The EVA Challenge

Implementing Value-Added Change in an Organization

By Joel M. Stern and John S. Shiely, with Irwin Ross

John Wiley & Sons, Inc.

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The EVA Challenge

Advance Comments on *The EVA Challenge*

"Moving beyond describing the financial calculation of EVA and EVA-based bonus schemes, Stern and Shiely build an integrated approach to managing complex organizations in dynamic environments. Spanning recent research in strategy, management, accounting, finance, and economics, they offer a comprehensive framework of corporate governance—getting managers to act in shareholders' interest."

—Jerold Zimmerman, Ronald L. Bittner Professor, Simon School, University of Rochester

"There is nothing more practical than a good theory. The ideas developed in this book rest on the seminal contributions of two Nobel laureates, Merton Miller and Franco Modigliani, and their subsequent Chicago students such as Fama, Scholes, Jensen, and Joel Stern himself. I found this book very practical in developing a firm's value creation strategy that benefits all stakeholders regardless of market considerations."

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"Stern and Shiely have produced a winner. The EVA Challenge not only serves as a useful how-to guide, but an important road map for anyone implementing a performance system that will ultimately provide value creation for the shareholder."

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"*The EVA Challenge* is a path-breaking book, lucidly written, which reveals the underlying economic reality of a firm, the way to measure the true profit and loss."

—Daniel Bell, Henry Ford II Professor of Social Sciences, Harvard University, Emeritus

"A firm's success depends crucially on its ability to monitor the performance of its management team and to reward them correspondingly. Managers who want to understand how EVA is helping firms to tackle these twin problems cannot do better than to read *The EVA Challenge*."

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"Joel Stern has played a crucial role in advancing our knowledge of how to design company performance and managerial compensation schemes. . . . it is grounded in a strong intellectual framework that economists can recognize. . . . a readable and hands-on-approach. . . . [that] will interest both practitioners and students of finance."

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—John B. Blystone, Chairman, President, and CEO, SPX Corporation

"To be sure, this book is an indispensable guide for any organization considering a move to EVA. But it's also a highly readable primer for anyone who simply wants to learn more about what EVA can mean for companies, their shareholders and stakeholders."

—James D. Ericson, Chairman and Chief Executive Officer, Northwestern Mutual

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This book is printed on acid-free paper. ♾

Published by John Wiley & Sons, Inc.
Published simultaneously in Canada.

Library of Congress Cataloging-in-Publication Data:

Stern, Joel M.
The EVA challenge : implementing value added change in an organization / by Joel M. Stern and John S. Shiely with Irwin Ross.
p. cm. — (Wiley finance)
ISBN 0-471-40555-8 (cloth: alk. paper)
1. Economic value added. I. Shiely, John S. II. Ross, Irwin
III. Title. IV. Wiley finance series.

HG4028.V3 S83 2001
658.15—dc21 00-047993

Printed in the United States of America.

10 9 8 7 6 5 4 3 2 1

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Chapter 1

The Problem

Back in the early 1960s, one of the authors of this volume was asked by an old family friend what he was studying at the University of Chicago. "I'm trying to come up with what determines the value of a company," said the young Joel Stern. "Even like my store?" asked the old friend, who ran a mom-and-pop grocery store. "Of course." The grocer was incredulous: "You're going to school for that! Come down to the store tomorrow and I'll show you what determines the value of a company." The next morning, he escorted a skeptical Joel behind the counter and pointed to a cigar box. "This is where we put the money," he explained. "If the lid is rising during the day, it means we're doing fine."

This simple insight into the basic importance of cash in valuing a business has always been known by the entrepreneur. Indeed, he can often work it out on the back of an envelope, comparing his total expected return with what he could plausibly earn elsewhere with the same amount of money at the same level of risk—in other words, the opportunity cost of capital. What has befogged this insight and prevented most investors from making these calculations has been two major developments in American capitalism: (1) the split between

ownership and control of publicly held corporations and (2) the widespread acceptance of accounting measurements to gauge corporate value, a purpose for which they were never intended.

To start with the first point: the essence of the problem is that although numerous shareholders own a public corporation, control over its operations is in the hands of professional managers, who typically hold relatively few shares and whose interests often diverge from those of the silent majority of shareholders. Moreover, the managers possess detailed information about the company's prospects that outside shareholders lack, despite the best efforts of security analysts to inform them.

