

## Stern Stewart Research

The Americas

### Accounting is Broken Here's How to Fix It

### A RADICAL MANIFESTO

G. Bennett Stewart, III  
Senior Partner  
(212) 261-0747  
gbstewart@sternstewart.com

- The real accounting scandal is not that a handful of companies like Enron and WorldCom broke accounting rules to inflate their earnings, but that almost every company is bending the rules to smooth earnings and meet investor expectations.
- Ethical managers have slipped into unethical behavior because bookkeeping has become unhinged from value. Accounting is no longer counting what counts. It has forfeited its moral authority to control and to guide executive behavior.
- What the public demands, and what in fact is needed, is a single measure of earnings that is capable of reliably indicating the intrinsic value of all companies in all times.
- Efficient market theorists disagree. They argue that investors only need more complete and reliable information, and that the accountants' definition of earnings is unimportant. They are incorrect. The media, regulators, board members, employees and top managers do take reported earnings seriously. They often will react to book earnings in ways that are wildly at odds with the maximization of value.
- A radical solution is called for. Accountants should be charged with the mission to measure and report "economic profit"—profit the way that an economist measures it and the way that smart investors keep score. Other information, such as for judging creditworthiness and financial risk, should be relegated to footnotes.
- The most significant change to align accounting with economics is to subtract the cost of equity capital from profit. Failing to recognize that shareholders as well as lenders expect and deserve to earn a fair return on their investment is by far the grossest and most pervasive source of earnings overstatements.
- Other reforms include separating operating from financing decisions, cleaning up the pension accounting mess, converting financial statements from lender to shareholder information, capitalizing investments in intangible assets, measuring depreciation more accurately, and, yes, expensing stock options.
- Changing the way accountants are supposed to keep score can improve the quality of corporate governance and revitalize the public's faith. It can also protect audit firms by more narrowly and correctly defining their mission and their responsibilities.



**The real issue is not that a handful of companies like Enron, Tyco and WorldCom broke rules to inflate their earnings – despicable as that is – but that almost every company nowadays bends bookkeeping to smooth its earnings and meet analyst expectations.**

**The real source of our present maladies is that bookkeeping has become unhinged from value. Accounting is no longer counting what counts.**

**Smart managers have responded by voting with their feet. They have been opting out of the accounting system.**

**What the public demands, and what in fact is needed, is a single measure of earnings that is capable of reliably indicating the intrinsic value of all companies in all times.**

An upheaval in corporate accounting is afoot. Declaring an end to the era of low standards and false profits, the President has created a new oversight board to regulate bookkeeping. Hoping to get ahead of the curve, companies are lining up to deduct the cost of granting employee options. Finance officers everywhere are scrambling to disclose more data.

Welcome as those changes are, they are chiefly attacking symptoms instead of curing problems. The real issue is not that a handful of companies like Enron, Tyco and WorldCom broke rules to inflate their earnings—despicable as that is—but that almost every company nowadays bends bookkeeping to smooth its earnings and meet analyst expectations. Finance chiefs advantageously interpret accounting strictures, change key assumptions, milk reserves, and time the recognition of gains and losses if that's what it takes to keep reported profits on track.

Even more disheartening, most business leaders remain unrepentant about creatively cooking their books. "Lots of companies managed their earnings, and I think that's okay within reason," cable entrepreneur Craig McCaw opined in a recent *Fortune* magazine interview. GE's Jeff Immelt is another CEO luminary who has defended the active management of corporate earnings.

When decent men endorse indecent behavior something is terribly wrong. All executives must realize that bending accounting rules is not substantively different from breaking them. Both conjure up false profits with the intention to deceive investors, varying only in degree. Fudging financial results has become so ingrained in corporate culture that even ethical business leaders have succumbed to the temptation to mislead the public.

A sudden outbreak of greed is not to blame for this. Avarice, like poverty amidst plenty, is always with us. The real source of our present maladies is that bookkeeping has become unhinged from value. Accounting is no longer counting what counts. It has been set adrift by a thousand tugs and pulls of competing factions, each vying to mold accounting pronouncements to their purposes, whether noble or crass. Those in charge have not been wise enough or strong enough to resist their ploys and to make the auditors' definition of earnings into a reliable measure of value. As accounting has lost its anchor to value, it has forfeited its stature. It has degenerated into a game whose main aim is prettifying earnings reports. When there is no standard, no overarching mission, and no moral compass stronger than beat the street, Enron and WorldCom are but a step removed.

Corporate executives have known for some time that accounting has gone bankrupt, that it no longer is measuring what matters. They understand full well that many of their wisest decisions diminish their reported profit, at least initially—things like stepping up promising research spending, developing new brands or investing heavily in a six-sigma quality initiative. They also realize that many dumb strategies are available to give their earnings a boost. Postponing a restructuring or pouring more funds into low return business units are classic examples of bad decisions that accounting makes good. Smart managers have responded by voting with their feet. They have been opting out of the accounting system. They have been moving toward substitute measures, including pro-forma income, core earnings, EBITDA, and for some, EVA<sup>1</sup>, or the Balanced Scorecard<sup>2</sup>.

The proliferation of metrics validates the view that something is systematically wrong with accounting, and that a systematic response is called for. Stopgap rule changes will backfire, for if they do not bring accounting into accord with economic value they will only set the stage for the next round of scandals. A deep reformation in accounting principles is needed at this juncture. What the public demands, and what in fact is needed, is a single measure of earnings that is capable of reliably indicating the intrinsic value of all companies in all times.

<sup>1</sup>EVA® stands for economic value added. It is a special method to measure economic profit and use it in making business decisions and motivating managers and employees to think and act like owners by paying them like owners. EVA® is a registered trademark of Stern Stewart & Co.

<sup>2</sup>The Balanced Scorecard was developed by Drs. Robert Kaplan (Harvard Business School) and David Norton (Balanced Scorecard Collaborative). The Balanced Scorecard suggests that management develop metrics, collect data and analyze results in each of these four perspectives: 1) learning and growth; 2) business processes; 3) customer; and 4) financial. The scorecard approach explicitly rejects the utility of reported financial results as meaningful to managing the value of a business.



Ironically some of the sharpest observers of stock market behavior—the so-called “efficient” market theorists—do not find favor with this recommendation. They argue persuasively that astute, price-setting investors look beyond reported earnings and take into account all publicly available information relevant to the valuation of shares. They think the aim of reform should simply be fuller information disclosure and regard as folly the idea that one true earnings measure can be defined. A recent *Wall Street Journal* editorial by regular columnist Holman W. Jenkins, Jr. is indicative of this school of thought:

*Studies galore show that stock prices already behave as if investors understand what options cost them in terms of potential dilution of their ownership stakes. The issue has been fully aired and the proposed rule, if adopted, would have no impact on share prices.*

Much Ado About Stock Options—Act Two  
By Holman W. Jenkins, Jr.  
*The Wall Street Journal*  
August 7, 2002

**Although bookkeeping entries are not real, reactions to bookkeeping are.**

Jenkins and other like-minded souls are correct as far as the professional investor is concerned but go awry in suggesting that the auditor’s definition of earnings is unimportant. Ironically, the counter argument appeared the same day in a separate *Wall Street Journal* article (“What the New Option Rules Mean for Your Pay”):

*As companies begin expensing options, they are almost certain to get stingier about handing them out because it will hurt their bottom line. That will have major implications for how a wide array of employees negotiate their compensation packages.*

Although bookkeeping entries are not real, reactions to bookkeeping are. The media, regulators, unions, employees, and top executives all tend to take reported earnings seriously at face value. The press judges business leaders by the amount of earnings they book. Labor unions base wage demands on disclosed corporate profits. Accountants are sued when their profit reports are alleged to be misleading. Most damaging of all, bonuses for corporate top brass are almost universally tied to book income measures, and that distorts almost every decision they make, including how they manage risk:

**Reported earnings are indeed of considerable practical importance, and a far better definition is needed.**

*Enron’s risk manual stated the following: “Reported earnings follow the rules and principles of accounting. The results do not always create measures consistent with underlying economics. However, corporate management’s performance is generally measured by accounting income, not underlying economics. Risk management strategies are therefore directed at accounting rather than economic performance.” This alarming statement is representative of the accounting-driven focus of U.S. managers generally, who are all too frequently have little interest in maintaining controls to monitor their firm’s economic realities.*

Testimony of Frank Partnoy  
Professor of Law  
University of San Diego School of Law  
Hearings before US Senate Committee on Government Affairs  
January 24<sup>th</sup>, 2002

Professor Partnoy has fingered the smoking gun of the accounting scandals. It is the rank failure of accounting to account for economic value. Reported earnings are indeed of considerable practical importance, and a far better definition is needed.

The proposed reforms now making the rounds are way too timid for the task at hand. Yes, employee stock options should be expensed, and pension fund gains should be eliminated from income. But proposals such as those have more to do with appearances—forcing companies to report lower earnings—than the real issue of getting out a more accurate and relevant measure of earnings. The pundits are for the most part swatting flies when there are sacred cows to kill.



**The substantive changes would rock the foundations of accounting by centering the accountant's mission on measuring and reporting economic profit-profit the way that an economist measures it and the way that smart investors keep score.**

**Failing to recognize that shareholders as well as lenders expect and deserve to earn a fair return on their investment is by far the grossest and most pervasive source of earnings over-statements.**

**Changing the way accountants are supposed to keep score can improve the quality of corporate governance and revitalize the public's faith. It can also protect audit firms by more narrowly and correctly defining their mission and their responsibilities.**

The substantive changes would rock the foundations of accounting. They would rock the foundations by centering the accountant's mission on measuring and reporting economic profit-profit the way that an economist measures it and the way that smart investors keep score—and by relegating other aims to a demonstrably subordinate position. Should bankers and rating agencies want information to judge a company's creditworthiness, for instance, it will be furnished in footnotes.

The most significant change needed is to recognize that all capital—equity as well as debt—is costly. To be competitive, a company must provide its shareholders with at least the return they could obtain from investing in a portfolio of comparably risky companies—a 7 to 12 percent return for most companies these days. If not, the shareholders will take a hike and value a stock at a discount to its book value. To quote renowned business thinker Peter Drucker, “until a company earns a profit greater than its cost of capital, it really operates at a loss.”<sup>3</sup>

Failing to recognize that shareholders as well as lenders expect and deserve to earn a fair return on their investment is by far the grossest and most pervasive source of earnings over-statements. Including that cost would likely go a long way to taming the animal spirits of managers that are hell bent for growth at any cost, and perhaps, to preventing or at least containing the next bubble. Including the cost of equity as a cost of doing business ought to be at the top of everyone's list of reforms.

Other reforms that should appear on a “top ten” list are:

1. insulating profit from the impact of transitory financing decisions;
2. hauling off-balance sheet financing into the light of day;
3. bringing pension assets and liabilities onto corporate balance sheets, and eliminating speculative pension fund gains and losses from operating income;
4. putting a premium on measuring the recurring cash flows from operations as opposed to the liquidation value of assets, and addressing the concerns of risk-taking shareholders more than those of conservative bankers;
5. closing the lid on cookie jar reserves;
6. recording investments in intangibles as balance sheet capital;
7. shifting from successful efforts to full cost, cash accounting;
8. measuring depreciation so that it leads to a steady measure of economic profit rather than book profit;
9. making allowances for strategic investments that take time to bear fruit; and
10. expensing stock option grants.

Changing the way accountants are supposed to keep score can improve the quality of corporate governance and revitalize the public's faith. It can also protect audit firms by more narrowly and correctly defining their mission and their responsibilities. But let us not expect too much from this. Shady managers and shoddy auditors can undermine any system of bookkeeping rules and overstate profit. Stiff jail sentences, financial penalties, and peer pressure must be vigorously applied to those who would defraud the public or neglect professional responsibilities. The rules must be followed for the rules to be of value.

Accounting fails to measure economic value in many ways. In the sections that follow several of the more notable shortcomings are examined in more detail. A series of rule changes are proposed which, if enacted, would result in a comprehensive new statement of economic profit and loss to replace the accountants' flawed definition of earnings.

---

<sup>3</sup>The Information Executives Truly Need, The Harvard Business Review, Jan/Feb 1995



## Equity Capital is Costly

**Economic profit eliminates this glaring distortion. It more accurately measures corporate performance by subtracting the cost of all resources used to generate revenues, including the cost of equity capital.**

**It doesn't work out for each stock, of course, nor in every year, but over time a portfolio of common stocks does tend to provide investors with a 2 to 7 percent return premium that compensates them for risk.**

**Although abstract in nature, the cost of equity is as real as any cost can be in terms of its implications for a firm and its shareholders. If a firm cannot earn a return on equity above its cost, its shareholders will abandon their support for the stock and will set its price at a discount to book value.**

**Many of the past decades' high flyers like WorldCom and Enron would surely have been more deliberate in their growth had they been forced to recognize the cost of all the equity capital they were pouring into their businesses.**

As has been noted, the most egregious error accountants are now making is considering equity capital a free resource. Although they subtract the interest expense associated with debt financing, they do not place any value on the funds that shareholders have put or left in a business. This astonishing oversight means that companies often report accounting profits when they are in fact destroying shareholder value.

Economic profit eliminates this glaring distortion. It more accurately measures corporate performance by subtracting the cost of all resources used to generate revenues, including the cost of equity capital. At its most basic:

$$\text{Economic Profit} = \text{Accounting Profit} - \text{The Cost of Equity}$$

Unlike interest or wages, the cost of equity is not a cash cost. It is an opportunity cost. It is the return that a firm's shareholders could expect to earn by purchasing a portfolio of stocks in other companies of comparable risk. If a firm cannot give its shareholders at least the return that they could earn by investing on their own, it will lose value. It does not begin to earn a profit until it can cover the opportunity cost of its equity capital. This insight is the fundamental difference between accounting profit and economic profit.

