

“...an important contribution to understanding the growth, development and performance of companies over time and how it relates to stock valuations. I see it as a handbook on understanding investment, and I intend to apply these insights myself.”

**Vernon L. Smith**

**Nobel Laureate in Economics 2002**

Professor of Economics and Law

George Mason University

and Rasmuson Distinguished Visiting Chair in Economics  
University of Alaska, Anchorage

“...a magisterial summary of the analytic framework that will enable corporate boards and managers to move beyond the tired cliché of ‘maximizing shareholder value’...”

**Robert Z. Aliber**

**Professor of International Economics  
and Finance Emeritus**

Graduate School of Business

University of Chicago

“I was amazed as I read Bart Madden’s treatise on long term cash flow return versus meeting Wall Street’s quarterly expectations....”

**T. J. Rodgers**

**Chief Executive Officer**

Cypress Semiconductor Corporation

LearningWhat Works®

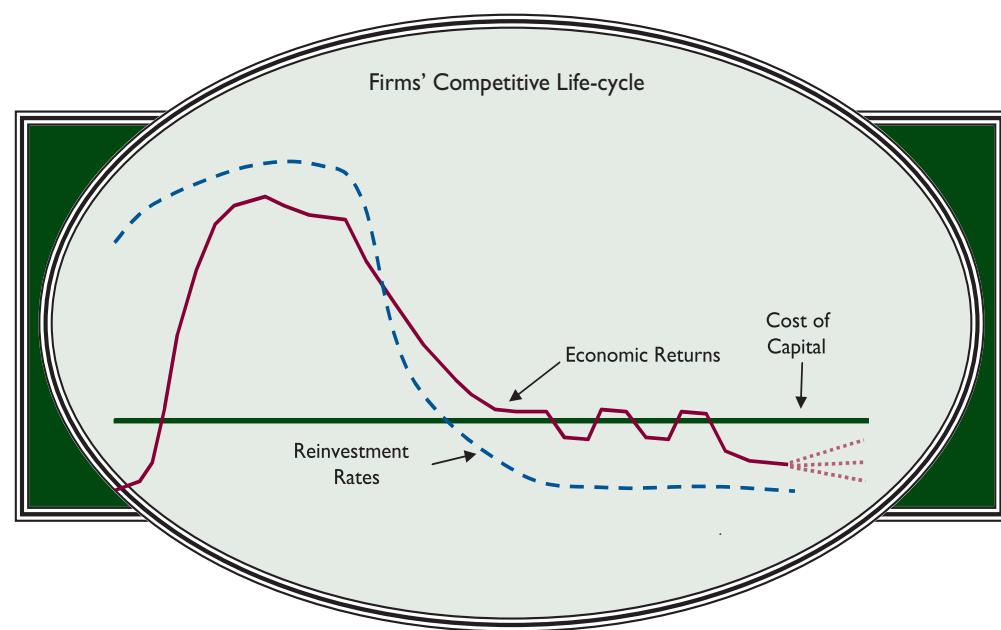
<http://www.LearningWhatWorks.com>



MADDEN

MAXIMIZING SHAREHOLDER VALUE AND THE GREATER GOOD

# Maximizing Shareholder Value And The Greater Good



**Bartley J Madden**

# **Maximizing Shareholder Value And The Greater Good**

Copyright 2005 Bartley J. Madden  
All rights reserved  
Published by LearningWhatWorks, Naperville, Illinois  
Printed in the United States of America

Madden, Bartley J., 1943—

Maximizing Shareholder Value And The Greater Good / Bartley J. Madden

—1st edition pp. 64 (acid free paper)

Includes bibliographical references and 19 illustrations

ISBN-13: 978-0-9772488-0-3

ISBN-10: 0-9772488-0-1

Library of Congress Control Number: 2005932216

## Contents

Commentaries	v
Introduction	ix
1. Overview	1
2. Economic Progress	3
3. Firms' Competitive Life-cycle Framework	7
4. Linking Firms' Market Values to Life-cycle Performance	9
5. IBM Life-cycle Case Study	11
6. Three Management Rules for Maximizing Shareholder Value	17
7. Future Fade Rates	19
8. Trade-off Decisions	21
9. Other Company Case Studies	25
10. Overcoming Management's Quarterly Earnings Mind-set	35
11. Intangibles, Life-cycle Analysis, and the Future of Financial Reporting	39
12. The Toyota Way and the Toyota Production System	43
Concluding Thoughts	45
Appendix	47
Endnotes	53