The divorce between ownership and control had been going on for a long time, and was by no means a secret when, in 1932, the subject was explored in depth in a blockbuster book, *The Modern Corporation and Private Property,* by two Columbia University professors, Adolf A. Berle Jr. and Gardiner C. Means. The authors chronicled the growth of the modern corporation in the United States from its start in the late eighteenth century, when companies built bridges, canals, and turnpikes. Early in the next century came the extension of the corporate form to the textile industry, its later dominance of the railroad industry and, afterward, of oil, mining, telephone, steel, and almost every other industry.

Berle and Means boldly asserted, in 1932, that so powerful were the large corporations that "private initiative" was now nonexistent, that self-perpetuating groups of managers dominated the economy and often pursued agendas contrary to the interests of owners and, presumably, to that of the country as a whole. Their rhetoric at times seems excessive, and may well have been influenced by the book's publication in the depths of the Great Depression. Timing may also have heightened the impact of the book, but its renown has extended over the decades, and it is still in print.

It is a book worth recalling, for it foreshadows the present concern with "corporate governance"—a high-flown term for a search

for systems to get managers to act in the interests of shareholders. For a given degree of risk, shareholders obviously seek the highest total return—the sum of dividend payments plus share price appreciation. Managers, by contrast, often tend to be preoccupied by their personal pecuniary interests. The book's examples of conflicts of interest between managers and shareholders are both hair-raising and anachronistic—and are doubtless evidence that things have improved since 1932. Thus, it gives many examples of self-dealing, with managers typically funneling purchases to suppliers that they covertly own, as well as various types of fraud that have become less common in the years since that powerful police agency, the Securities and Exchange Commission (SEC), was established in 1934. The book also mentions a form of managerial imprudence not unknown today: the pursuit of growth for its own sake, to enhance the prestige and personal net worth of top executives, even when that growth is uneconomic and diminishes shareholder value.

Lacking the inside information of the managers, shareholders today, as in 1932, attempt to monitor their companies' performance using presumably objective criteria—the measures that accountants use. The difficulty is that the criteria are inadequate and downright misleading, however, much hallowed by tradition. What they do not necessarily reveal is the rising or declining level of the cash in the cigar box. Thus, net income—the so-called bottom line, which in turn is translated into earnings per share (EPS)—has long been elevated to supreme importance, not to say deified by most security analysts and the financial press. As a company's EPS grows, its share price is supposed to rise, on the assumption that its price/earnings (P/E) ratio remains relatively constant. There is an agreeable simplicity to this shorthand valuation, but it is as fallacious as it is ubiquitous.

To work their way to the bottom line, accountants make several calculations on a company's profit-and-loss statement that distort

economic reality. The distortions err on the conservative side, thereby understating the true value of the enterprise. For example, since 1975, standard accounting procedure has been to "expense" research and development (R&D) outlays—that is, deduct them from revenues in the year in which the disbursements are made, even though the impact of such R&D is likely to be beneficial for many years in the future. The alternative would be to regard R&D as an investment and "capitalize" it—that is, put it on the balance sheet as an asset and write it off gradually over its expected useful life. The effect of expensing R&D is to understate the company's true profit for the year (and also, of course, lower its tax bill). In this case, both Generally Accepted Accounting Principles (GAAP) and the law leave no choice to the accountant. The degree of distortion varies, naturally, from company to company. Some may have little or no R&D, whereas it is a big cost item in high-tech companies and in pharmaceutical houses, which spend billions searching for new drugs. These companies are generally worth a great deal more in economic terms than their EPS indicates.

Advertising and marketing costs are also deducted in the year incurred. At first blush, this practice looks sensible inasmuch as the impact of advertising seems evanescent. In some cases it is, but advertising and marketing dollars often have a long-term impact in building brand value. With many consumer products, from bottled drinks to breakfast foods, advertising alone has produced scores of household names over the past half century. Logically, these costs should be capitalized and then written down over their expected useful lives. The same reasoning applies to the costs of training personnel—a particularly large item in the banking and insurance industries.

Accounting practice similarly causes distortion on a company's balance sheet. An asset is listed either at original cost, less depreciation, or at market value—whichever is lower. In a rising market, this obviously understates value. You've paid $10 million

for a building, but it is now worth $20 million. You carry it on the balance sheet at $9 million. In economic terms, it hardly makes sense.