The return that investors expect from investing in equity portfolios has been the subject of intense theoretical and empirical research by academic scholars. The finding that has stood the test of time is that investors want to be compensated for bearing risk, and over time, they are. Shareholders so discount a firm's future prospects when they establish the price they will pay for its shares that they are likely to earn a return well above the yield available to them from relatively risk free government bonds. It doesn't work out for each stock, of course, nor in every year, but over time a portfolio of common stocks does tend to provide investors with a 2 to 7 percent return premium that compensates them for risk. With government bonds currently yielding about 5 percent, shareholders are now demanding long run returns from their equity investments of from 7 to 12 percent per annum. Companies must earn that return as a cost of doing business.

Although abstract in nature, the cost of equity is as real as any cost can be in terms of its implications for a firm and its shareholders. If a firm cannot earn a return on equity above its cost, its shareholders will abandon their support for the stock and will set its price at a discount to book value. But if a return above the cost of equity can be achieved, a firm will sell for a premium over its book value, and it will have created wealth for its shareholders. The cost of equity is the cutoff rate to create value with capital, an invisible but profound dividing line between superior and inferior corporate performance.

The difference between accounting profit and economic profit is often considerable. A company with reported net income of \$80 million is on its face healthy. But if it ties up \$1 billion in shareholder capital on its balance sheet, and if its cost of equity is 10%, the firm is actually producing a \$20 million loss compared to the alternative investment uses of that capital. The likely consequence is that it will trade for a market value significantly less than its \$1 billion book capital, the difference reflecting the shareholder wealth that has been lost through misallocation or mismanagement of capital.

$$\begin{aligned} \text{Economic Profit} &= \text{Accounting Profit} - \text{The Cost of Equity} \\ \text{Economic Profit} &= \text{Accounting Profit} - (\text{COE}\% \times \text{\$Equity Capital}) \\ \$ - 20 \text{ Million} &= \$ 80 \text{ Million} - ( 10\% \times \$1 \text{ Billion} ) \end{aligned}$$

Many of the past decades' high flyers like WorldCom and Enron would surely have been more deliberate in their growth had they been forced to recognize the cost of all the equity capital they were pouring into their businesses.



**Ignoring the equity capital charge is simply stupendous. It is the greatest fraud ever perpetuated upon the investing public.**

**One other practical caveat is in order. Economic profit does not account for a company's value, but for the wealth it has created for its shareholders after the value of their investment has been recovered.**

**A second inexcusable accounting error is improperly associating financing sources with investment uses.**

**Debt exaggerates the apparent payoffs that a company earns from its investments, whereas equity financing tends to understate them.**

How substantial is the accountant's neglect of the cost of equity? Massive. The 1,000 largest U.S. firms ended 2001 with book equity of about \$2.9 trillion. At a 10% rate, the cost of equity is on the order of \$290 billion. To put that in perspective, the equity capital charge is more than three times as large as the \$96 billion in aggregate net income those firms reported that year. True, 2001 results were depressed for many reasons, but the impact of ignoring the equity capital charge is simply stupendous. It is the greatest fraud ever perpetuated upon the investing public. It is the single most significant governance issue in the accounting system. It needs to be at the top of everyone's list for reform.

## **Accounting for the Cost of Equity**

The bookkeeping change needed to fix this flaw is elementary: charge earnings with a debit for the cost of equity, and add back the same charge with a credit to book equity. The entry does not change the balance sheet or cash flow, but does begin to bring net income in line with economic profit.

The cost of equity cannot be measured precisely, but as the accounting framework assumes it is zero, any systematic measurement technique that conforms to modern finance theory will significantly improve upon that estimate and render profit figures that are generally more relevant and more accurate. Even using a 10% charge across the board would be better than continuing with the current assumption that equity is costless, but it is certainly possible to be even more accurate than that because most managers are already making an assumption about the cost of equity. They estimate the return that they will earn on equity investments in their pension fund, and their accountants use that assumption as a factor to determine the pension cost. General Motors, for example, is currently assuming it will earn a 10% return from its pension fund, so why not turn around and charge GM's net income at the same rate?<sup>4</sup> How can GM executives expect to earn a 10% return from their pension assets if they do not demand it of themselves?

One other practical caveat is in order. Economic profit does not account for a company's value, but for the wealth it has created for its shareholders after the value of their investment has been recovered. It accounts for the difference between a firm's market value and its book value, a spread termed market value added, or MVA<sup>5</sup>. Compared to net income, economic profit ensures that corporate managers allocate capital to where they can create a premium value and not just any value. Analysts will have to adjust their models so that they relate a company's economic profit to its market to book value spread.

## **Do Not Mix Operating and Financing Decisions**

A second inexcusable accounting error is improperly associating financing sources with investment uses.

The root of the problem is that traditional accounting measures look very different depending on whether debt or equity finances a new investment. A firm will usually report more earnings-per-share (EPS) and a higher return on its equity (ROE) if it finances new investments with bank borrowings instead of through issuing common stock. With debt, all management has to do is cover interest—which might cost only about 3 to 4 percent after taxes these days—and it will increase its reported earnings and returns. A new common stock issue sets a far higher hurdle because it beefs up equity capital and bulks up shares. A project which is financed with stock will generally have to produce a great deal more profit in order to keep a firm's EPS and ROE on a roll. Simply put, debt exaggerates the apparent payoffs which a company earns from its investments, whereas equity financing tends to understate the returns.

<sup>4</sup>The 10% return GM assumes is actually from a diversified stock and bond portfolio. Accordingly the return GM is assuming it will earn on the equity portion of its pension portfolio is in fact higher than 10%.

<sup>5</sup>For more on the connection between EVA and MVA refer to *The Quest For Value* by G. Bennett Stewart, III (Harper Business, 1991), pages 250-350, and to Free Cash Flow (FCF), Economic Value Added (EVA®) and Net Present Value (NPV): A Reconciliation of Variations of Discounted-Cash-Flow (DCF) Valuation, by Ronald E. Shrivies and John M. Wachowicz, Jr, *The Engineering Economist*, 2001, Volume 46, Number 1, pages 36-52.



**Enron poses a classic example of the hazards of mixing operating and financing decisions.**

**Debt for them is like a drink of whiskey. It's too good to stop once they really get going.**

**A corporate decision-making rule has been developed to discourage managers from making those mistakes, misallocating capital, and risking financial distress. It is to stop managers from taking the first drink by forcing them to separate financing sources from investment uses.**

**By their failure to align accounting principles to economic value, accountants are forcing managers to live uncomfortably in two worlds—one, the internal world in which resources are allocated according to the separation rule, and the second, the bookkeeping world in which the choice of debt or equity financing does affect the reported results.**

Because of that disparity, managers face temptations to grossly misallocate capital. They may take on weak projects that they can dress up with attractive debt financing, and pull back from worthwhile projects if they no longer can tap debt sources and must raise expensive new equity. What's worse, managers can become so enamored with the financial attractions of debt that they leverage up to the brink of financial ruin, if not over it.

Enron poses a classic example of the hazards of mixing operating and financing decisions. Management announced in the 2001 annual report, "we are laser-focused on earnings-per-share," and so they were. Enron executives were so preoccupied with giving their EPS and ROE a ride that they began to use debt very aggressively to fund such questionable projects as overseas water utilities and broadband telecom networks. Even as leverage climbed to dizzying heights, the firm's top brass could not bring themselves to tap the equity markets to relieve the financial stress. Eventually the slightest puff of breeze was sufficient to knock down the house of cards that Ken Lay built.

Once a company runs down the path of leveraging its growth, it is difficult for it to reverse course. Confronted with a much stiffer cost of equity (or fearing the consequences of diluting EPS or ROE), managers become reluctant to raise equity to finance even sound projects. Like addicts, they keep borrowing from the future and hoping for the best today. Debt for them is like a drink of whiskey. It's too good to stop once they really get going. Just ask Enron CFO Andrew Fastow.

A corporate decision-making rule has been developed to discourage managers from making those mistakes, misallocating capital, and risking financial distress. It is to stop managers from taking the first drink by forcing them to separate financing sources from investment uses. According to this longstanding capital budgeting procedure, management is required to evaluate potential investment projects on their own merits rather than penalizing or subsidizing them according to how each is financed. All of a company's costs of capital are to be combined into one overall blended cost, and that weighted average cost of capital, or WACC as it is known in financial circles, is to be used as the hurdle rate for judging all projects regardless of how the individual projects are actually financed. The rule implies that the actual debt or equity a company employs is misleading, transitory and irrelevant. What matters is whether a project would look good assuming that it was financed with a prudent and sustainable blend of debt and equity.

Most companies nowadays do correctly separate operating and financing decisions when they initially consider capital spending and acquisition proposals. They do use an overall WACC to measure the value of investment projects and as a key input to decide which ones to accept or reject. The problem is, that is not the only input into how they decide.

Many top executives also feel they must keep an eye on how new investments will affect their overall ROE and EPS results, measures that unfortunately do not separate operating and financing decisions. By their failure to align accounting principles to economic value, accountants are forcing managers to live uncomfortably in two worlds—one, the internal world in which resources are allocated according to the separation rule, and the second, the bookkeeping world in which the choice of debt or equity financing does affect the reported results. Schizophrenic managers try to bridge both worlds, balancing the two perspectives. They invariably trade off a misallocation of capital (and an intrinsically lower market value) for a more attractive seeming financial report. They should not be forced into making such unrewarding compromises.



**Transparency is not just about disclosing more data or even principally about that. It is chiefly about giving investors a clear window into how managers make or should make decisions that are in their best interests.**

**The first step in the separation process is to measure profit before subtracting any financing charges. The result is known as net operating profit after taxes, or NOPAT for short.**

**Unlike book net income, NOPAT is not affected by transitory shifts in capital structure or interest rates.**

**The second step is to subtract all financing costs as represented by the strategic, weighted average cost of capital. The result is a popular method to measure economic profit that is called EVA, or economic value added.**

**WACC is the blended cost of all capital. It is computed by weighting the after-tax cost of each capital component by its representation in an ideal capital structure mix.**

Regulators and other accounting authorities have a responsibility to relieve management of this tension, and to conform GAAP accounting to the established principles and practices of value-based management. What's needed is a new accounting standard that unites financial reporting with the capital budgeting techniques most companies now employ for internal resource allocation decisions. Transparency is not just about disclosing more data or even principally about that. It is chiefly about giving investors a clear window into how managers make or should make decisions that are in their best interests.

The recommended new accounting treatment is straightforward. It is to put all of the operating results on one side of the economic profit calculation and then to subtract all financing costs on the other side:

$$\text{Economic Profit} = \text{Operating Results} - \text{The Cost of All Capital}$$

The first step in the separation process is to measure profit before subtracting any financing charges. The result is known as net operating profit after taxes, or NOPAT for short (a term Joel Stern coined in the late 1960s following the seminal articles on corporate valuation theory by Nobel Laureates Merton Miller and Franco Modigliani).

NOPAT is a key measure of a company's profit that accountants should disclose to investors. Unlike book net income, NOPAT is not affected by transitory shifts in capital structure or interest rates. It lets the sun shine through to reveal pure operating results. Dividing NOPAT by the sum total of a firm's debt and equity capital provides a rate of return you can take to the bank. It measures how productively management has managed capital regardless of how it has financed the capital. It is far more reliable than return on equity as a basis to compare a company's performance from one year to the next or across a group of companies within the same year, because financing differences are purged.

Having removed financing costs from NOPAT, the second step is to subtract all financing costs as represented by the strategic, weighted average cost of capital. The result is a popular method to measure economic profit that is called EVA<sup>6</sup>, or economic value added:

$$\begin{aligned} \text{Economic Profit} &= \text{NOPAT} - \text{The Cost of Debt and Equity} \\ \text{EVA} &= \text{NOPAT} - (\text{WACC}\% \times \$\text{Total Capital}) \end{aligned}$$

WACC is the blended cost of all capital. It is computed by weighting the after-tax cost of each capital component by its representation in an ideal capital structure mix. Finance staffs carefully select their target capital structure blends by balancing the benefit of using cheap debt financing against their need to preserve financing flexibility and withstand downturns with an equity cushion. Depending on the company, the ideal target capital structure mix usually runs in a range from about 20% debt and 80% equity for rapid growth high-tech firms to about 60% debt and 40% equity for mature, cash surplus generating ones. The target capital structure is also one that management should be committed to attaining on average and over time.

Once a firm's target capital structure is set, its weighted average cost of capital can be determined. To illustrate, recall the former example company that was employing \$1 billion in equity capital. Suppose that the firm's management has established and is now maintaining its capital structure target consisting of two-thirds equity and one-third debt. If so, its \$1 billion in equity capital is currently augmented by \$500 million in debt for a total capital base of \$1.5 billion.

<sup>6</sup>In a comprehensive EVA accounting system all financing costs should be backed out of NOPAT and impounded into the cost of capital in order to clearly and totally separate operating and financing decisions. For instance, off-balance sheet lease commitments should be discounted to a present value and included as part of debt capital for the purpose of measuring the overall cost of capital, and the implied after-tax interest component of the annual rents should be added back to NOPAT. The debt and interest associated with Special Purpose Entities in which the company holds more than a 50% economic interest (including any debt capital that is secured by guarantees or derivative instruments) should also be brought into the firm's capital, cost of capital, and NOPAT calculation. Out of sight should not become out of mind.



Assuming the firm borrows at a 5% pre-tax cost, or 3% after a 40% tax deduction, and recalling that it has a 10% cost of equity, the company's WACC is 7.66%.

	After Tax Cost	Weight	Weighted Cost
Debt	3%	1/3	1.00%
Equity	10%	2/3	6.66%
Total			7.66%

One application of WACC is serving as a hurdle rate for approving new investments. All of this company's projects, for example, regardless of how they are financed, should be held to a standard of earning at least a 7.66% rate of return over time on the total capital invested in them. Management should also use WACC to discount projected cash flows from new projects and acquisition targets in order to measure Net Present Value and rank order opportunities. A third application for WACC is in measuring EVA by setting a benchmark for NOPAT.