## Figures

1. Economic Progress in a Free Society
2. Firms' Competitive Life-cycle
3. Translating Accounting Data to Warranted Value
4. IBM Stock Prices, Employees, and Cash Flows
5. IBM Life-cycle Performance
6. Walgreens Stock Prices, Employees, and Cash Flows
7. Walgreens Life-cycle Performance
8. DuPont Stock Prices, Employees, and Cash Flows
9. DuPont Life-cycle Performance
10. Bethlehem Steel Stock Prices, Employees, and Cash Flows
11. Bethlehem Steel Life-cycle Performance
12. Medtronics Stock Prices, Employees, and Cash Flows
13. Medtronics Life-cycle Performance
14. Configuring the Net Cash Receipt Drivers to Handle Intangibles
15. Sources and Uses of Net Working Capital
16. Firm's NCR Equals Capital Suppliers' NCR
17. Firm as a Portfolio of Projects
18. A Simulated Firm Which Earns 6 Percent  
    Real Project ROIs Repeatedly
19. CFROI® Components

## Commentaries

*In the traditional preface, authors orient their readers to the purpose of their book and summarize the content. Instead of a preface, the reader should find these commentaries more useful. Each commentary comes from a different expert's point of view, and previews, in insightful ways, what the reader can gain from the monograph.*

“I think this book is an important contribution to understanding the growth, development and performance of companies over time and how it relates to stock valuations. I see it as a handbook on understanding investment, and I intend to apply these insights myself. The charts are particularly useful in illustrating the principles developed.”

Vernon L. Smith  
Nobel Laureate in Economics 2002  
Professor of Economics and Law  
George Mason University  
and Rasmuson Distinguished Visiting Chair in Economics  
University of Alaska, Anchorage

“Bart Madden has provided a magisterial summary of the analytic framework that will enable corporate boards and managers to move beyond the tired cliché of ‘maximizing shareholder value’ in their choice of new investments. Firms like individuals are subject to a life cycle; the innovative technologies and marketing and distribution plans of one generation are commoditized in the next one. Madden highlights the distinction between the firms that are able to prolong their periods of rapid growth and those that have died because of costly and unprofitable investment decisions.”

Robert Z. Aliber  
Professor of International Economics  
and Finance Emeritus  
Graduate School of Business  
University of Chicago

“As are most Silicon Valley CEOs, I am a firm believer in the employee-owner model. I am also a believer in business processes to promote long-term stability and growth. Even with those predispositions, I was amazed as I read Bart Madden’s treatise on long term cash flow return versus meeting Wall Street’s quarterly expectations — because even in a company predisposed toward long-term behavior (I have been the CEO of Cypress Semiconductor since its founding in 1982), I was amazed at his almost clairvoyant descriptions of a lot of things we work on to meet Wall Street expectations. It’s not that we ever think about deliberately harming long term prospects for short term results, but that, as Madden says, we are ‘seldom, if ever, exposed to valuation models, or even to data that focuses on long-term levels of stock prices as a reflection of future economic returns’.”

T. J. Rodgers  
Chief Executive Officer  
Cypress Semiconductor Corporation

“All stewards of capital, including investment managers, regulators, educators and individual investors should read this book to understand how the pursuit of long-term shareholder value creation results in a better society by utilizing market forces to efficiently meet the needs of its citizens.”

Christopher C. Faber  
President  
IronBridge Capital Management, LLC

“Top buy-side money managers around the globe use the economic principles detailed in Madden’s monograph to answer three critical company-specific questions: 1) Does management have a history of making decisions consistent with creating shareholder value? 2) What expectations of future corporate performance are built into the current stock price? 3) Are those performance expectations plausible in light of the firm’s historical performance and compared to those for global competitors? This monograph is a unique educational tool for understanding what drives long-term levels and changes in stock prices and the broader implications for economic progress.”

