accounting for goodwill will be consistent, comparable, and a source of useful information.²¹

Thus, the first step of the goodwill impairment test compares the “fair value” of a reporting unit with its carrying amount, including goodwill. The “fair value” is defined as the amount at which the reporting unit as a whole could be bought or sold in a current transaction between willing parties. Depending on the circumstances, that amount can be determined by reference to the quoted market price (the market capitalization of a reporting unit with publicly traded equity securities), using a DCF technique, or by using multiples of earnings or revenue. If the carrying amount of a reporting unit exceeds its fair value, the second step of the goodwill impairment test it to be performed to measure the amount of impairment loss.²²

The amount of impairment loss is determined by comparing the “implied fair value” of reporting unit goodwill with the carrying amount of that goodwill. “Implied fair value” is determined in the same manner

as the amount of goodwill recognized in a business combination is determined: The measuring entity allocates the fair value of a reporting unit to all of the assets and liabilities of that unit as if the reporting unit had been acquired in a business combination and the fair value of the reporting unit was the price paid to acquire the reporting unit. The excess of the fair value over the amounts assigned to assets and liabilities is the implied fair value of goodwill. If the carrying amount of reporting unit goodwill exceeds the implied fair value of that goodwill, an impairment loss is to be recognized in an amount equal to that excess.²³

Accounting standards, as critical as they are, can only go so far toward ensuring that the public is provided with clear, consistent, and comparable financial reports.

The effect of SFAS No. 142 on companies' financial reports may be significant. By some reports, US companies may write down as much as \$1 trillion of goodwill this year in complying with the new accounting standard.²⁴ In making this accounting change, a host of additional considerations arise, from tax matters and debt covenants to disclosures required by the Securities and Exchange Commission (SEC).

With a change of this magnitude, it was certain that questions and criticisms would arise.²⁵ In particular, regarding the valuation of goodwill, criticisms have been raised about the standard that is to be applied in testing for impairment. For example, some practitioners argue that using the present value of cash flow is subject to fluctuations that could cause unintended results. For one thing, it is argued that interest rate changes could reduce the value of goodwill even when the underlying cash flows are relatively stable.²⁶ Commentators have also noted that the implementation of SFAS No. 142 gives companies the opportunity to write off bad investments.²⁷

Policy concerns aside, goodwill impairment can be reasonably valued using an appropriate application of one of the four methods described previously and/or other economically sound methodologies. The effects of these new rules may vary by company,²⁸ but the values (impairment levels) should remain reasonable.

Summary

Every practitioner knows that financial statements can be "managed" to improve earnings or disguise losses. Because of Enron, and other companies currently in the news, the public is aware of this fact, as well. Accounting standards, as critical as they are, can only go so far toward ensuring that the public is provided with clear, consistent, and comparable financial reports. Indeed, given the level of criticism being leveled at the accounting system, it has been suggested that even a strict compliance with the standards may not be enough to withstand regulatory scrutiny.²⁹ Sound economic principles must be combined with the accounting standards to reach the desired result.