The NOPAT benchmark is determined by multiplying the total amount of capital that a firm employs by the cost of that capital. For the example company, it is \$115 million.

$$\begin{array}{rcl}
 \text{Economic Profit} & = & \text{NOPAT} \quad - \text{The Cost of Debt and Equity} \\
 \text{EVA} & = & \text{NOPAT} \quad - (\text{WACC}\% \times \$\text{Total Capital}) \\
 & = & - (7.66\% \times \$1.5 \text{ billion}) \\
 & = & - (\$115 \text{ million})
 \end{array}$$

**The NOPAT threshold is a critical corporate performance target that auditors should be required to disclose to shareholders.**

The \$115 million capital charge represents the minimum NOPAT that must be earned for the firm just to break even in economic terms—to pay interest on its debts after taxes and leave a bottom line profit remainder that gives its shareholders the cost of equity return they demand. An actual NOPAT that exceeds that threshold creates value because it gives shareholders a higher return than they could get elsewhere, and vice versa. The NOPAT threshold is a critical corporate performance target that auditors should be required to disclose to shareholders.

To complete the measurement of EVA, in the next step the firm's actual NOPAT is compared against the NOPAT threshold. In a live audit, NOPAT would be measured as a firm's sales less its operating expenses—leaving out any interest expense or financial charges—and less applicable taxes on the operating profit. For our example company, NOPAT can be inferred by backing out the finance charges from bottom line profit. Starting with its net income of \$80 million, adding back the after tax interest on the \$500 million of debt at a 3% rate implies that the firm's underlying NOPAT is \$95 million.

Putting it all together, the new bottom line is not new. EVA is still a \$20 million loss, the same result as was determined when the cost of equity was subtracted from net income.

$$\begin{array}{rcl}
 \text{Economic Profit} & = & \text{NOPAT} \quad - \text{The Cost of Debt and Equity} \\
 \text{EVA} & = & \text{NOPAT} \quad - (\text{WACC}\% \times \$\text{Total Capital}) \\
 & = & \$95 \text{ million.} \quad - (7.66\% \times \$1.5 \text{ billion}) \\
 \$ - 20 \text{ million} & = & \$95 \text{ million} \quad - \$115 \text{ million}
 \end{array}$$

EVA comes out the same both ways only because the company was assumed to be exactly maintaining its target debt/equity blend. That will not be the case if the firm employs a capital structure that temporarily deviates from its long run target. The accounting measures will all shift because they inherently mix financing costs with operating results. The economic measures will not be affected, however. They will purge transitory finance fluctuations and remain rock solid performance indicators.



To illustrate, suppose that the company temporarily employs an additional \$100 million in debt and \$100 million less in equity. The results before and after the capital structure deviation are:

	Debt	Equity	TC	NOPAT	ROTC	WACC	EVA	Net Inc	ROE	EPS
Before	\$500	\$1,000	\$1,500	\$95	6.33%	7.66%	-\$20	\$80	8.00%	?
After	\$600	\$ 900	\$1,500	\$95	6.33%	7.66%	-\$20	\$77	8.55%	?+7%

Although its debt is higher and equity lower, the firm’s total capital is the same \$1.5 billion after as before. The underlying operating assets are no different—this is purely a change in financial structure. NOPAT likewise is unaffected by a mere funding shift because as a pure measure of operating profit, it is not distorted by the deduction of additional interest expense. It is \$95 million regardless of financial structure.

The firm’s WACC is also the same because it is assumed that management remains steadfastly committed to its 1/3rds-debt and 2/3rds-equity target capital structure. So long as they understand and believe that policy will be maintained, investors will accept that the additional \$100 million in debt and \$100 million less in equity is temporary and will be reversed in due course.

In sum, all the economic measures, including EVA, will stand firm through the turbulence of a temporary capital structure shift, as they should. By paying attention to those results, investors would be able to appreciate that the company’s stock price should not change either.

The accounting measures are by no means so trustworthy. Through the magic of leverage, the firm’s ROE and EPS appear much improved when nothing of substance has changed. True, the extra debt reduces bottom line profit by the addition of \$3 million in after-tax interest, but with equity capital cut by \$100 million the firm’s ROE gets a boost from 8% to over 8.5%.

The impact on EPS and P/E multiple is more problematic but can be deduced. Assume management uses the extra \$100 million in debt to retire equity by repurchasing shares at book value. In that case, the number of shares would decline by 10% (\$100 million retirement /an initial \$1 billion equity book value). Net income, by contrast, declines by only 3.75% (from \$80 to \$77 million). With shares falling faster than earnings, earnings per share will climb—by nearly 7%, and thus the price to earnings multiple must temporarily decline. The lower multiple makes sense because, when inverted, it indicates that investors will for a while earn a higher yield on their investment in the firm’s shares, a result that is entirely consistent with the fact that the extra leverage creates a temporary surge in the financial risk that they face.

To conform to the separation rule, the EVA reporting scheme requires that the actual interest expense and other financial charges a firm incurs not be deducted on its statement of economic profit and loss. They will instead be presented in a footnote section containing a wealth of information pertinent to measuring the firm’s cost of capital. So long as the information is disclosed there, creditors and others interested in debt capacity and creditworthiness can make assessments of coverage ratios and the like without disrupting the main objective of reporting the firm’s economic profit to the shareowners.

A practical consideration is how auditors should define a firm’s target capital structure. The best solution would be for the SEC to mandate disclosure by managers of their target capital structure policy. The targets should be based on book value proportions rather than market value weights because managers do not control the firm’s market value in the short term<sup>7</sup>.

<sup>7</sup>Another reason to use book value weights is that cost of capital is the cutoff rate for determining when a project has zero economic profit and hence a zero Net Present Value, in which case the project’s market value equals its book value, by definition.

**All the economic measures, including EVA, will stand firm through the turbulence of a temporary capital structure shift, as they should. By paying attention to those results, investors would be able to appreciate that the company’s stock price should not change either.**

**To conform to the separation rule, the EVA reporting scheme requires that the actual interest expense and other financial charges a firm incurs not be deducted on its statement of economic profit and loss. They will instead be presented in a footnote section containing a wealth of information pertinent to measuring the firm’s cost of capital.**



Disclosure would give investors important additional information to determine a firm's overall cost of capital and its value. The disclosed targets are apt to be credible in the main because investors, analysts and the media will hold managers' feet to the fire if they do not achieve their espoused objectives over time.

Absent that policy change auditors could use a company's trailing three-year average debt/equity mix as the implied target. The trailing average is simple and auditable, and will certainly be more accurate than taking any one year's leverage ratio at face value. By divorcing decisions from transitory appearances, it will encourage managers to deploy capital in the long run interests of shareholders. And it will let managers happily live in one world instead of two, the world of legitimate value creation as opposed to that of financial manipulation.

**The accounting rules for defined-benefit pension plans are almost totally incorrect.**

### **Pension Plan Accounting Wrongly Mixes Operating Costs and Financial Returns**

The accounting rules for defined-benefit pension plans are almost totally incorrect. The gap between appearance and economic substance is probably as far apart in this issue as any other. Accountants intertwine the pension cost with how it is funded. They systematically understate the expense of paying for a retirement plan. They ignore and smooth risk. The bookkeepers have seduced usually staid finance managers into being far too adventuresome with their pension fund assets. Almost all companies today are running far too great a risk of joining GM and having to hand over more cash to their pension plan just after the market has taken a nose dive and they are least prepared to make the extra payments:

*Despite favorable performance, GM chief Financial Officer John Devine said most of the \$3.5 billion in cash the company generated in its auto business in the latest quarter went to fund contributions for retiree costs. Depending on how the markets perform, he said, GM might have to contribute \$6 to \$9 billion to its pension plan over the next five years to meet regulatory requirements.*

**The root of the problem is that accountants do not treat pension accounts as true corporate liabilities and assets when in fact they are.**

*GM's shares, which have fallen sharply in the past few weeks amid concerns about the pension-fund issue, fell 4.3% to \$45.84 on the New York Stock Exchange.*

GM Profit Grows, But Pension Costs worry Investors  
*The Wall Street Journal*  
July 17, 2002, page A3

The root of the problem is that accountants do not treat pension accounts as true corporate liabilities and assets when in fact they are. For starters, ERISA<sup>8</sup> regulations require a company to maintain minimum funding of its future pension liabilities out of its on-going cash flows (hence GM's urgency to bump up its pension contributions). If a company is caught short and goes belly-up without a fully funded plan, the shortfall is covered by a government insurance fund, the Pension Benefit Guarantee Corporation. Employees do not need to lose sleep in a bankruptcy filing, but the firm's lenders must. The PBGC is empowered to recover its advance by filing a claim against the company's assets that has the status of a tax lien.

**Whether paid out of cash flow or in bankruptcy, a company's pension liability is senior even to its most senior lenders.**

Whether paid out of cash flow or in bankruptcy, a company's pension liability is senior even to its most senior lenders. It is not a vague contingent claim that deserves to be relegated to a footnote—the bookkeeper's equivalent of banishment to Siberia. The pension liability is in fact the exact opposite—a liability so emphatic it should be boldly printed on a company's balance sheet at the very top of its list of debts. Although they are actually in the control of a trustee, and are legally segregated for the benefit of servicing the employee retirement benefits, a company's pension fund assets are truly corporate assets because they directly offset the firm's pension liability. They, too, should appear on the corporate balance

<sup>8</sup>The Employee Retirement Income Security Act (ERISA) was enacted to ensure that employees receive the pension and other benefits promised by their employers.



**The true pension cost is the present value of the extra retirement payments that employees have earned through their service to the company over the time period in question.**

**The pension expense is the period-to-period increase in the pension liability, that is, in the present value of the promised retirement benefits. It has nothing to do with the returns actually earned from the pension plan assets.**

**The only way a company can be sure it will meet its pension commitments on schedule is to invest its pension fund assets in a diversified bond portfolio that matches the risk profile of its pension liability.**

sheet—but neither one does. Accountants misrepresent the true nature of pension assets and liabilities by only disclosing them in off-balance sheet notes.

Accountants also make a mistake in the way they record pension expense on corporate income statements. The true pension cost is the present value of the extra retirement payments that employees have earned through their service to the company over the time period in question. Putting it another way, the true pension cost is equal to the amount of cash that would have to be set aside and invested in a bond fund that would surely compound in value to meet the additional retiree payments<sup>9</sup>. This “service cost,” as it is known, directly increases the firm’s pension liability and decreases the firm’s market value. It is the amount that should be subtracted as the periodic pension expense in the measurement of a firm’s NOPAT and its EVA—but under present bookkeeping rules, it is not.

Accountants and actuaries have concocted a complicated formula to measure a company’s pension expense:

$$\text{Pension Cost} = \text{Service Cost} - (\text{Fund Return} - \text{Liability Interest})$$

The bookkeepers start off on the right track by setting the pension cost equal to the service cost, but they err by subtracting the speculative spread between the return earned on the pension assets and the interest cost of the pension liability. The bookkeeping formula suggests that earning a higher return on pension fund assets reduces a company’s pension cost, but that is not at all correct. The pension expense is the period-to-period increase in the pension liability, that is, in the present value of the promised retirement benefits. It has nothing to do with the returns actually earned from the pension plan assets. Accountants once again inappropriately mix operating and financing decisions, and in the process they have lured many unsuspecting CFOs into gambling their shareholders’ equity on speculative investment returns.

Given the priority the law accords pension beneficiaries—with justification after all—pension commitments ought to be discounted to a present value at a very low interest rate, a rate even lower than the rate a firm would pay on its most senior debt. The firm’s overall cost of capital is inappropriate for discounting pension liabilities because it reflects the risk of the returns from business operations. Nor is it correct to discount pension promises at the rate of return expected from pension fund assets—that rate reflects the risk of the returns from those assets.

The right rate to discount the pension liability is the yield offered by a portfolio of bonds that is one credit rating notch higher than the credit rating of the firm itself. A gilt-edged, Triple-“A” rated credit like GE should discount its pension liability at the US government bond rate of interest, and a Triple-“B” rated credit should use a Single-“A” interest rate—always one credit notch higher because the pension liability is senior to a firm’s most senior lenders.

Accountants do not follow this course—although they are close. They uniformly discount pension liabilities with a Double-“A” discount rate (only truly applicable to Single-“A” rated credits). They understate the liability for big creditworthy firms and overstate it for smaller, less credit capable ones. In the main, however, accountants do correctly acknowledge that pension liabilities are senior corporate claims that deserve discounting at a relatively low rate of interest.

The only way a company can be sure it will meet its pension commitments on schedule is to invest its pension fund assets in a diversified bond portfolio that matches the risk profile of its pension liability. Suppose a company has a \$1 billion pension liability — the result of discounting its retiree commitments to a present value at the prevailing Double-“A” bond yield of 7%. To neutralize the risk to its shareholders, and align portfolio returns with pension

<sup>9</sup>Pension fund consultants often stress that the liability should include the increases in benefits that would be due to future inflationary increases, but that is incorrect. Almost all corporate operating costs, whether for materials or services or labor, will increase due to inflation, and yet such increases are not recorded as current liabilities. In the economic model, the pension liability due to inflation will be recorded only as the inflation occurs and not in advance.



commitments, the firm must invest its pension fund assets in a \$1 billion, Double-“A” rated bond fund that would yield an identical 7% return. By the accountant’s reckoning, the interest cost on the pension liability and the return from the mirror-image pension fund asset precisely cancel, leaving the firm’s pension cost equal to its service cost.

**Pension plan costs can only be measured accurately so long as the risk that a firm’s shareholders bear is not changed by the introduction of the pension plan.**

$$\begin{aligned} \text{Pension Cost} &= \text{Service Cost} - (\text{Fund Return} - \text{Liability Interest}) \\ \text{Pension Cost} &= \text{Service Cost} - (7\% \times \$1 \text{ billion} - 7\% \times \$1 \text{ billion}) \\ \text{Pension Cost} &= \text{Service Cost} \end{aligned}$$

The formula reflects the powerful logic behind the economist’s view that a company’s pension cost is always equal to its service cost. Economists assume that people do not like to bear risk. They think that pension plan costs can only be measured accurately so long as the risk that a firm’s shareholders bear is not changed by the introduction of the pension plan. They know that the only way to maintain risk neutrality is to match the risk of the pension assets with the risk of the pension liability. When that occurs, the pension assets grow in value in lockstep with the increase in the present value cost of the pension commitments, and pension cost always equals service cost.