Timothy J. Bixler  
Managing Director  
Credit Suisse First Boston  
and Co-head of the CSFB HOLT Group, based in Chicago

“Finally, a concise, clear explanation linking average wage earners and their standard of living to top decisions made on Wall Street and in corporate boardrooms. Myths about shareholder wealth creation like managing for quarterly EPS are debunked in favor of a long-term, cash flow ROI (CFROI®) framework. When successful businesses efficiently allocate resources and become stock market winners, shareholders, customers, employees and the larger community really do benefit. Company examples give compelling reasons for corporate managements to create a culture, a ‘special place,’ where performance, teamwork and trust are mutually embraced.”

Robert E. Hendricks  
Managing Director of Credit Suisse First Boston (CSFB)  
and past CEO of HOLT Value Associates,  
a valuation firm purchased by CSFB in 2002



## Introduction

### Purpose

Ask the question, “Should society want firms to maximize shareholder value?” and responses are likely to exhibit a great deal of misinformed thought. This monograph puts the spotlight on the key faulty notions by clarifying the shareholder-maximizing rule of business firms for creating wealth and improving the standard of living of society in general.

From extremes such as Bethlehem Steel’s failure to earn the cost of capital for more than four decades, to Medtronic’s remarkable shareholder value creation by delivering life-saving medical products, company examples offer a reality check on the core economic arguments presented in this monograph. Long-term corporate track records shown herein enable a reader to gain a bottom-to-top understanding of what it takes for firms to create wealth and the resulting benefits of a competitive, free-market environment.

### Print Copies

Copies from the first printing of this monograph have been distributed, on a complimentary basis, to people with a direct interest in the wealth creation ideas presented here: security analysts, portfolio managers, corporate managers, and economics/finance professors. For information on purchasing print copies, see the News section of [www.LearningWhatWorks.com](http://www.LearningWhatWorks.com).

### Internet Availability

An important audience for this monograph includes finance and economics students and people who have an intellectual curiosity about the connections among stock prices, firms’ economic performance, and economic progress. In order to reach this audience and, in general, to promote a wide distribution of the core ideas presented about free-market capitalism, the most current version of the monograph will be available as a free download from the author’s web site, [www.LearningWhatWorks.com](http://www.LearningWhatWorks.com).

### Reproduction

Permission is granted to copy for personal or educational use only; however, reproduction for any commercial purpose in any manner whatsoever is strictly prohibited without written consent of the author.

**Author**

Bartley J. Madden, an independent researcher, posts current research on his web site, [www.LearningWhatWorks.com](http://www.LearningWhatWorks.com), which focuses on the application of scientific thinking to social problems. He currently serves as a senior advisor to Credit Suisse First Boston. Formerly a Partner at HOLT Value Associates, Madden authored *CFROI Valuation – A Total System Approach to Valuing the Firm* while at HOLT. The company life-cycle framework, central to the analysis presented in this monograph, was originally conceived when the author worked with the late Chuck Callard at the research firm, Callard Madden & Associates.

The author appreciates the insights and useful manuscript criticisms provided by Ernest Welker and the programming of the historical company data charts by Donn DeMuro. Also appreciated is Marie Murray for being the monograph editor, creative director, and production supervisor; and Sara Benson for graphic design. The monograph was printed by Butler Printing, Aurora, Illinois.



## Overview

In *The Power of Productivity*, Bill Lewis reports the results of a monumental, 12 year global study by the McKinsey Global Institute which sought empirical evidence about what fuels a rising standard of living.<sup>1</sup> The research focused on in-depth, field studies of industries in various countries.

The principal conclusions are that productivity critically depends on a society's promoting both *freedom of choice* for consumers and widespread *competition* with a minimal amount of government subsidies, tariffs, and the like, which distort markets.

Unexplored in the study is the goal of maximizing shareholder value, which is often touted by managements of individual firms that comprise various industries. A most important question is, “Should society want firms to Maximize Shareholder Value (MSV)?”

“Maximizing shareholder value” means widely different things to different people and is loaded with emotions both for and against it. A key for cutting through the confusion is the concept of the *competitive life-cycle* for firms, which captures the relationship between competitive forces and a firm’s economic performance and valuation over time.