When one company buys another, there have been, for decades, two ways of handling the purchase. In a "pooling of interest" transaction, with payment made in the stock of the buying company for the shares of the target, the assets of the two entities are simply merged on the balance sheet, with no purchase premium recorded on the buyer's balance sheet, which means no adverse impact on future earnings. But in a purchase for cash (or some combination of cash and securities), different rules have applied. If the purchase price is greater than the "fair" asset value of the company being bought, the excess has to be treated as "goodwill" on the balance sheet of the merged company. It is then amortized over a period not to exceed 40 years, with the result that net income is less each year than it would otherwise be. But note that, in terms of economic reality, nothing has changed. Once there were two companies; now there is one. With a "purchase" procedure, earnings are depressed; but in a "pooling," there is no effect whatsoever. After years of criticism, serious moves are underway to outlaw pooling.

Accountants, however, are not intentionally perverse. Their focus is simply not on criteria relevant to shareholders—measurements that assess the underlying economic reality of the company. Rather, the accountants' historic purpose is to value assets and the operating condition of the company conservatively, to determine residual value under the worst circumstances. Essentially, their labors are designed to protect a corporation's bondholders and other lenders, to give them a sense of what they could collect if the company went belly-up. Jerold Zimmerman, professor of accounting at the University of Rochester's Simon School of Business, gave a succinct account of the rationale behind corporate accounting at a Stern Stewart roundtable discussion in 1993 that

later appeared in the Summer 1993 issue of the *Journal of Applied Corporate Finance:*

> "The problem that the accounting and auditing systems were originally designed to solve was the very basic problem of stewardship"—that is, were the company's employees using its money and other assets for the company's or their own purposes? "Another important function . . . was to control conflicts of interest between a company's bondholders and its shareholders. The problem was this: how could managers, as representatives of the shareholders, make credible promises to the bondholders that they would not pay out excessively high dividends or invest in excessively risky projects? To reduce these conflicts, companies contracted privately with their bondholders to hire reputable, third-party accounting firms to gather and report certain kinds of information that would be useful in monitoring management's compliance with debt covenants."

This went on for many years. Soon after the SEC was created, it mandated the periodic publication of these accounting measurements in the interest of full disclosure to market participants. The calculations thus became the standard reporting tools in annual and quarterly reports and in news stories. They are mostly useful to the lenders. As Zimmerman pointed out, "Lenders care primarily only about downside risk. Lenders are much less interested than shareholders in going-concern values, and much more concerned about liquidation values. They want to know what the assets will be worth if the company can't meet its interest payments." The accountants provide that information, but they reveal little about shareholder value. Simply put, a shareholder wants to compare the cash he can take out of a company with the cash he invested. The cash he can take out is represented by the company's market value, not the accountant's book value.

Through long usage, however, earnings per share have come to dominate the headlines when a company issues its quarterly and annual reports. Tradition and ingrained habits are difficult to shake.

Not only does EPS distort reality, but the calculation is also easily manipulated by senior executives whose bonuses may be tied to earnings improvement. One way to produce a quick fix is to cut back on R&D or advertising, in order to lower costs and thus raise stated profits.

Another trick often employed in consumer goods companies is to force-feed compliant customers. It is known as "trade loading." Before the end of an accounting period, customers are persuaded to accept more merchandise than they need, and are given extended credit so they won't be billed until many months later. The sales are recorded when the goods are shipped—typically, just before the end of an accounting period, either a quarter or the fiscal year. Both sides ostensibly benefit: the manufacturer through an inflated EPS, and the customer through generous credit terms. But clearly it is a shell game, of no economic value to the company and of help only to executives whose incentive compensation is tied to EPS or whose stock options may be more valuable if a boost in EPS lifts the company's share price (a result that can occur because the market is ignorant of what prompted the rise in EPS). The next year, of course, the force-feeding has to be greater, lest sales decline—unless, of course, there is a real increase in sales.

For years, Quaker Oats indulged in that game until finally ending it in the early 1990s. As its former CEO, William Smithburg, said at another Stern Stewart roundtable, "Trade loading is an industry-wide practice that creates large artificial peaks and valleys in demand for our products [that] in turn generate significant extra infrastructure and extra inventory costs—all things you really would like to get rid of." Quaker Oats finally did so. "While this change did cause a temporary decline in our quarterly earnings, it clearly increased the economic value of our operations," Smithburg added.