**Speculative investment returns should not be commingled with pension liability costs as that again would be a decision to unwisely mix operating and financing decisions. Speculative returns should be broken out on NOPAT and EVA statements so investors can judge them as a separate matter—but now they are not.**

Any deviation from that risk neutral policy represents a decision by management to enter a separate, new, “non-operating” line of business—investment speculation. Speculative investment returns should not be commingled with pension liability costs as that again would be a decision to unwisely mix operating and financing decisions. Speculative returns should be broken out on NOPAT and EVA statements so investors can judge them as a separate matter—but now they are not.

Goaded by the accountant’s measurement errors, most corporate finance managers have succumbed to the temptation to speculate. They invest pension assets in securities with risk profiles vastly higher than their pension liabilities. They hope to goose up the returns, earn a positive spread, reduce their reported pension cost, and perhaps win a bigger bonus. But even if they succeed in doing that, they have accomplished nothing of value for their shareholders. Corporate managers can earn a higher return on their pension assets only by taking on more risk—a risk that is passed on to the shareholders. The shareholders will respond by discounting the firm’s riskier earnings at a steeper rate. They will pay a lower multiple for the riskier earnings. The stock price will not budge. The shareholders will simply earn a higher return commensurate with the additional risk they are forced to take.

**Another way accountants overstate the appeal of investing in equities is that over-funded pension plans trigger under-reporting of pension costs.**

Another way accountants overstate the appeal of investing in equities is that over-funded pension plans trigger under-reporting of pension costs. Suppose that the firm with the \$1 billion pension liability shifted 50% of its pension fund assets into equities during the 1990s bull market run. The portfolio has by now experienced an unusually high return and has compounded to an aggregate market value of, say, \$1.5 billion. Putting the numbers in the boxes indicates that the \$500 million over-funding is behind a \$35 million per year understatement of the service cost:

$$\begin{aligned} \text{Pension Cost} &= \text{Service Cost} - (\text{Fund Return} - \text{Liability Interest}) \\ \text{Pension Cost} &= \text{Service Cost} - (7\% \times \$1.5 \text{ billion} - 7\% \times \$1 \text{ billion}) \\ \text{Pension Cost} &= \text{Service Cost} - (\$105 \text{ million} - \$70 \text{ million}) \\ \text{Pension Cost} &= \text{Service Cost} - \$35 \text{ million} \end{aligned}$$

**Accountants compound this colossal error by assuming that a diversified stock and bond portfolio will earn a higher return than an investment in safe bonds.**

Accountants compound this colossal error by assuming that a diversified stock and bond portfolio will earn a higher return than an investment in safe bonds. Suppose management projects that with the fund partially invested in equities it can average a 10% return from its pension assets. The financial speculation spread now drives the reported pension cost a full \$80 million a year below the true service cost:

$$\begin{aligned} \text{Pension Cost} &= \text{Service Cost} - (\text{Fund Return} - \text{Liability Interest}) \\ \text{Pension Cost} &= \text{Service Cost} - (10\% \times \$1.5 \text{ billion} - 7\% \times \$1 \text{ billion}) \\ \text{Pension Cost} &= \text{Service Cost} - (\$150 \text{ million} - \$70 \text{ million}) \\ \text{Pension Cost} &= \text{Service Cost} - \$80 \text{ million} \end{aligned}$$



**Accountants have waded into troubled waters by ignoring risk when they measure a firm's pension cost.**

**Actual pension fund returns may be gyrating up and down giving shareholders a bumpy ride for their value, and yet the recorded pension cost blithely assumes away the short-term fluctuations that are the essence of risk.**

**Corporate executives frequently call upon their powers of persuasion (and the purse) to induce their auditors and actuaries to change the return assumption for the purpose of smoothing earnings.**

**The bookkeepers reserve their most transfiguring powers for smoothing pension plan surpluses and deficits.**

If its service cost is \$50 million, for example, the company will report a negative pension cost—actually book income—of \$30 million from its pension plan. This incredible outcome is the result of mixing the returns from speculative financial investments with the operating cost of providing retirement compensation.

Accountants have waded into troubled waters by ignoring risk when they measure a firm's pension cost. While it is true that equities are expected to outperform bonds—and over a long time frame they will—equities are not expected to provide a higher *risk-adjusted* return than bonds. An investment of \$1,000 in stocks or \$1,000 in bonds has the same \$1,000 present value even though the stocks are eventually expected to be worth more than the bonds. The mistake that accountants make is assuming that the extra return that common stocks offer over time is an advantage, when in fact, it is a requirement to break even (on a risk-adjusted basis) with the safer, surer return offered by bonds. Put another way, a company that shifts its pension assets from bonds into stocks will boost its reported earnings and its return on equity over time, but those gains will be completely countered by the lower multiple the market will attach to its riskier, lower quality earnings stream.

The accounting gets even worse (or better if you make the mistake of taking book earnings at face value) because it significantly disguises the true risk of investing the pension plan assets in equities. Remarkably, the pension fund return that appears in the pension cost formula is not the actual return realized from the fund assets. It is an *assumption* about long run future returns. Pension plan accounting sees no risk and hears no risk. Actual pension fund returns may be gyrating up and down giving shareholders a bumpy ride for their value, and yet the recorded pension cost blithely assumes away the short-term fluctuations that are the essence of risk. It would be hard to imagine more deceitful accounting, except that it gets even more preposterous.

Managers are able to change the assumed return on the pension assets (when the only correct assumption is that it is equal to the return used to discount the pension liability). Corporate executives frequently call upon their powers of persuasion (and the purse) to induce their auditors and actuaries to change the return assumption for the purpose of smoothing earnings. Seeing good times ahead, management lowers the assumed return and boosts the reported pension cost. Like the biblical Joseph, management builds up a deposit of earnings in the cookie jar to survive fallow years. In lean times Pharaonic managers draw down on the store of earnings by ginning up the assumed return and reducing the reported pension cost.

The bookkeepers reserve their most transfiguring powers for smoothing pension plan surpluses and deficits. If pension fund assets exceed (or fall short) of the pension liability by more than 10%, the difference is amortized into the pension cost formula. In the example, pension assets exceed the liability by \$500 million, or by 50%. The \$500 million surplus must be amortized into earnings over a 15-year period. That reduces the pension cost by yet another \$33.3 million dollars. Combined with the \$80 million favorable financial spread, the reported pension cost for the fortunate example company is now a whopping \$113.33 million less than its true service cost.

Suppose the company's pension assets suddenly suffer a 20% loss in value—from \$1.5 billion to \$1.2 billion. The shareholders will have lost \$300 million<sup>10</sup>, but the pension cost will not show anything like that severe down draft.

$$\begin{aligned}
 \text{Pension Cost} &= \text{Service Cost} - (\text{Fund Return} - \text{Liability Interest}) \\
 \text{Pension Cost} &= \text{Service Cost} - (10\% \times \$1.2 \text{ billion} - 7\% \times \$1 \text{ billion}) \\
 \text{Pension Cost} &= \text{Service Cost} - (\$120 \text{ million} - \$70 \text{ million}) \\
 \text{Pension Cost} &= \text{Service Cost} - \$50 \text{ million}
 \end{aligned}$$

The financial speculation gains will be cut from \$80 million to \$50 million, for a \$30 million annual shortfall. The amortization of the pension surplus will drop by \$300 million

<sup>10</sup>Pension contributions are deductible for tax purposes and thus a pension fund surplus or deficit is really only worth the after-tax amount to the shareholders.



**It is not extreme to suggest that pension plans in most companies are little different from Enron's reviled Raptor partnerships.**

**Restoring the integrity of earnings and balance sheet presentations, and reducing pension leverage in favor of corporate leverage, are among the desirable governance outcomes that will likely follow in the footsteps of these proposed accounting reforms.**

**Another basic flaw is that accounting rules are wired to measure liquidation value more than going concern value, and to address the concerns of conservative bankers more than the needs of risk taking shareholders.**

**Corporate income taxes offer a classic example of cowardly accounting.**

over 15 years, or by \$20 million per annum. The firm's reported pension cost will increase by a total of \$50 million a year compared against an immediate market value loss of \$300 million. The pension cost registers only one-sixth of the decline in the market value that the firm's shareholders have suffered. It is little wonder that managers do not fully appreciate all the risks they have taken with their pension plans, even though sophisticated investors are able to see through these consequences and focus on the true underlying cost and risks.

It is not extreme to suggest that pension plans in most companies are little different from Enron's reviled Raptor partnerships. Both are (or were) special purpose entities using off-balance-sheet debt to finance the acquisition of risky assets that also are held off-the-balance-sheet. In both cases accountants have conspired to hide losses and disguise the risk of the risky investments. The rules that accountants have developed to measure pension costs have provided managers strong incentives to play this corporate version of Russian roulette and hope they win. In today's market, they are losing.

The correct bookkeeping answer is to put pension assets and liabilities on corporate balance sheets where they belong, to record the service cost as the true pension cost on the income statement, and if companies persist in senselessly gambling on equities in their pension plans<sup>11</sup>, to segregate the actual, un-smoothed speculation gains and losses and report them as separate line items on the statement of economic profit and loss.<sup>12</sup>

Restoring the integrity of earnings and balance sheet presentations, and reducing pension leverage in favor of corporate leverage, are among the desirable governance outcomes that will likely follow in the footsteps of these proposed accounting reforms. Corporate managers will undoubtedly want to avoid profit swings by swapping pension assets from equities into bonds. By stabilizing earnings and insulating the pension liability risk they will increase creditworthiness. Many of them will take advantage of their additional debt capacity by borrowing on their corporate books and using the proceeds to buy back their stock. They will increase their EVA and market value by reducing the cost of capital applicable to their business investments.

## **Do not confuse Shareholders with Lenders**

Another basic flaw is that accounting rules are wired to measure liquidation value more than going concern value, and to address the concerns of conservative bankers more than the needs of risk taking shareholders. Burned by groundless lawsuits (and few worthy ones) the accountants' motto has become, in effect, when in doubt, debit—debit the earnings that is. They have concocted rules to minimize their liability exposure. They consciously understate reported earnings by burying valuable assets in bookkeeping reserves or writing them off entirely. They have unwittingly created the incentive for managers to work around the rules and restore earnings to what they think is a more accurate result.

As a matter of national policy the bookkeepers should not be permitted to crawl into a hole and hide from the tort lawyers. They should be compelled to report the information that will enable smart investors to judge the likely future cash flows from a going concern, and that will guide managers to the decisions that optimize resources and maximize shareholder wealth. As long as they stick to those rules the auditors should be exonerated of guilt, even if ex ante performance expectations are not realized after the fact.

Corporate income taxes offer a classic example of cowardly accounting. Most companies are lawfully permitted more deductions to compute their income tax than they can legitimately recognize for book profit reporting. Companies can, for instance, depreciate assets at an accelerated pace on their tax records. The intent of congress is to cut corporate tax bills and subsidize the purchase of assets that allegedly will raise worker productivity.

<sup>11</sup>Most firms would benefit from putting all of their pension assets in a diversified bond fund that matches the risk profile of the pension fund liability. This policy insulates lenders and shareholders from risk, and increases the firm's debt capacity, and maximizes the expected risk adjusted after tax yield from the pension assets.

<sup>12</sup>The pension liability should not be subject to the company's overall cost of capital charge (because its return is expected from the pension fund assets), but the pension fund deficit or surplus should be subject to a separate capital charge that reflects the financial speculation risk



**Accountants deduct taxes that a company has not paid and probably will never pay.**

**The accountants defend this nonsensical practice by jumping in bed with the bankers and pulling up the sheets.**

**In their concern for being occasionally wrong about deadbeat companies the accountants have chosen to be always wrong about the vast majority of businesses that prosper as going concerns.**

**To discard the bearish perspective of a lender and adopt the generally more ebullient vantage point of a shareholder is in theory a straightforward proposition.**

The accountants refute that policy aim and diminish the relevance of reported results by ignoring the taxes a company actually pays. Instead, they concoct a tax expense figure that is typically much higher than what's been paid. They compute the tax a company would owe on *their* definition of income, and they deduct that hypothetical "income tax provision" as an earnings levy. If a company's taxable income is \$100 and its accounting book income is \$150, the tax actually paid at a 40% tax rate is \$40, but the accountants will subtract 40% of \$150, or \$60 instead. By this bizarre contrivance accountants deduct taxes that a company has not paid and probably will never pay, for as long as a firm remains in business it will most likely continue to generate tax deferrals through the acquisition of new assets.

The difference between the fictitious book tax provision and the firm's actual tax bill is accumulated and buried in a balance sheet liability account called the deferred tax reserve. That reserve tends to grow larger over time as more and more taxes are deferred. GE, for instance, has a stupendous deferred tax reserve. On its 2001 year-end balance sheet the reserve was \$9.13 billion and it was \$8.69 billion at the end of 2000. The \$440 million increase is an indication of how much the accountants overstated GE's tax and understated its profit in the 2001 year. The \$9 billion ending balance is a measure of the cumulative error accountants have made in measuring GE's recurring cash flow from its operations.

The accountants defend this nonsensical practice by jumping in bed with the bankers and pulling up the sheets. Like pinstriped lenders they concentrate on the downside of corporate performance. They ask, what if a company fails to prosper and no longer generates tax deferrals? They fear the situation will reverse. They worry that the company may end up having to repay its deferred taxes. They worry most of all about bankruptcy, for that empowers tax authorities to file a lien senior even to the most senior lenders to recover taxes previously deferred. To be utterly conservative, and to calm the nerves of angst-ridden creditors, accountants feel justified charging companies in advance for taxes that they will only pay in dire circumstances.<sup>13</sup>

In their concern for being occasionally wrong about deadbeat companies the accountants have chosen to be always wrong about the vast majority of businesses that prosper as going concerns. The fact that almost every company in the stock market trades for a value well in excess of its liquidation value is prima facie evidence that the accountants have made a systematically wrong choice. Shareholders are not generally interested in worrying about shrinking and failing. They value companies principally by the cash flow they expect from them as active businesses. They need and want information about that.