An analysis of the MSV issue reduces to five broad conclusions:

- Investors and security analysts benefit from a framework that explains stock prices as the present value of a net cash receipt stream, resulting from a forecast of a firm’s future long-term, life-cycle performance.
- Management should cease making decisions based primarily on meeting or exceeding Wall Street’s quarterly earnings expectations, and instead use key, long-term, life-cycle drivers of shareholder value for guiding their actions.

- Boards of directors need a practical understanding of what determines levels and changes in stock prices over time and why maximizing share holder value is absolutely not the same as maximizing short-term accounting earnings.
- Customers, employees, and shareholders do indeed have mutual long-term interests, but their interests may conflict in specific, point-in-time circumstances. A shareholder value compass is needed to navigate such unavoidable trade-off choices.
- Society benefits when management makes decisions designed to maximize shareholder value because this promotes a market-based process for continually moving resources to their most efficient uses; i.e. the gains to society over time far outweigh the short-term disruptions.

## 2

## Economic Progress

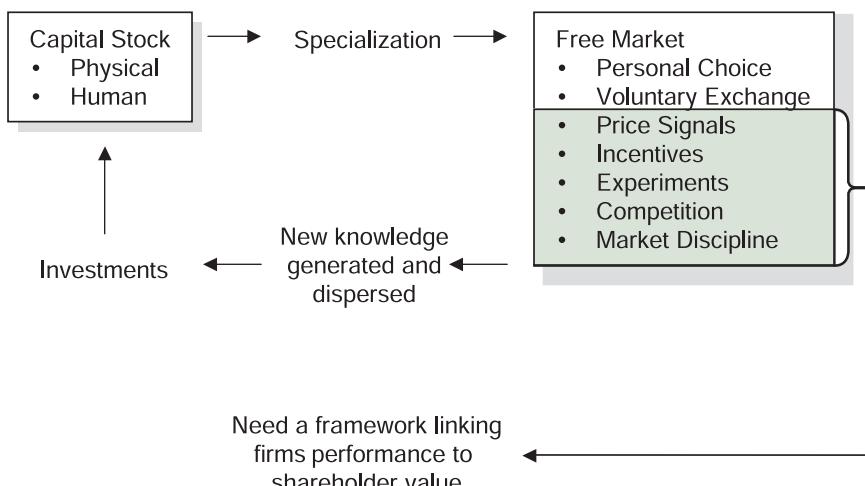
To put the role of business firms in general, and MSV in particular, into the broader context of societal progress, first ask, “What do people want?”

Research on human well-being typically uses a health/material possessions category that can be reasonably quantified and a much softer category that is quite difficult to measure.<sup>2</sup> Some variables in the latter category are: meaningful relationships with others, feelings of self-esteem, respect from others, plus the extent to which work is gratifying.

The end point of these human wants is some degree of success in achieving happiness, which Charles Murray characterizes as “the lasting and justified satisfaction with one’s life as a whole.”<sup>3</sup> From this perspective, business firms serve an important role in advancing the standard of living and in providing work environments that directly impact employees’ happiness.

In order for business firms to contribute the most to the greater good, there are three key prerequisites to a free-market economy that position them to do so: (1) rule of law, (2) property rights and contracts, and (3) supportive institutions. When these conditions are met, economic progress, as depicted below, flows naturally.

**Figure 1 Economic Progress in a Free Society**



An explanation of Figure 1 begins with the upper left box. A society's future economic growth launches from its existing total **capital stock** comprised of both **physical capital** (buildings, roads, machines, etc.) and **human capital** which consists of the total knowledge and skills the society has accumulated, including the methods used for acquiring new knowledge and skills.

Next, the pace of progress greatly depends on opportunities for individuals to **specialize** in producing goods and services at "low" cost due to their personal skills and to trade those for desired goods and services that would be "high" cost for them to produce. When a society has built up its capital stock, people can avoid being hunters and farmers out of necessity and can pursue work that offers the best opportunities for generating income and job satisfaction, and for which their skills are best suited.

Combining one's specialized labor with the capital stock increases productivity; i.e., creates more valuable output per hour worked. Specialization functions best through a **free-market** system in which **personal choices** can have expression and exchanges are voluntary.