In a widely heralded speech in September 1998, SEC chairman Arthur Levitt Jr., listed several other gimmicks involved in "earnings management." One was the "big bath" of restructuring charges—overstating the expenses of restructuring, which includes such things

as severance payments for laid-off workers and the costs of shutting down facilities. "Why are companies tempted to overstate these charges?" he asked. "When earnings take a major hit, the theory goes [that] Wall Street will look beyond a one-time loss and focus only on future earnings and if these charges are conservatively estimated with a little extra cushioning, that so-called conservative estimate is miraculously reborn as income when estimates change or future earnings fall short."

A second gimmick is what Levitt called "merger magic" when a company merges with or acquires another company. One of the tricks is to call a large part of the acquisition price "'in process' research and development." This enables it to be written off immediately, so as not to be part of the "good will" on the balance sheet that would depress future earnings. "Equally troubling is the creation of large liabilities for future operating expenses to protect future earnings—all under the mask of an acquisition." When the liabilities prove to be exaggerated, they are reestimated and—presto!—converted into profit.

Companies that have not made an acquisition use a similar tactic that Levitt called "cookie jar reserves." It also involves bookkeeping sleight of hand by "using unrealistic assumptions to estimate liabilities for such items as sales returns, loan losses, or warranty costs. In doing so, they stash accruals in cookie jars during the good times and reach into them when needed in the bad times." Levitt gave an example of "one U.S. company who [sic] took a large one-time loss to earnings to reimburse franchisees for equipment. That equipment, however, which included literally the kitchen sink, had yet to be bought. And, at the same time, they announced that future earnings would grow an impressive 15 percent a year."

Levitt has not been alone in decrying such practices. In March 1999, Warren Buffett made headlines with an unexpected attack on top-ranking executives who delude investors. In the annual report of Berkshire Hathaway, his fabulously successful investment vehicle, Buffett stated, "Many major companies still play things straight, but a

significant and growing number of otherwise high-grade managers—CEOs you would be happy to have as spouses for your children or trustees under your will—have come to the view that it's okay to manipulate earnings to satisfy what they believe are Wall Street's desires. Indeed, many CEOs think this kind of manipulation is not only okay, but actually their *duty*." He praised Levitt's campaign to curb the abuses.

It will be difficult, however, to end this gimmickry as long as so many companies tie executive bonuses, in whole or in part, to improvements in EPS. The problem with that linkage, however, has long been recognized. A number of corporate compensation committees have sought to escape the EPS trap by basing bonuses, at least in part, on different earnings-based measurements such as return on equity (ROE), return on investment (ROI), or return on net assets (RONA). These are better indicators of corporate performance because they include the balance sheet, but they all share a basic flaw: they too can be manipulated. If return on equity is the target, there are two ways to improve it. One is by better corporate performance over time. But if that is not possible, there is another strategy: reduce the equity in the company by buying-in shares, either with cash on hand or with debt to finance the repurchase. With fewer shares outstanding, and the same level of profit, the return on equity obviously rises. The executive suite is well served, but not necessarily the shareholders.

If the bonus is linked to return on net assets, the same kind of manipulation is possible. Some assets might be sold, even though they might be worth more if kept, if their loss does not proportionally reduce the profitability of the enterprise. The result will be a higher return on the remaining assets. If this tack is not taken, a bonus dependent on RONA can still be insidious by discouraging profitable future growth. A promising acquisition, for example, might not be made because the effect would be to lower the return on assets by increasing the asset base, even though the total profitability of the enterprise would be enhanced.

Bonuses aside, there is another problem with current compensation schemes: executive compensation increases with the size of the enterprise. This is almost a law of nature and seems eminently logical. A larger empire means enlarged responsibilities for the top executives, presumably requiring greater talent and more impressive leadership qualities, and thus deserving of higher rewards. But growth and enhanced shareholder value are not the same thing; the system sets up a perverse incentive: corporate growth for the sake of the personal rewards it brings. As previously mentioned, Berle and Means noted this phenomenon back in 1932 and attributed the motive to the prestige that accrued to top executives. There is certainly prestige a-plenty in robust expansion, but more palpable is the larger pay packet that the CEO, the CFO, and the COO all receive. And the easiest way to expand is to merge and acquire—or "engulf and devour," as that wildly funny film, *Silent Movie,* with Sid Caesar, put it some years ago.