To discard the bearish perspective of a lender and adopt the generally more ebullient vantage point of a shareholder is in theory a straightforward proposition. Accountants should strike from profit the taxes a company has paid instead of some hypothetical tax provision.<sup>14</sup> That done, the profit that is now being buried in the deferred income tax reserve will be flushed onto the NOPAT income statement and make its way into the firm's equity capital via retained earnings. EVA can then be computed via those revised figures.<sup>15</sup>

<sup>13</sup>When a company goes bankrupt it usually has lost so much of its going concern value that surrendering the deferred tax reserve is likely to be a moot issue for the shareholders. GE for instance now trades for a market value that is some \$300 billion more than its book value. If it ever comes to liquidating the company and repaying the deferred tax reserve most of GE's shareholders will already have committed suicide. Only the bankers and other creditors who would fight over the remains of the carcass need get involved in that level of granularity.

<sup>14</sup>To measure NOPAT the tax bill should also be grossed up for the additional taxes that would have been paid had interest expense not sheltered the operating profit from being fully taxed. The benefit that a company realizes from deducting interest and not paying those taxes already appears elsewhere in the EVA calculation. It is in the cost of capital, for the after-tax cost of borrowing money is used to compute it.

<sup>15</sup>The year-to-year amount of taxes deferred can be quite volatile as it is geared to investment spending and other fluctuating factors. Consequently policy makers should consider an alternative approach that smoothes the measurement of EVA. The idea is to recognize the benefit of deferring taxes not as a flow through on the income statement, but rather as a balance sheet reduction in the stock of capital subject to the capital charge. The approach entails accepting the income tax provision (after backing out the tax benefit of debt) as the charge to NOPAT, but then eliminating the balance sheet deferred tax reserve from capital by presenting it as a contra asset.



The deferred tax reserve, if it remains of interest to lenders, can be reported in a footnote account. It would probably help creditors even more for the auditors to create a supplemental schedule that displays the reversal of deferred taxes that would be expected over the next five years and thereafter assuming that no additional assets are purchased or pertinent policy changes are made. Again, lender-oriented information items should step to the rear.

**Another example of the accountant's conservative bias is in the way they anticipate losses from uncollectible loans and receivables.**

### **Clamp Down the Lid on the Cookie Jars**

Another example of the accountant's conservative bias is in the way they anticipate losses from uncollectible loans and receivables.

Accountants require companies to set up a bad debt reserve. The reserve holds an estimate of the amounts owed a company that will not be repaid. If the company has receivables on its books—what its customers owe for the services it has rendered to them—in an amount of \$100 million, and if the accountants think based on prior experience that 3% of those credits will dodge repayment, then the bad debt reserve will be set at \$3 million. On the balance sheet the reserve offsets the receivables. The \$100 million “face value” of the receivables is reduced to a “net book value” of \$97million. The reserve is used up as receivables go bad and are acknowledged as not likely to be paid, and it is replenished by a charge to earnings each year known as the bad debt provision. That is the theory, anyway.

**In flush years managers are tempted to bump up the bad debt provision to squirrel away earnings in the reserve so that in lean times they can under-estimate future losses and import earnings from the balance sheet reserve to the income statement.**

The practice is a good deal murkier. In flush years managers are tempted to bump up the bad debt provision to squirrel away earnings in the reserve so that in lean times they can under-estimate future losses and import earnings from the balance sheet reserve to the income statement. The reserve provides managers with a ready device for smoothing reported earnings and stabilizing their bonuses. It's the mechanism WorldCom CFO Scott Sullivan used to create an additional \$2 billion of income in 1999 and 2000. It's just one of many cookie jars whose lids must be shut tight.

Banks and other financial intermediaries face an even more severe problem. The more new loans or credits they sign up, the more they have to increase the charge to earnings to build up the reserve. If they sign up a lot of new loans at the end of their accounting year, the increase in the provision for bad debts can easily exceed the additional interest income they record from the new loans in that narrow slot of time. Ironically, the more good new loans they sign up the lower their earnings may go. That explains why your banker friends are always available to attend year-end holiday parties.

**If the accountants insist on pre-booking the losses from the loans that will not be repaid, why do they not pre-record the grossed up interest income from the ones that will?**

The reason the accounting makes no sense is that bankers are in business to make money, too. To be competitive and have access to capital, lenders know they must gross up the interest rate they charge good credits to cover their losses from the deadbeats. They actually must go farther than that. They must increase the rate they charge the winners to cover the loan losses from the losers, but also, to cover their operating costs, pay taxes and even to give their shareholders a decent return on their investment. If the accountants insist on pre-booking the losses from the loans that will not be repaid, why do they not pre-record the grossed up interest income from the ones that will? Because the accountants' motto is when doubtful, charge the earnings. It is the bookkeeping equivalent of shooting first and asking questions later.

**It is the bookkeeping equivalent of shooting first and asking questions later.**

The antidote to the auditors excessive conservatism is to subtract from NOPAT the actual charge-off of the bad debts as they occur and not in advance, and to record loans and receivables at face value without the subtraction of any reserve. That done, if a credit goes bad the write-off is charged directly to earnings instead of being routed through the reserve. Not only is bookkeeping a lot simpler for the average Joe to understand, it magnifies a manager's incentive to respond to bad debts by more assiduously seeking recovery and thinking twice or thrice about extending credit the next time around. The new bookkeeping rule switches bad debts from the purview of what accountants manage to the realm of what managers should be managing. It elevates economic substance over cosmetic appearance.



**Another classic example of the red carpet treatment that accountants accord lenders at the expense of shareholders is the bookkeeping for research and development spending.**

**To accommodate the banker's preference for concreteness, the accountants write off investments in intangible assets like R&D. In doing so they again take the position that a company is more dead than alive, that failure is the norm and success rare, and that the interests of bankers should take precedence over those of the shareholders.**

**A strong case can be made that today's economy is particularly geared toward rewarding investments in soft assets, that the real assets nowadays are the people, are the processes, and are the partners of the firm. The best firms are investing in ideas and software to reduce their investment in capital and in hardware.**

**In our knowledge-based economy investments in all intangibles ought to be capitalized like any other asset and depreciated over estimates of their economic lives.**

## **Innovation is an Investment and Not an Expense**

Another classic example of the red carpet treatment that accountants accord lenders at the expense of shareholders is the bookkeeping for research and development spending.

R&D outlays are unquestionably of vital importance to the economy. Innovation spending helps companies boost their potential for generating sales and earnings through the creation of new products and processes. R&D is the engine that increases the standard of living all over the world. In economic theory such outlays should be capitalized as an asset and written off to earnings over the period that they are likely to contribute to sales and earnings. Yet, accountants treat research not as an asset but as cost. They immediately charge off R&D spending as it is spent and record nothing of value on the balance sheet.

Accept that accountants are the lap dogs of bankers and this bizarre bookkeeping practice begins to make sense. Bankers wish to write loan covenants against tangible asset values. They desire the protection of hard, physical assets that are likely to have a resale or liquidation value in the event a firm goes bankrupt. To accommodate the banker's preference for concreteness, the accountants write off investments in intangible assets like R&D. In doing so they again take the position that a company is more dead than alive, that failure is the norm and success rare, and that the interests of bankers should take precedence over those of the shareholders.

Accountants counter that R&D spending is uncertain and can't be relied upon to create a valuable asset. By that flawed logic the spending on hard assets should not be capitalized either. General Motors, for instance, spent a king's ransom on robots in the early 80s with the intention to catch up with Japanese producers, but got nothing in return. The robot investment was a total write-off. Staggering as it was, that debacle pales against the massive losses sustained by telecom firms in recent years as they have built out big bandwidth networks and paved the way for so-called G3 mobile phones for which the demand has not yet materialized. The trend toward hard asset risk is if anything accelerating. A strong case can be made that today's economy is particularly geared toward rewarding investments in soft assets, that the real assets nowadays are the people, are the processes, and are the partners of the firm. The best firms are investing in ideas and software to reduce their investment in capital and in hardware. Is not GE's pervasive "6-sigma" quality capability worth a lot more than the factory assets it uses to make appliances, and yet, accountants assign that capability no value on GE's balance sheet?

## **Make Intangibles Real**

In our knowledge-based economy investments in all intangibles ought to be capitalized like any other asset and depreciated over estimates of their economic lives. Those would include, among other things, outlays for training and developing people; up-front investments in signing bonuses to lure talented engineers and managers to a firm; advertising and promotion to launch new products, enter new markets and build brands; the cost of setting up systems to gather information that enhance customer relations, supply chain management, and the sharing of knowledge; and, of course, research and development expenditures. The point is not that every expenditure to create an intangible asset creates value, but that every one is expected to and in the aggregate they do. As a policy choice the answer is to go with the rule rather than the exception. As for bankers, they are free to rewrite their loan covenants to strike out intangible assets as they have often done in the past with goodwill.

## **Use Full Cost Accounting**

Some argue that only the outlays that are clearly successful should be capitalized onto a firm's balance sheet and that failures should be expensed. Why treat an expenditure that



patently did not pan out as an asset, they ask? Because in any risky business (and what business isn't?), part of the investment required to find winners is investing in losers now and again.

**In any risky business (and what business isn't?), part of the investment required to find winners is investing in losers now and again.**

**Accountants should capitalize all the risky outlays, successful or not, and depreciate that total investment over the expected lives of the successful ones.**

**Successful efforts accounting at first understates and then radically overstates all the relevant measures.**

**In the economic reporting model the balance sheet measures "capital," and capital is not an asset and capital is not value. A firm's real assets are on its income statement, and its balance sheet is just a liability.**

Consider drilling for oil as an example of a risky investment. Suppose a company drills wildcat wells in an area that geologists describe as having a "one-in-five" success ratio. The statistic indicates five wells must be drilled to have a good chance to find one winner. The cost to find one well is five wells, by definition. Even the four dry holes are valuable because management knows not to drill there again. In the new, intangible economy, knowledge is the capital. The same applies to "drilling" for new products, markets, processes and capabilities. Failure is a form of learning and learning is capital.

As a result, accountants should capitalize all the risky outlays, successful or not, and depreciate that total investment over the expected lives of the successful ones—a practice known in audit circles as "full cost" accounting. This technique is not commonly followed in the oil patch, however. In another example of their desire to debit earnings as quickly as possible when given half a chance, accountants typically impose "successful efforts" accounting for energy companies. They capitalize only the costs associated with discovering oil and send dry hole costs right down the drain. For other assets they are even more extreme. Research and other intangible outlays are subject to "unsuccessful efforts" accounting whereby no outlays are capitalized and all must be expensed.

To illustrate the consequences of the accounting methods suppose that each well costs \$20 million to drill, so that the total investment in 5 wells sums to \$100 million. Full cost puts \$100 million on the balance sheet, successful efforts adds only \$20 million to the asset base and charges off the \$80 million in dry hole expense, and if this were research spending all \$100 million would be deducted from the earnings right away.

Suppose that the wildcatters' cost of capital is 10%. To earn that return and just break even on the cost of all the money invested, the NOPAT arising from the \$100 million drilling campaign would need to be \$10 million a year. The value of that NOPAT discounted at a 10% cost of capital is \$100 million<sup>16</sup>, which, as expected, is just the amount invested. The project breaks even on EVA and so it breaks even on value.

From a full cost accounting point of view, the \$10 million NOPAT yields a 10% rate of return on the \$100 million investment, and EVA is zero each year. Full cost accounting gets the economic facts correct right from the start.

With successful efforts an initial \$80 million ding penalizes earnings for the dry hole expense, but thereafter the \$10 million NOPAT gives the appearance of yielding a 50% return on the \$20 million invested in the one successful well. EVA looks quite positive—\$8 million a year—and the firm seemingly sells for a market value that is 5 times its book value. But all that is an illusion. Successful efforts accounting at first understates and then radically overstates all the relevant measures. Unsuccessful efforts accounting is just a more extreme version of that.

In economic substance, drilling for new products and processes, and investing in intangible assets of all kinds, is not different from drilling for oil. It is precisely because those investments are known to be risky that full cost accounting ought to be used for all of them.

As this change is put into effect a shift in terminology is called for. No longer should the balance sheet be considered an aggregation of "assets." As renowned business sage Peter Drucker has said (somewhat facetiously), the only real asset is a customer whose check has not bounced. In the economic reporting model the balance sheet measures "capital," and capital is not an asset and capital is not value. A firm's real assets are on its income statement, and its balance sheet is just a liability. One implication is that any attempt to record the value of "intangibles" on balance sheets, as some accounting experts have suggested, is

<sup>16</sup>The formula to compute the value of discounting NOPAT as a perpetuity is to divide NOPAT by the cost of capital, in this case, to divide by 10% or in other words to capitalize the earnings at a 10 times price/earnings multiple.



**Current accounting rules are forcing managers to choose between making the right restructuring moves in the face of adverse accounting consequences, or keeping accounting profit on track by rejecting economically sound decisions.**

**Shareholders' only concern is for management to increase their share value by increasing the firm's EVA as much as possible. Making a negative EVA less negative is as valid a way to improve performance and increase the stock price as is making a positive EVA more positive.**

**In economics this principle is encapsulated in the phrase "sunk costs are irrelevant." It means that the carrying value of an asset on the firm's balance sheet, or what is known as its book value, should be completely unimportant in deciding how to increase its market value going forward.**

theoretically and theologically incorrect. The value of a firm's intangible assets is measured simply, directly, and only in its ability to generate economic profit.

So what is left for the balance sheet to measure? In the economic model, capital simply measures the value of the resources that have been put into a business rather than the value that investors can expect to take out of the business. Whether such capital investments translate into market value depends on whether management earns a positive EVA profit with that capital. That is the question that no balance sheet can answer, and no accountant should be held responsible for answering. That judgment is best left to the professional fund managers and the stock market in general.

### **Use Full Cost Cash Accounting for Divestiture and Restructuring Transactions**

Corporate right sizing decisions often stumble over bookkeeping roadblocks that hamper a swift reallocation of capital to more promising uses. Divestitures of business lines, sales or disposals of assets, or reorganizations often trigger recognition of book losses even when the decisions produce palpable gains in value. Current accounting rules are forcing managers to choose between making the right restructuring moves in the face of adverse accounting consequences, or keeping accounting profit on track by rejecting economically sound decisions. According to GE CEO Jeff Immelt, a professed fan of smoothing earnings, the answer is to offset the recognition of restructuring losses with gains, but if the gains and losses do not naturally cancel then GE's management is forfeiting substance for the sake of accounting form.