Notes

1. Baruch Lev, *Intangibles: Management Measurement and Reporting*, Brookings Institution Press, Washington, DC, p.9, 2001.
2. See Case Study prepared in 1998 by Professor Bruce Weber, Baruch College, City University of New York.
3. IBM, 1995 Form 10-K.
4. In general, costs are not considered a preferred method for valuing intangible property, as described more fully *infra*.
5. See Christopher Fairferlick, Robert Ackerman, John Wills, and Timothy Reichert, "Market Capitalization: Not a Reliable Transfer Pricing Method," *Transfer Pricing Report*, 9, 753-757, 02/21/01.
6. Marc Levey, Victor Miesel, and William Garofalo, "'Pandora's Box,' or the Buy-In, Buy-Out Challenge?," *International Tax Journal*, Vol. 27, No. 3, pp.23-29, Summer 2001.
7. Comments of Irving Plotkin, *Transfer Pricing Report*, 9, 196, 07/26/00.
8. This example is intentionally simplistic, as there are many other possible outcomes for intangibles besides total success and total failure.
9. For example, if an intangible is being valued at the end of 2002, and has a useful life of five years, this exercise would estimate the portion of the intangible's value in 2003, 2004, 2005, 2006, and 2007 that was developed by the end of 2002. As the intangible incurs more development in the future, these percentages should decrease over time.
10. Brian Becker, "Valuing In-Process R&D for Acquisitions: Economic Principles Applied to Accounting Concepts," *Transfer Pricing Report*, 9, 323-326, 09/20/00.
11. See Lawrence Gooch, "In-Process R&D," Chapter 9, pp.188-189, in *The Handbook of Advanced Business Valuation*, McGraw-Hill, 2000.
12. For a standard finance/valuation textbook, see Eugene Brigham and Louis Gapenski, "Intermediate Financial Management," *The Dryden Press*, Orlando, FL, 1996.
13. See, e.g., Brian Becker and Ian Gray, "Does a Small Firm Effect Exist When Using the CAPM? Not Since 1980 and Not When Using Geometric Means of Historical Returns," *Business Valuation Review*,

Vol. 18, No. 3, September 1999, pp.104–111; and Brian Becker and Ian Gray, “Using Average Historical Data for Risk Premium Estimates: Arithmetic Mean, Geometric Mean, or Something Else?,” *Business Valuation Review*, Vol. 17, No. 4, pp.136–140, December 1998.

14. Brian Becker, “Comparable Profits Method: Accounting for Margin and Volume Effects of Intangibles,” *Transfer Pricing Report*, 10, 831–834, Feb. 6, 2002.

15. Such studies focus on venture capital annual returns ranging from up to 20 percent to approximately 100 percent, depending on the state of development.

16. Zhen Deng and Baruch Lev, “‘Flash then Flush:’ The Valuation of Acquired R&D-in-Process,” Working Paper, New York University, Stern School of Business, p.11, 1998.

17. For a company that has acquired numerous companies, the studies can also help serve as a “lower bound” to the total value of its goodwill. For example, if a company has reported acquired goodwill of \$1 billion in acquisitions during the last two years, it would be difficult for that same company to report only \$500 million in total goodwill unless there had recently been significant impairment to its goodwill.

18. Zhen Deng and Baruch Lev, “‘Flash then Flush:’ The Valuation of Acquired R&D-in-Process,” Working Paper, New York University, Stern School of Business, p.24, 1998.

19. Financial Accounting Standards Board, Summary of Statement No. 142 *Goodwill and Other Intangible Assets* (Issued 6/01).

20. *Id.*

21. *Id.*

22. SFAS No. 142, paragraphs 19, 23–25.

23. SFAS No. 142, paragraphs 20–21.

24. *See Chicago Sun-Times*, Financial Section, January 10, 2002.

25. The standards set forth in SFAS No. 142 for accounting for goodwill require a number of determinations in addition to testing for impairment—determining reporting units and assigning goodwill to those units, for example. All of these have been, and presumably will continue to be the subject of commentary, interpretation, and criticism. In this article, we focus only on the general issue of valuing impairment.

26. *See* Lippitt, Lewis, and Mastracchio, “Users’ Comments on SFAS 141 and 142 on Business Combinations and Goodwill,” *The CPA Journal*, 2001. It should be noted that an increase in interest rates may increase discount rates (lowering value), but it may also increase the assumed growth rate (increasing value).

27. *See Chicago Sun-Times supra* n.25.

28. For example, companies with many recent acquisitions may, in applying SFAS No. 142, recognize greater impairment losses than companies that have only, or largely, internally generated goodwill.

29. “SEC Accounting Cop’s Warning: Playing by Rules May Not Ward Off Fraud Issues,” *The Wall Street Journal*, February 12, 2002.