In the 1960s and 1970s, the urge to expand took a new form. In the past, companies on an acquisition binge sought to buy out their rivals, though there were always some that strayed into alien territory. But in the mid-1960s the drive to diversify became something of a mass phenomenon. It had a new name—the conglomerate—and a new rationale. In the past, there had been a sense that a corporation had best stick to its knitting or, as we now say, its core competencies. Suddenly, analysts and commentators began to herald the virtues of diversification. By buying companies in unrelated fields, the conglomerate managers could produce a steady earnings stream by offsetting cyclical declines in one industry with upswings in another. Strong financial controls radiating from the center would impose discipline and generate efficiencies in subordinate units without micromanaging them. Such at least was the theory, but reality did not bear it out.

The new conglomerate leaders—Harold Geneen of ITT, Charles Bludhorn of Gulf + Western, James J. Ling of Ling-Temko-Vought—became household names. Geneen, the subject of endless

admiring articles in the financial press, gobbled up around 350 companies around the world—from hotel chains to telecommunications to a lone book publisher in New York. While the fad was on, the highly touted conglomerates enjoyed a run-up in their share prices, but there were few long-distance runners.

Many of the acquisitions were disasters, such as Mobil's purchase of Montgomery Ward and Ling-Temko-Vought's purchase of the Jones & Laughlin steel company when that industry had already embarked on its long decline. Although some well-run conglomerates have been successful—General Electric is always mentioned—the conglomerates basically failed because their organizational form did not add any value to the disparate entities under the corporate umbrella. Neither significant economies of scale nor productive efficiencies were realized. Each conglomerate provided a diversified portfolio for its investors, but at a considerable and unnecessary premium. Investors seeking diversification could more cheaply pick their own portfolios, or buy mutual funds.

By the late 1970s, widespread disillusion with conglomerates led to a lot of talk about true value and the rise of both the hostile takeover artists—Carl Icahn, Irwin Jacobs, Sir James Goldsmith, T. Boone Pickens—and the leveraged buyout movement. The so-called raiders sought out companies that appeared undervalued. They silently bought up shares until they reached a threshold percentage, at which point the law compelled them to make a public declaration of intent. Thereafter, they would approach the target company with an offer to buy, be rebuffed as expected, and then launch a tender offer to shareholders at a price significantly above where the stock was trading. The raiders talked much about shareholder value and how it had been betrayed by incumbent management. They often spoke the truth, but their ardor as the shareholders' friend was often brought into question by their willingness to sell their own shares to the target company at a substantial profit—an exercise that came to be called greenmail. Cynics suggested that the pursuit of greenmail

was the sole motive involved, though in many cases the hostile bid succeeded and the outsiders became managers. (Icahn, for example, ran TWA for some years.) But their main contribution, beyond question, was to focus attention on how shareholder value had been squandered.

The leveraged buyout (LBO) phenomenon was far more significant. It also arose from the availability of companies performing below their potential, with their share prices reflecting their dismal record. Such companies had long been sought by entrepreneurs looking for turnaround situations, but what was unique about LBOs was the way they were financed. In a deft bit of fiscal legerdemain, the purchaser raised most of the money by hocking the assets and cash flow of the target company, investing relatively little equity. It was much like the process of buying a house, with the buyer making a cash down payment, and getting a mortgage loan, with the house as collateral. The difference is that, in an LBO, the loan is paid down not by the personal income of the buyer but by the future cash flow of the business, as well as by sales of underperforming assets.

The origins of LBOs can be traced back to the early 1960s, though they were initially quite small and not known by that name; "bootstrap financing" was the term most commonly used. Jerome Kohlberg Jr., then at Bear Stearns, did his first leveraged buyout of a small company in 1965. An insurance company provided the necessary loan. The following year, the company went public and Kohlberg soon had a personal profit of $175,000. Everybody in the deal made money.

Other bootstrap operations followed, with Kohlberg now assisted by two cousins, Henry Kravis and George Roberts. In 1976, the trio resigned from Bear Stearns and formed Kohlberg, Kravis and Roberts (KKR). They didn't make much of a stir at first, but by 1983 they were dominating the flourishing LBO business. Their deals ranged from $420 million to over $800 million. Those seemed like big numbers at the time, but multibillion-dollar deals were to follow within a

few years. Forstmann Little was KKR's biggest competitor, and there were several other rivals in the field.