A new accounting rule is needed to take corporate managers entirely off the horns of this dilemma. It is also needed because the corollary to the principle that failure is a form of learning is to fail fast. Current accounting rules make it difficult for managers to own up to a mistake, put it behind them, and move on quickly to the next opportunity. Accounting rules ought to support the swift redeployment of scarce resources.

Suppose a company carries an under-performing business line on its balance sheet for a book value of \$100 million. Also assume that the business unit produces an uninspiring \$4 million in annual NOPAT profit. At a 10% cost of capital it unhappily contributes a \$6 million a year EVA loss:

EVA	=	NOPAT	-	(WACC% x \$Total Capital)
- \$ 6 million	=	\$ 4 million	-	( 10% x \$100 million )
		\$ 4 million	-	\$ 10 million

The EVA loss indicates with hindsight that management made a poor decision to invest in the business line. However, that decision is by now irrelevant. Shareholders' only concern is for management to increase their share value by increasing the firm's EVA as much as possible. Making a negative EVA less negative is as valid a way to improve performance and increase the stock price as is making a positive EVA more positive.

In economics this principle is encapsulated in the phrase "sunk costs are irrelevant." It means that the carrying value of an asset on the firm's balance sheet, or what is known as its book value, should be completely unimportant in deciding how to increase its market value going forward. The implication is that bookkeeping gains and losses on asset dispositions simply do not matter. What matters is whether a sale, restructuring, or exit can achieve a higher value than continued operation. EVA should be measured in such a way that it looks beyond the recognition of sunk cost losses and instead indicates whether new decisions are creating new value.



To continue the example, assume that the business line has no improvement prospects in the current owner's hands. Earning a \$4 million a year NOPAT is the best that can be expected. In that case the business is worth only \$40 million to the current owners, which is the result of capitalizing the \$4 million a year NOPAT at the 10% cost of capital. Realizing any value for the unit that is greater than \$40 million will make shareholders better off.

Selling it for \$75 million, for example, will make the current owners \$35 million richer. Yet, by comparing the \$75 million sale value with the unit's \$100 million book value, the accountants will record a meaningless \$25 million book loss on the sale. If the accounting is taken at face value, the apparent impact on EVA is to make a ripe decision taste sour:

**The accounting representation of the transaction has succeeded only in making a worthwhile decision look quite unappealing.**

	EVA	=	NOPAT	-	(WACC% x \$Total Capital)
	=		\$ 4 million	-	( 10% x \$100 million )
- \$ 6 million	=		\$ 4 million	-	\$ 10 million
	Sale		- \$ 4 million		- \$100 million
	Loss		- \$ 25 million		
	=		- \$ 25 million	-	( 10% x \$ 0 million )
- \$25 million	=		- \$ 25 million	-	\$ 0 million

Under current accounting rules, the sale extinguishes the business unit's \$100 million book value from the firm's balance sheet, and it wipes the slate clean on the \$4 million a year contribution to NOPAT. The asset is gone, and so are its earnings. The accountants have not finished wiping their sword clean however, as they also slash profit for the \$25 million bookkeeping loss, labeling it a restructuring charge, loss on disposition, or some such euphemistic expression.

**Legitimate accounting is always a "double-entry" bookkeeping system. An add-back to "pro-forma" the earnings must be accompanied by an add-back to "pro-forma" the balance sheet.**

The accounting representation of the transaction has succeeded only in making a worthwhile decision look quite unappealing. If management has the fortitude to persist in the sale of the unit—as they should—the company's stock price will soar as reported earnings stumble, but try explaining that to a board of directors much less the average investor. Why should a decision so simple but so valuable be so hard to fathom? Confronted with such nettlesome obstacles it is little wonder that many managers stopped believing accounting counts what counts, and turned to alternatives.

As the new economy wave took hold in the 1990s many firms discovered they needed to heave off outmoded assets and outdated business practices with restructuring moves that often triggered large bookkeeping charges. Business leaders and professional investors quickly became disenchanted with the auditor's view of the world. They decided to back out the restructuring charges and concentrate on new measures with names like core earnings or pro-forma income.

While their hearts were in the right place their minds were not fully in gear. They forgot that legitimate accounting is always a "double-entry" bookkeeping system. An add-back to "pro-forma" the earnings must be accompanied by an add-back to "pro-forma" the balance sheet. In the EVA accounting system, a restructuring charge or divestiture loss is added back to NOPAT, but it is also added back to capital, which in the example means that the \$25 million bookkeeping loss must be added back both places:



When EVA is measured according to the proposed new rules it provides the reliable signals that investors and managers have always needed but rarely gotten to judge the value of restructuring maneuvers.

The proposed new accounting also should have a considerable appeal to the numerous astute investors that have long championed cash accounting as more reliable than book reporting.

Accountants have an unfortunate tendency to mix changes in stock values with flows. In the new accounting, recurring cash flows go through NOPAT, and adjustments to stock values are relegated to the balance sheet.

One implication of this treatment is that non-cash restructuring charges have no effect on a firm's EVA.

EVA	=	NOPAT	-	(WACC% x \$Total Capital)
- \$ 6 million	=	\$ 4 million	-	( 10% x \$100 million )
	=	\$ 4 million	-	\$10 million
Sale		- \$ 4 million		- \$100 million
Loss		- \$ 25 million		
- \$25 million	=	- \$ 25 million	-	( 10% x \$ 0 million )
	=	- \$ 25 million	-	\$ 0 million
<b>Add-Back</b>		<b>+ \$ 25 million</b>		<b>+\$ 25 million</b>
- \$ 2.5 million	=	\$ 0 million	-	( 10% x \$ 25 million )
	=	\$ 0 million	-	\$2.5 million

With the proposed double add-back accounting, economic profit is correctly measured as a loss of \$2.5 million. It is a loss because the company is stuck with \$25 million in unrecouped capital on its balance sheet. Investors put \$100 million in capital into the business line and have now gotten back only \$75 million. At a 10% cost of capital they are out the \$2.5 million a year they could have earned on the \$25 million difference. The restructuring cannot erase the loss in value from the original decision to enter the business.

The important point at this juncture, however, is not that EVA is still negative, but that it has increased by \$3.5 million, from a loss of \$6 to a lesser loss of \$2.5. That is the measure of the wisdom of the current decision to exit the business line. The measure of the market value added by the exit decision is the capitalized value of the \$3.5 million EVA gain at the firm's 10% cost of capital which, as expected, is \$35 million. All in all, when EVA is measured according to the proposed new rules it provides the reliable signals that investors and managers have always needed but rarely gotten to judge the value of restructuring maneuvers.

The proposed new accounting also should have a considerable appeal to the numerous astute investors that have long championed cash accounting as more reliable than book reporting. Consider that when the dust settles with all the adjustments just described, the net effect boils down to two simple journal entries. First, the company's cash account is debited (increased) for the \$75 million in sale proceeds, and second, the company's capital account is credited (reduced) by the same \$75 million, leaving a residual \$25 million in capital on the firm's balance sheet.<sup>17</sup> Both entries are pure cash, and avoid the recognition of an arbitrary loss or gain compared to book value.<sup>18</sup>

Sweeping capital gains and losses off the income statement makes sense because capital transactions by their nature should swing through the capital account. Accountants have an unfortunate tendency to mix changes in stock values with flows. In the new accounting, recurring cash flows go through NOPAT, and adjustments to stock values are relegated to the balance sheet.

One implication of this treatment is that non-cash restructuring charges have no effect on a firm's EVA. As the charges do not affect cash flow, they cannot affect value, and so they do not affect EVA either. A good example of a completely inconsequential, non-cash restructuring charge is "goodwill impairment." Under recently promulgated rules, accountants must periodically reassess the value of the goodwill premium over book value that companies have paid to acquire other firms. If the current value of the goodwill is found to be less than what was paid, the goodwill must be written down and charged to earnings.<sup>19</sup>

<sup>17</sup>In the measurement of EVA it is assumed that the \$75 million sale proceeds are used to retire the firm's debt and equity in target capital structure proportions, and that the investors earn the cost of capital on those funds through reinvestment in a comparably risky stock and bond portfolio. If the proceeds are retained for some other purpose management should still think of the funds as having been paid out and then brought back in at the cost of capital, and the new project's EVA should be evaluated on its own merits as a separate matter. This is another manifestation of the principle to separate operating and financing decisions.

<sup>18</sup>The same treatment would apply if a gain were registered on the sale. The gain is ignored on the income statement, but the excess of sale proceeds over book value leads to a net overall reduction in capital that adds to EVA through a negative capital charge.

<sup>19</sup>Ironically, accountants will not write-up the book value of goodwill if it is found to have appreciated in value, yet another sign of their conservative bias.



Although such charges can represent major traumas for reported earnings, the charges are non-cash non-events for EVA. The EVA treatment is entirely consistent with the market's reaction to AOL Time Warner's disclosure that it would take a \$54 billion impairment charge to its earnings. Upon the announcement of the massive loss, the company's stock price did not budge.

The proposed new accounting also casts a brighter light on decisions to restructure a business. Through the EVA prism, restructuring losses are not seen as inexplicable and eminently forgettable charges to earnings. They are memorialized as investments intended to streamline operations. As such, restructuring investments can be analyzed on the same financial terms as any other investment a company might make.

**Through the EVA prism, restructuring losses are not seen as inexplicable and eminently forgettable charges to earnings. They are memorialized as investments intended to streamline operations.**

Most corporate restructuring campaigns are more complicated than a mere asset write down because usually they include additional cash expenditures for such non-recurring items as severance, relocations, environmental remedies, contract cancellation penalties, and so forth. As with goodwill impairments, the asset write downs that are attendant to restructuring campaigns are completely inconsequential. Charges relating to the non-recurring cash outlays, however, are treated as investments to streamline and focus business operations. When those charges are taken out of earnings and added back to the balance sheet they have the effect of increasing capital.

With that treatment, restructuring decisions can easily be subjected to the same capital budgeting criteria as any other investments a company might make. Managers should decide to restructure when they believe that the on-going cash flow benefits stemming from a reorganization will more than offset the cost of capital associated with the non-recurring up-front cash outlays. To judge whether that has happened, investors will want managers to capitalize their restructuring investments and to measure the payoffs against the cost of that additional capital

The new accounting is also effectively the same as shifting from successful efforts to full cost accounting. A restructuring charge or divestiture loss is considered more often the result of intelligent risk taking than widespread and inherent management incompetence. The balance sheet once again should not be viewed as an aggregation of assets so much as an accumulation of capital—the cash that has gone into the business less the cash that has come out of it.

**Strategic investments are new projects that will take some time to fully bear their fruit. They produce insufficient earnings to cover the cost of capital in their early years even though they are likely to produce oodles of EVA down the road.**

However the revised rules are interpreted, the effect is to give managers and investors a far better avenue to judge the incremental value of decisions in a dynamic risk-taking environment and to liberate assets now held hostage by outdated accounting conventions.

To reiterate, the recommended new accounting rule is to couple “pro-forma” income with “pro-forma” capital. Restructuring charges and divestiture losses should be added back both to earnings and to capital.

### **Strategic Investments**

Switching from the back door of investing to the front, strategic investments are new projects that will take some time to fully bear their fruit. They produce insufficient earnings to cover the cost of capital in their early years even though they are likely to produce oodles of EVA down the road. A start-up biotech company like Amgen went almost 10 years after its public offering before profits began to gush in from its early stage investments. Even a restaurant chain typically finds it takes three years from the day a new restaurant is opened before word of mouth builds traffic to the level at which profit can cover the cost of capital. Measuring EVA without an adjustment will lead to a dramatic understatement of performance in the initial building years and an overstatement in the lush later years. The same is true also for accounting earnings and ROE, but EVA aspires to be better than those metrics.



The answer in a nutshell is to hold back a portion of the capital subject to the capital charge and meter it in with interest over the period that the project is expected to ramp up. Suppose, for example, that experience indicates new restaurants typically earn 70% of the cost of capital in the first year they are opened, 90% in the second year, and thereafter to settle in to a long-run return. The accountants should create a contra asset—essentially a negative asset account that reduces the book value of capital—in the amount of 30% of capital in the first year and 10% in the next year. With those subtractions if management is on track with its NOPAT plan in those two start-up years its EVA will be reported as break even. If it is ahead of plan EVA will be in the black and if behind, red ink. Once the restaurant is fully operational—for the third year and thereafter—management should be required to earn a return that compensates investors for the cost of waiting by adding interest into the capital base.<sup>20</sup>

A variant that achieves the same objective is to gross up both NOPAT and capital for the EVA shortfall experienced over the ramp up period. Electric and gas utilities are the rare exception of an industry for which accountants have long employed this method. It has been applied to utilities because they have significant strategic investments—a new generating plant takes five years or longer to build—and because regulators do not want to pass on to consumers the cost of financing a plant that is not yet operational.

**The answer in a nutshell is to hold back a portion of the capital subject to the capital charge and meter it in with interest over the period that the project is expected to ramp up.**

As a simple example, suppose a power plant is completely constructed in just one year for a cost of \$1 billion. With a 10% cost of capital EVA ordinarily would be recorded as a \$100 million loss.

$$\begin{array}{rclcl}
 \text{EVA} & = & \text{NOPAT} & - & (\text{WACC}\% \times \$\text{Total Capital}) \\
 \$ - 100 \text{ million} & = & \$ 0 \text{ million} & - & ( 10.0\% \times \$ 1 \text{ billion} )
 \end{array}$$

Rather than flush the EVA loss down the drain and forget about it, and rather than attempting to pass on the financing charge to consumers for a plant that is not yet generating energy, public utility regulators have instructed accountants to remove the up-front EVA losses from earnings and capitalize them into the firm's asset base in the following period. By making this "allowance for funds used during construction," or AFUDC as it is called, accountants ensure that when the plant comes on stream the utility and its shareholders are able to earn a return on the full reproduction cost of the plant asset—the actual brick and mortar construction outlays plus the time value of the money.

$$\begin{array}{rclcl}
 \text{EVA} & = & \text{NOPAT} & - & (\text{WACC}\% \times \$\text{Total Capital}) \\
 \$ - 100 \text{ million} & = & \$ 0 \text{ million} & - & ( 10.0\% \times \$ 1 \text{ billion} ) \\
 \\
 \text{AFUDC} & + & \$ 100 \text{ million} & & \\
 \\
 \$ 0 & = & \$ 100 \text{ million} & - & ( 10.0\% \times \$ 1 \text{ billion} )
 \end{array}$$

In the example, adding the \$100 million cost of capital allowance zeroes out the EVA during the ramp up phase. In exchange, starting the next period the capital base would be stepped up by the \$100 million deferral—from \$1 billion to \$1.1 billion—and consumers would be charged for the full economic cost of energy generated as the new plant comes on line.

### Accounting for the Value of an Acquisition

Another time that strategic investment treatment is important is when a company makes a significant acquisition. Not only does it typically take several years for anticipated merger synergies to materialize. Acquired companies frequently have significant growth potential that warrants a lofty market value premium—a premium that cannot be justified by the return from the current earnings.

<sup>20</sup>In the first year investors gave up a 10% return on 30% of their capital, or 3%, and in the second year they forfeited a 10% return on 10% of their capital, or 1%. Assuming that the 3% and 1% give ups were invested at the 10% cost of capital for two years and one year, respectively, they would grow to 3.63% and 1.10%, for a sum of 4.73%, by the third year. To compensate investors for the return shortfall in the first two years the firm's accountants should gross up capital subject to the capital charge for year three and beyond by a factor of 4.73%.



**The example begs the question of how does any investor that pays 20 times earnings for a stock ever expect to earn a decent return.**

**The answer is that current stock prices capitalize not just the current earnings. They also capitalize the value of a firm's profitable growth opportunities.**

**With each passing year the value of the anticipated future growth in EVA advances one year closer to the present. Shareholders realize a return on that growth value simply by the reversal of the discounting process.**

**The only way buyers can accurately assess whether they are earning an appropriate return on the purchase price is to hold back the value of the seller's strategic growth from their capital base, and then meter it in over the period that the EVA growth is expected to materialize.**

Consider a company that currently trades for a total value that is 16 times its current NOPAT earnings, but that including synergies is worth 25 times its NOPAT to a strategic buyer. Suppose a deal closes in between, at say a 20 NOPAT multiple. The selling shareholders will be 25% richer, and the buyer will acquire its target at a 20% discount to its potential value. The transaction has all the hallmarks of a win-win acquisition, one where the buyer's and the seller's stock price will increase.

The rub is that if the purchase price is 20 times NOPAT, NOPAT is only one-twentieth—just 5%—of the capital paid. With an overall cost of capital on the order of 10%, the acquisition will immediately dilute the buyer's EVA and flash the wrong signal. Looking at everything on a per share basis, EVA is a loss of \$1.

$$\begin{array}{rcl}
 \text{EVA} & = & \text{NOPAT} & - & (\text{WACC}\% \times \$\text{Total Capital}) \\
 \$ - 1 & = & \$ 1 & - & ( 10\% \times \$ 20 )
 \end{array}$$

The example begs the question of how does any investor that pays 20 times earnings for a stock ever expect to earn a decent return. Even if the company whose shares they bought paid out all of its earnings as a dividend, the shareholder would earn only a 5% return, which is hardly acceptable compared to the yield on relatively risk-free government bonds.

The answer is that current stock prices capitalize not just the current earnings. They also capitalize the value of a firm's profitable growth opportunities. Investors bid up stock prices to include the discounted present value of the increase in EVA that they expect will arise in future years from a combination of income statement efficiencies, balance sheet management and profitable growth. Investors expect to participate in that EVA growth as part of the overall return they realize from owning shares.

It is relatively straightforward to divide share values into the two components. Consider again the target company that transacts for \$20 a share, which is 20 times its current \$1 per share NOPAT profit. The present value of its \$1 NOPAT at a 10% cost of capital is \$10. The \$10 balance in its \$20 share price is implicitly attributable to the present value of expected EVA growth. The EVA growth value also contributes to the return that the firm's shareholders expect to realize.

With each passing year the value of the anticipated future growth in EVA advances one year closer to the present. Shareholders realize a return on that growth value simply by the reversal of the discounting process. Just by inhaling and exhaling and watching the clock turn, shareholders can expect to earn an additional capital gain return to supplement the current earnings yield. It is from the combination of those two returns that shareholders expect to earn the full cost of capital on the \$20 value they have paid.

The rub for companies that make acquisitions is that they must step into the shoes of a shareholder. They no longer pay book value as when they invest in new plant or equipment assets. They pay for a target's market value, which can easily exceed the capitalized value of its current earnings. The only way buyers can accurately assess whether they are earning an appropriate return on the purchase price is to hold back the value of the seller's strategic growth from their capital base, and then meter it in over the period that the EVA growth is expected to materialize. Ladling in the premium simulates the capital gain that shareholders expect when they buy stock in a growth company.

To administer the strategic investment treatment accountants will need to develop a set of tables setting forth the appropriate deferral periods for various categories of investments or acquisitions. An alternative is to use a uniform assumption, something on the order of an across the board 3 to 5 year phase in or forgiveness period. In either case each investment qualifying for the strategic accounting treatment must be subject to board approval as such, and be capable of separate measurement in the company's accounts. The accounting authorities should also establish criteria of materiality, strategic significance, and minimum payoff horizon. Strategic investment treatment already has a long and successful application in public utilities. There is no reason why with a little thought and attention it cannot be applied everywhere it pertains.



**It is arithmetically impossible to measure a company's accounting profit steadily and its true rate of return and EVA steadily using the same depreciation schedule.**

**"Straight-line" depreciation invariably distorts a company's rate of return and its EVA. Those measures are understated after a new asset is first added to a company's balance sheet and progressively overstated as the asset is depreciated in value over time.**

**The discrepancy between accounting and economic depreciation is most pronounced in asset intense businesses like real estate, cable TV and telecom, media and entertainment, hotel chains, and transportation.**

**Although it is not a cash cost, depreciation is always a legitimate charge to earnings.**

**Economic depreciation does not generally follow a straight-line pattern. It typically grows larger each period as an asset ages and approaches the point at which it will need to be replaced.**

## **Depreciation Does Not Follow a Straight Line**

Accountants botch the measurement of depreciation.

The root of the problem is a mathematical conundrum. It is arithmetically impossible to measure a company's accounting profit steadily and its true rate of return and EVA steadily using the same depreciation schedule. The accountants have decided to use depreciation schedules that measure operating profit steadily. That election renders financial statements less useful to the fundamental valuation of any business (although it is most pronounced for companies that invest heavily in long-lived physical assets), and it presents a nettlesome corporate governance dilemma for managers.

Depreciation stems from the orderly liquidation of the investment in an asset as the asset is used up over its productive life. Because no one knows for sure how an asset will depreciate in value accountants have devised a number of more or less arbitrary schedules to get the job done. The most popular by far is to assume that plant and equipment assets depreciate in value in a straight line. A \$10 million asset with a 10-year useful life is written off through a steady \$1 million annual depreciation charge to earnings. A level charge off schedule pleases the accounting crew no end because it tends to stabilize the measurement of reported profit.

The problem is that "straight-line" depreciation invariably distorts a company's rate of return and its EVA. Those measures are understated after a new asset is first added to a company's balance sheet and progressively overstated as the asset is depreciated in value over time. Confronted with those misleading signals corporate managers understandably refrain from adding all the assets they should and are motivated to retain old assets beyond the point of realizing a truly attractive return. Here again a seemingly innocuous book-keeping practice has become a serious impediment to corporate governance that aims to maximize shareholder value.

The discrepancy between accounting and economic depreciation is most pronounced in asset intense businesses like real estate, cable TV and telecom, media and entertainment, hotel chains, and transportation. Not surprisingly, CEOs and CFOs in those firms have been among the most vocal advocates for backing out depreciation and substituting EBITDA (earnings before interest, taxes, depreciation and amortization) for GAAP earnings. Those executives have correctly diagnosed that depreciation presents a problem, but their proposed remedy is simplistic and draconian, and it has only added more fuel to the public's perception that accounting doesn't measure what matters.

Although it is not a cash cost, depreciation is always a legitimate charge to earnings. Assets wear out or become obsolete and must be replaced for a company to remain in business and sustain its cash flow. Investors must receive a return of their capital before they can earn a return on their capital. Simply ignoring depreciation and embracing EBITDA is to throw out the baby with the bath water. The answer is not to abandon profit and embrace cash flow, but to compute profit with economic depreciation in place of book depreciation.

Although it is common to think so, depreciation is not associated with the act of replacing an asset. Even though it burns out and is replaced all at once, a light bulb constantly depreciates because the liability to replace it looms larger every instant as it approaches the end of its useful life. The increase in the value of the replacement liability is economic depreciation.

Economic depreciation does not generally follow a straight-line pattern. It typically grows larger each period as an asset ages and approaches the point at which it will need to be replaced. A 30-year life asset suffers almost no depreciation in its infant years because the replacement liability is so distant. Almost all of its depreciation occurs towards the end of its life when the replacement liability is proximate. Straight-line book depreciation thus



tends to overstate true depreciation in the early years and to understate it later on. Hence the desire by managers to defer new asset purchases and to retain old ones, and to argue that depreciation should be ignored when measuring earnings.

**Straight-line book depreciation thus tends to overstate true depreciation in the early years and to understate it later on. Hence the desire by managers to defer new asset purchases and to retain old ones, and to argue that depreciation should be ignored when measuring earnings.**

Consider a factory asset costing \$10 million that will generate \$1.8 million in cash flow each year over its 10-year life. With a straight-line depreciation charge of \$1 million a year, the accountants are happily left to report a steady \$0.8 million in operating profit<sup>21</sup>. The rate of return measured with those figures is not constant, however. In the first year it is 8%, the result of dividing the \$0.8 million profit by the original \$10 million investment. Looking five years later, the return seemingly soars to 16%—twice as high—because the asset has been written down half way in value, from \$10 million to \$5 million, but the operating profit remains the same. At the outset the factory asset appears to earn less than the company's 10% cost of capital and later on a lot more. The truth lies between.

EVA is subject to the same measurement distortion as rate of return, a fact best appreciated by adding and subtracting depreciation in a restatement of the EVA formula:

$$\begin{aligned} \text{EVA} &= \text{NOPAT} - (\text{WACC}\% \times \$\text{Total Capital}) \\ &\quad + \text{Depreciation} - \text{Depreciation} \\ \text{EVA} &= \text{COPAT} - \text{TCO} \end{aligned}$$

The revision states that EVA may also be thought of as “cash operating profit after taxes,” or COPAT, less TCO, which is the “total cost of ownership.”

**COPAT is cash flow from operations. Like EBITDA it is measured before non-cash depreciation charges and before any deductions for investment spending or finance charges.**

COPAT is cash flow from operations. Like EBITDA it is measured before non-cash depreciation charges and before any deductions for investment spending or finance charges.<sup>22</sup> It's superior to EBITDA as a measure of operating cash flow, however, because COPAT also deducts the taxes that must be paid on the operating profit. In the foregoing example COPAT is the \$1.8 million cash flow the asset is assumed to generate each year over its 10-year life.

**TCO (“tee-koh”) is the total cost a company incurs in a period stemming from its original decision to purchase and own an asset.**

TCO (“tee-koh”) is the total cost a company incurs in a period stemming from its original decision to purchase and own an asset (excluding maintenance and repairs). It is the sum of the cost of the capital used to finance the asset and depreciation in the asset's value. Merging asset depreciation and the cost of capital is good bookkeeping because it gathers all of the charges arising from the balance sheet investment into one overall capital charge. Drawing the line between COPAT and TCO also makes sense because it segregates operating cash flow outcomes from investing and financing decisions.

Taking the interpretation a step further, this formulation depicts EVA as the earnings a company would report if it had sold and leased back all its assets. With that change the firm would no longer have a balance sheet to speak of, only an income statement. It would no longer be subject to a charge for depreciation, or the cost of capital. Its NOPAT would equal its COPAT. But the company would not avoid the cost of financing and using assets. The depreciation and cost of capital it has saved by selling its assets will be precisely offset in a competitive capital market by the rental charge it must pay for leasing them back. After all, for a leasing company to breakeven on its EVA it must charge a rent that covers its costs, which are the depreciation and the cost of capital it sustains on the assets it holds on behalf of the lessee.

**This formulation depicts EVA as the earnings a company would report if it had sold and leased back all its assets.**

The question is, what rental charge is implied by TCO under current accounting rules, and does it make sense? The answer is, straight-line depreciation leads to an asset rental charge that is front-end loaded, and that makes no sense. It is front-loaded because depreciation is even each year but the cost of capital declines as the asset is written off.

<sup>21</sup>For simplicity taxes are ignored and so operating profit in this case is the equivalent of NOPAT.

<sup>22</sup>NOPAT, like accounting profit, is measured after deducting depreciation because depreciation must be covered before investors realize a return on their investment. To emphasize that point the “net” in NOPAT stands for “net of depreciation.” Adding depreciation back to NOPAT reverses the non-cash charge and produces COPAT, the cash operating profit after tax.



The example company's first year TCO is measured to be \$2 million—\$1 million from the straight-line depreciation and \$1 million from the 10% cost of capital on the \$10 million investment in the asset. Five years down the road, after the asset has been written down to a book value of \$5 million, the TCO is much less. It is only \$1.5 million. Depreciation is still \$1 million but the cost of capital is halved to a \$0.5 million charge (see bold figures in the table for fifth year results, normal type for first year results). EVA consequently runs from a loss of \$0.2 million up to a profit of \$0.3 million:

	EVA	=	NOPAT	-	(WACC% x \$Total Capital)
			\$0.8 million	-	( 10% x \$10 million )
			<b>\$0.8 million</b>	-	( <b>10% x \$ 5 million</b> )
			<u>+ Depreciation</u>	-	<u>Depreciation</u>
			\$1.0 million	-	\$1.0 million
			<b>\$1.0 million</b>	-	<b>\$1.0 million</b>
	EVA	=	COPAT	-	TCO
	\$ - 0.2 million	=	\$1.8 million	-	\$2.0 million
	<b>\$+ 0.3 million</b>	=	<b>\$1.8 million</b>	-	<b>\$1.5 million</b>

What corporate executives would logically agree to sign up for a financial lease that puts a bigger rent at the front end than the back, that forces them to recognize lower earnings just as they are getting started on a new investment?