Until the advent of junk bonds, the deals were financed by revolving bank loans, conventional bonds and debentures, preferred stock bought by insurance companies and other institutions, and equity pools raised from public pension funds and private investors. When junk bonds became available in the mid-1980s, much bigger deals became possible. KKR raised its first billion-dollar equity fund in 1984. It was not actually a fund that sat idle waiting for deals, but a commitment that could be drawn down at any time. The debt-to-equity ratio in a buyout typically ranged from 4-to-1 to as high as 8-to-1. KKR was the general partner in every deal, with its equity investors having the legal status of limited partners. Its rewards were generous. It received an investment banking fee of about 1 percent for cobbling the deal together, which it generally took in the form of stock in the new company, annual consultant fees for the companies in its portfolios, a fee of 1.5 percent a year on the money in its equity pool and—the big kicker—20 percent of the profit the equity partners made. KKR representatives sat on the board of every company they controlled.

In the typical deal, KKR would retain the incumbent managers after taking the company private and would arrange for them to have a significant equity stake. The other prod to better performance was the huge debt the company shouldered. Like imminent death, burdensome debt tends to concentrate the mind. The whole capital structure was designed to force production and managerial efficiencies in order to generate the cash flow needed to pay down debt. And, because the equity base was slender, it grew rapidly in value as the debt declined. For many LBOs, the ultimate goal, often achieved, was to take the company public again and make a killing. Many successful LBOs, however, have remained private companies. Other LBOs, of course, have been failures.

In 1983, Henry Kravis told one of this book's authors that he foresaw a time when LBOs would envelop most of corporate America.

That has not occurred, though only six years later, KKR and its limited partners owned 35 companies with total assets of $59 billion. ("At the time," *The Economist* pointed out 10 years later, "only GM, Ford, Exxon and IBM were bigger.") KKR's largest triumph occurred in 1989, when it executed a hostile takeover of RJR Nabisco for $31 billion. This coup resulted in cascades of publicity plus a highly critical best-selling book, followed by a TV movie. But in the end, it was not one of KKR's success stories.

Academic experts were far more favorably disposed toward the LBO phenomenon than were financial journalists. In testimony before a Congressional committee in 1989, Professor Michael Jensen called LBO outfits like KKR and Forstmann Little "a new model of general management" which produced high premiums not only for the old shareholders who were bought out but also for the new shareholders after the company went public again. The premiums attested to the hidden value that had long gone untapped in pre-LBO days. In a celebrated *Harvard Business Review* article that same year, Jensen predicted the "eclipse" of the old-model public corporations.

Jensen's enthusiasm, like Kravis', proved to be excessive. Only a small fraction of America's corporations are under the wing of LBO holding companies. But the LBO contribution has been immense in proving what could be achieved by making managers owners and by burdening them with a debt load that confronted them with the choice of efficiency or bankruptcy. And note: the emphasis was always on cash flow, not EPS.

But while LBOs can be effective taskmasters, they are a cumbersome and expensive way of creating wealth for shareholders. Cumbersome because of the great effort that goes into putting the deals together, and expensive because of the high fees necessary to motivate the LBO firms. Moreover, huge debt discourages risk taking until the debt comes down. A simpler and far more flexible instrument is the one we advance in this book—*E*conomic *V*alue *A*dded, to which we now turn.

Chapter 2

The Solution

What is *E*conomic *V*alue *A*dded? The short definition, useful at cocktail parties when friends inquire about the book one is writing, is that EVA is the profit that remains after deducting the cost of the capital invested to generate that profit. As Roberto Goizueta, the late CEO of Coca-Cola, an early convert to EVA, once put it, "You only get richer if you invest money at a higher return than the cost of that money to you." And the cost of capital in the EVA equation includes equity capital as well as debt capital. Calculating the cost of debt is easy—it is basically the interest rate paid on a firm's new debt. The equity calculation is more complex, as we shall see, and it varies with the risk the shareholder incurs.

As a concept, however, EVA is simple and easy enough for non-financial types to grasp and to apply, which is one of its virtues. Nor is EVA a new concept: it is what economists have long called economic profit. But what had been lacking until recent years was a method to measure EVA and, equally important, a finely calibrated incentive compensation system, based on EVA improvement, to motivate managers and other employees. After a lengthy period of gestation, EVA was launched by Stern Stewart & Co. in 1989.

Since then, more than 300 companies worldwide adopted the discipline—among them are Coca-Cola, Quaker Oats, Boise Cascade, Briggs & Stratton, Lafarge, Siemens, Tate & Lyle, Telecom New Zealand, Telstra, Monsanto, SPX, Herman Miller, JCPenney, and the U.S. Postal Service.