What corporate executives would logically agree to sign up for a financial lease that puts a bigger rent at the front end than the back, that forces them to recognize lower earnings just as they are getting started on a new investment? None. Yet, that is essentially what they are forced to do when they acquire an asset and write it off in a straight line.

To fix the distortion is not hard. Just think like a leasing company. Compute the level lease payment that a leasing company would need to charge to recover its investment and 10% return over the asset's life. In the example, a payment of \$1.627 million per year over 10 years has a present value of \$10 million at a 10% cost of capital discount rate. Subtracting that level lease payment from the \$1.8 million COPAT renders a steady \$173 thousand in EVA each year. The project is now correctly seen to be profitable and value-adding right from the get go.

Although it is not necessary for the purpose of measuring EVA, the book value of assets may be reconstructed by separating TCO into its cost of capital and depreciation components. First compute the interest part of the annual TCO rent by applying the 10% cost of capital to the outstanding book value. In the first year the interest component is \$1 million (10% x \$10 million). What's left over from the \$1.627 TCO is the implied economic depreciation charge of \$627 thousand, which is far short of the \$1 million straight-line depreciation charge.

TCO	= Cost of Capital	+ Depreciation	NOPAT <sup>23</sup>	Capital <sup>24</sup>	Return	EVA
1. \$1,627,454	\$1,000,000	\$ 627,454	\$1,172,546	\$10,000,000	11.7%	\$172,546
2. \$1,627,454	\$937,255	\$ 690,199	\$1,109,801	\$9,372,546	11.8%	\$172,546
3. \$1,627,454	\$868,235	\$ 759,219	\$1,040,781	\$8,682,347	12.0%	\$172,546
4. \$1,627,454	\$792,313	\$ 835,141	\$964,859	\$7,923,127	12.2%	\$172,546
5. \$1,627,454	\$708,799	\$ 918,655	\$881,345	\$7,087,986	12.4%	\$172,546
6. \$1,627,454	\$616,933	\$1,010,521	\$789,479	\$6,169,331	12.8%	\$172,546
7. \$1,627,454	\$515,881	\$1,111,573	\$688,427	\$5,158,810	13.3%	\$172,546
8. \$1,627,454	\$404,724	\$1,222,730	\$577,270	\$4,047,237	14.3%	\$172,546
9. \$1,627,454	\$282,451	\$1,345,003	\$454,997	\$2,824,506	16.1%	\$172,546
10. \$1,627,454	\$147,950	\$1,479,504	\$320,496	\$1,479,504	21.7%	\$172,546

<sup>23</sup>NOPAT is the \$1.8 million COPAT less the annual economic depreciation charge.

<sup>24</sup>Capital is the initial \$10 million investment in the factory asset less the accumulated economic depreciation.



In year two the cost of capital component declines from \$1 million to \$937 thousand as the prior year's depreciation reduces the asset basis from \$10 million to \$9.373 million. As TCO remains the same each year, depreciation makes up the difference. It increases from \$627 thousand to \$690 thousand.

Repeating the exercise gives rise to the table of figures. Observe that economic depreciation rises significantly — to more than double its initial level — as the end of the asset's life is reached and the liability to replace it looms larger. Notice also that the EVA profit after subtracting the 10% cost of capital from NOPAT is evenly measured each year, consistently sending the correct signals to managers and investors about the value of the project. Accurately measuring EVA does require that the NOPAT earnings fall in tandem with the declining asset base. It also requires an increasing rate of return to be recorded (but the slope of the increase is much less than with straight-line depreciation).

**In the final analysis, only one of the three metrics can be reliably measured with any given depreciation schedule. Policy makers must choose among operating profit, rate of return, and economic profit.**

In the final analysis, only one of the three metrics can be reliably measured with any given depreciation schedule. Policy makers must choose among operating profit, rate of return, and economic profit. If accounting for value is the goal, the bookkeeping system should be geared to measuring and reporting EVA, and economic depreciation schedules should be widely substituted for straight-line charts. With the advent of computers, the additional analytical complexity is now completely trivial to automate.<sup>25</sup>

## Stock Option Grants Are An Expense

**It is by now old news that stock options are a form of compensation that should be expensed as exercise rights vest.**

It is by now old news that stock options are a form of compensation that should be expensed as exercise rights vest. Warren Buffet is finally getting his way. Companies like The Washington Post and Coca-Cola on whose boards he sits have been among the first to adopt a new policy of recognizing the expense and expensing the options. More (maybe all) will follow.

**Whether the option is eventually exercised for a gain or let lapse for a loss has nothing to do with the cost of granting the option in the first place. The true option expense is given by the option's fair market value on the date of grant.**

Many corporate managers have found it difficult to understand the cost of handing out options because they have collapsed two steps into one. An employee option grant is substantively the same as compensating the employee with cash — which is an obvious operating expense — and then compelling the employee to turn around and use the cash to purchase an option from the company for its fair market value — which is a separate investment decision. Whether the option is eventually exercised for a gain or let lapse for a loss has nothing to do with the cost of granting the option in the first place. The true option expense is given by the option's fair market value on the date of grant. Once the option is outstanding the employee becomes like any other equity holder, and the gains and losses from exercising the option or letting it expire should not be recognized as a corporate expense or income item.

Companies have been reporting information about stock options in their financial statement footnotes for some time, and investors have digested the news.<sup>26</sup> Expensing options at this time should not cause any significant revaluation of share prices, nor should it lessen firms' ability to access capital — unless managers inappropriately respond to the recognition of an expense that they had all along.

Corporate managers have long mistakenly thought of options as an inexpensive way to compensate and motivate managers and employees. They will now have the opportunity to reevaluate the effectiveness of options against other incentive plans, including cash bonus plans that attempt to simulate the incentives of ownership by sharing the economic profit that is earned by a company and its business lines.<sup>27</sup>

<sup>25</sup>One caveat to that recommendation is in order. Some assets may not depreciate in value at all. Prime hotel properties like the Waldorf-Astoria Hotel in New York City or unique entertainment franchises like Lion King are examples of assets that actually may appreciate in value over time. Charging off any depreciation in such cases distorts the measurement of value no matter which measure is chosen. Accountants need to recognize the existence of such assets and permit the investments in them never to be written off.

<sup>26</sup>The EVAntage™ database, a joint service of Stern Stewart & Co. and Standard and Poor's, adjusts the earnings and market value of 1,300 of the largest public American companies for stock option grants.

<sup>27</sup>See "How to Structure Incentive Plans That Work," by G. Bennett Stewart, III, for a detailed description of EVA-based incentive contracts (available at [www.sternstewart.com](http://www.sternstewart.com))



**Accountants ought to make the measurement and reporting of economic profit their main mission, and depreciate other aims to a decidedly subordinate role.**

## Summary

Accounting and corporate governance are in big trouble, but not because a handful of companies ignored the rules. The problem is that the accounting rules are out-dated and misguided, and corporate governance is suffering the consequences.

Accounting is not even close to measuring economic reality. In an attempt to serve many masters it is not serving any well and is neglecting its most important constituency — the intelligent, professional shareholder.

Accountants ought to make the measurement and reporting of economic profit their main mission, and depreciate other aims to a decidedly subordinate role. Charging profit for the cost of all capital — shareholders' equity included — is the most fundamental and important reform on the list. Erecting an objective, market-derived hurdle should help to rein in the animal spirits of freewheeling managers, and deter small bubbles from growing into larger ones the next time around.

Accountants also should erect a Chinese Wall between a company's operating decisions and its investment and financing decisions, breaking out NOPAT (or COPAT) on the one side and on the other the strategic cost to finance all the capital invested in the business. Accountants must stop tempting managers to borrow in order to boost their earnings per share and ROE with unsustainable debt. Off-balance-sheet debt-equivalents from operating leases and pension liabilities should be brought out of hiding and into the clear light of day. Financial reporting in general needs to become more transparent by being brought into closer alignment with the capital budgeting techniques most companies now employ internally for measuring value and allocating resources.

Pension fund accounting is truly abysmal. It must be changed to bring the economic reality of pension risks and pension costs onto the income statement and the balance sheet and out of the bookkeeping notes where the information is now revealed only in the most deceptive manner imaginable.

Scared silly by lawsuits, and finding a natural affinity with the aims of bankers, the accountants have adopted a downright conservative stance that undervalues real assets and neglects the measurement of recurring cash flows. In the process the auditors have created a bodega full of cookie jars for managers to dip into when they need a ready source of earnings. The cookie jars must be slammed shut.

Investing in intangibles of all kinds, including failures, is an increasing key to business success and more ubiquitous form of capital investment that accountants must now acknowledge. Even losses on asset dispositions and restructuring charges should be subject to double entry, full cost, cash accounting. Auditors must also develop techniques to defer the expected up-front losses associated with strategic investments until they can reasonably be expected to pay off. Simple, consistent rules are needed, not thorough valuations best left to the market.

Depreciation is a noticeable distortion for many companies. Straight-line write-offs do not permit the consistent measurement of economic profit. New, economic depreciation schedules ought to be developed and implemented so managers of even capital intense businesses can turn their attention back to reported earnings and away from EBITDA.

And yes, stock options should be expensed.

It's time for a reform of accounting to lead the charge to a new and superior form of corporate governance. What we have now is not working.

*Bennett Stewart is Senior Partner of Stern Stewart & Co., a global consulting firm with headquarters in NYC that specializes in the management applications of economic profit under its trademarked name of EVA®*

# EVAuation

## Past Issues

How to Structure Incentive Plans that Work

Enron Signals the End of the Earnings Management Games

The Power of EVA at the Family-Owned Firm

EVA and Corporate Portfolio Strategy

Why So Many Dotcoms Failed

M&A: Why Most Winners Lose

The Equity Risk Measurement Handbook

EVA & Strategy II: Value-Based Strategic Portfolio Management

Herman Miller: Growth in the New Economy

Best of Times, Worst of Times

The New Math 4>8

IT Outsourcing & Shareholder Value

EVA & Production Strategy: Jonah is Back!

Compensation Strategy for the New Economy Age

EVA & Strategy

Internet Valuation

Applications in Real Options & Value Based Strategy

ABC, the Balanced Scorecard & EVA

The Value of R&D

The Capitalist Manifesto

Lessons from Gorbachev

U.K. Remuneration Practices

For copies please visit the Stern Stewart website at [www.eva.com](http://www.eva.com).



# Stern Stewart & Co.

WWW.EVA.COM

## NEW YORK

1345 Avenue of the Americas  
New York, NY 10105  
T: 212 261-0600  
F: 212 581-6420

## LONDON

10 Baker's Yard  
Baker's Row, London EC1R 3DD  
T: 44-207 713 0088  
F: 44-207 713 0099

## MUNICH

Salvatorplatz 4  
D-80333 München  
T: 49-89 2420 710  
F: 49-89 2420 7111

## BEIJING

5D, Citic Building,  
No. 19 Jianguomenwai Street,  
Chaoyang District Beijing 100004, PRC  
T: 86-10 8526 3515  
F: 86-10 8526 3516

## JOHANNESBURG

Suite 316, Third Floor South Tower  
Sandton Square  
Johannesburg, Sandton 2196  
T: 27-11 883 5894  
F: 27-11 883 9320

## MELBOURNE

Level 25 55 Collins St.  
Melbourne, 3000  
T: 61-3 9650 8100  
F: 61-3 9650 8155

## MUMBAI

Sunteck Centrako #8-03 MPMC House  
Bandra-Kurla Complex, Bandra (E)  
Mumbai 40051, India  
T: 91-22 657 0536/7/8  
F: 91-22 657 0535

## SÃO PAULO

Rua do Rocio, 291 - cj.91  
Vila Olimpia  
São Paulo, SP, Brasil 04552-000  
T: 55-11 3040 0851  
F: 55-11 3040 4441

## SHANGHAI

Unit 3505, 35/F, Bank of China Tower  
No. 200 Yin Cheng Zhong Road,  
Pudong, Shanghai 200120, PRC  
T: 86-21 5037 2628  
F: 86-21 5037 2629

## SINGAPORE

80 Raffles Place  
UOB Plaza 1, #28-02  
Singapore, 048624  
T: 65-538-3532  
F: 65-538-7303

## BANGKOK

11/6 CRC Tower All Seasons Place  
87/2 Wireless Road,  
Phatumwan, Bangkok 10330  
T: 66-2 685-3614/15/16/17  
F: 66-2 685-3618

## TOKYO

3F, Toranomon 45 Mori Building  
5-1-5, Toranomon, Minato-Ku  
Tokyo, 105-0001  
T: 813-3431 3310  
F: 813-3431 3380

---

EVALUATION is a series of periodic reports from Stern Stewart & Co., drawing on the depth of our experience and internal research, to cover issues of valuation, organizational design, decision making, remuneration, and corporate governance. We assist in understanding how actions affect value. We believe that all stakeholders benefit from the creation of value through both innovation and efficiency.

---

The views expressed in this report are based on Stern Stewart & Co.'s general knowledge, analysis and understanding of value, incentives and corporate governance issues. All estimates and opinions included in this report constitute our judgement as of the date of the report and may be subject to change without notice. No warranties are given and no liability is accepted in contract, tort (including negligence) or otherwise by Stern Stewart for any loss, or damage that may arise from actions based on any information, opinions, recommendations or conclusions contained in this report. This report is being submitted to selected recipients only. It may not be reproduced (in whole or in part) to any person without the prior written permission of Stern Stewart & Co.

Stern Stewart & Co., 1345 Avenue of the Americas, New York, NY 10105

Current Operations Value™, COV™, Future Growth Value™ and FGV™ are trademarks of Stern Stewart & Co.

EVA® is a registered trademark of Stern Stewart & Co. Copyright 2002 All Rights Reserved for Stern Stewart & Co.