Properly implemented in a company, EVA aligns the interests of managers with those of shareholders, thereby ending the inherent conflict of interest that has long plagued corporations and that Berle and Means highlighted nearly 70 years ago. The coincidence of interest occurs, in the first instance, because the measurement of corporate performance is no longer affected by the caprice of accounting conventions, not to say gimmickry. Real economic profit is now the measure of corporate performance—clearly, a goal that benefits stockholders. And managers now have the same goal, for their bonuses are tied to EVA. They no longer have an interest in manipulating EPS or RONA or ROI.

EVA is the prime mover of shareholder value, but there is another measure, also originated by Stern Stewart, that precisely captures the gains or losses accruing to a company's shareholders. It is called Market Value Added (MVA) and is defined as the difference between the market value of a company and the sums invested in it over the years. To determine market value, equity is taken at the market price on the date the calculation is made, and debt at book value. The total investment in the company since day one is then calculated—interest-bearing debt and equity, including retained earnings. Present market value is then compared with total investment. In other words, the moneys the investors put in are compared with the funds they can take out. If the latter amount is greater than the former, the company has created wealth. If not, it has destroyed wealth. Cash in, cash out—another simple concept that recalls the grocer's cigar box described in the first chapter. Recently, MVA has also been called Management Value Added, because it is the value added to the net assets for which management is held accountable.

There is a significant link between EVA growth and growth in MVA. Rising EVA tends to foreshadow increases in MVA, though there is no one-to-one correlation mainly because stock market prices reflect not current performance but investors' expectations about the future. Put another way, the basic theory is that MVA is the present value of future expected EVA. If expectations turn out to be unrealistic, then it could be argued that the present-day price was too high or too low. But the key point is that there is a very strong correlation between changes in MVA and changes in EVA. In fact, the correlation is three times better than the correlation between changes in MVA and earnings per share or cash flow, and twice as good as the correlation with return on equity.

At Stern Stewart, the EVA system had its roots in a long-standing preoccupation with the economic model of the firm rather than the accounting model. That is, in the company's consulting work—it advised on valuations of capital projects and acquisitions, capital structure, and dividend policy—the emphasis was always on cash flows, specifically the net present value (NPV) of future free cash flows, a term first coined by Joel Stern in 1972. The theoretical basis for this approach was provided by academic papers published between 1958 and 1961 by two financial economists, Merton H. Miller and Franco Modigliani, both of whom won Nobel prizes in economics. They argued that economic income was the source of value creation in the firm and that the threshold rate of return (we've called it the cost of capital) is determined by the amount of risk the investor assumes—a subject we will later explore in some detail. They also demonstrated, among other things, that investors react rationally to these realities. This is another way of saying that what we like to call the "lead steers"—sophisticated investors with highly developed analytic skills or superior access to new information—lead the investment herd in market movements that respond to changes in the fundamentals.

But one thing that Miller and Modigliani did not do was provide a technique to measure economic income in a firm. At Stern

Stewart, the solution did not immediately suggest itself either. Cash flow analysis was essential in its valuation work, but was not helpful in measuring year-to-year changes in a company's economic income. In analyzing a proposed capital project, for example, you discount to present value its future free cash flows, using an appropriate interest rate (a similar process, in reverse, to what you do when you take a sum of money and calculate how it will grow, through compounded interest, in 10 or 20 years). Then you compare that net present value with the cost of the project and determine whether it is a wise investment.

You can put a value on an entire business in the same fashion. But discounting future free cash flows to NPV is a static measure—it compresses the foreseeable future to today's value rather than providing a year-to-year measure. It would be possible, of course, to compare the NPV of a company in year one with its NPV in year two and see whether there has been a gain or loss. But the problem with this approach is that you are discounting assumed future cash flows, and such assumptions about the future can obviously be wrong.

A number of people at Stern Stewart saw the benefit of a single period-by-period contemporaneous measure of performance. In particular, G. Bennett Stewart III, the senior partner in the firm, made a significant conceptual breakthrough in formulating the concept of EVA (although it followed the developments that had already appeared in Section 3 of Modigliani and Miller's seminal paper on valuation and dividend policy, especially their now-famous footnote 15).* Stripping away their complicated mathematics, EVA stares at us from the pages of their paper. The virtue of EVA is that it is a system for gauging corporate performance based on hard data rather

* Stewart's contribution also had its underpinnings in papers presented in J. Stern's *Analytical Methods in Financial Planning* (1972), where the annual calculation of EVA was first suggested.