**Voluntary exchanges** enable people to cooperate in order to better themselves. Trade restrictions reduce the chance to cooperate, as do regulations increasing the cost to enter particular occupations or to start businesses. Price controls (to "save the family farm"), rent controls (to "make housing affordable"), and the like prevent price changes necessary for dynamically balancing supply and demand and for allocating resources to their highest valued uses. All such imposed restrictions invariably bring unintended adverse consequences.<sup>4</sup>

Market prices are essential to enabling both parties to benefit from voluntary exchanges. Prices communicate information. These **price signals** coordinate actions by providing **incentives** to effectively use and allocate resources. Business enterprises respond to the profit incentive and act with the expectation of earning economic profit from efficiently providing products and services in amounts that "the market" wants. Tariffs and subsidies distort the market's price signals and lead to inefficiencies for the many, while transferring wealth to a favored few.

The profit incentive clearly drives the allocation of resources as firms adjust not only to current market prices, but also to expectations of future prices. For firms' top decision makers, it is not obvious how to best use resources based on existing knowledge and how to develop new, innovative ways to better meet customer needs. This entails **experimentation** to some degree. Freedom permits experiments to flourish.

*Experimentation is as critical to sustained economic progress as it is to the growth of knowledge in the physical sciences. The success (or failure) of business experiments is judged by their effect on firms' profits. Over the long term, the bigger the gain in profits, then the more value-added has been delivered to customers.*

The hallmark of a modern, free-market is **competition** among business firms. Customers benefit through lower prices than otherwise would prevail and through continual innovation that leads to improved products and services. The stock market is an especially illuminating lens by which to observe **market discipline**.

If a firm steadfastly fails to earn the opportunity cost of capital, its stock price suffers and there is pressure to hire new management, which often-times jettisons old business strategies, downsizes, fires employees, and refocuses the firm's resources. At times, failing businesses (especially small firms) can quickly go bankrupt. Less apparent to the general public is that "harsh" punishment administered by the market frees up resources to flow to other firms better skilled at efficiently providing value.

Although society as a whole benefits from resource recycling, it is an invisible process to the general public. In contrast, the negatives are narrowly focused and highly visible (closed operations, workers fired, communities harmed). The public's perception tends to be heavily influenced by general media reporting which myopically focuses on sensationalizing the costs of adapting to change (e.g., outsourcing) while totally ignoring even the possibility of long-term benefits.

While fundamentally flawed in terms of economic soundness, the easy-to-communicate stories of managerial disregard for employees do contain an important fact: some managements pursue obsolete strategies and/or lack basic managerial skills to the degree that restructurings and layoffs result. On the other hand, stories about managements who have been especially successful in maximizing shareholder value and providing substantial growth in jobs are almost never communicated to the general public. *Regrettably, the public, and even students in economics courses, are not exposed to business-firm-oriented microeconomics which contributes to an understanding of macroeconomic trends.* This gap in understanding is a threat to the public's continuing support of the prerequisite conditions for economic progress in a free society.

Returning to Figure 1, an important point pertains to the activity, **new knowledge generated and dispersed**. In a competitive free-market, there is not only continual innovation and generation of new knowledge but also the

rapid and widespread dissemination and practical application of this knowledge. Why does this occur? Again, because of incentives.

As mentioned earlier, firms continually aim to surpass competitors, better serve customers, and earn additional profits. If they fail to exploit new ideas, technology, or the myriad ways of improving processes, their efficiency relative to competitors declines and/or they lose customers, resulting in lower profits or actual losses. The status quo is never a long-term viable option.

The last segment of the overall free-market process is **investments**, which increase society's capital stock. Consider for a moment the absence of one or more of the foundational prerequisites, then ask how much investment there would be: In a lawless society? In one that failed to provide and protect individual property rights? If inflation spirals upward? If the corporate form of business organization did not exist? If there were no market mechanism for readily buying and selling stocks and bonds?

In an effectively functioning free-market, investments offer the opportunity for financial rewards while "automatically" increasing the capital stock and sowing the seeds for future increases in productivity, which, in turn, raises the standard of living.

This explanation of the functioning of a free-market system strongly suggests that society as a whole benefits from the continual application of an MSV management mind-set. Yet, the argument is abstract and conceptual. What is needed to more effectively make the case is seen at the bottom of Figure 1 — a framework that links firms' economic performance to shareholder value and provides an empirically based business-firm-oriented microeconomics for a better understanding of how the world actually works.

## 3

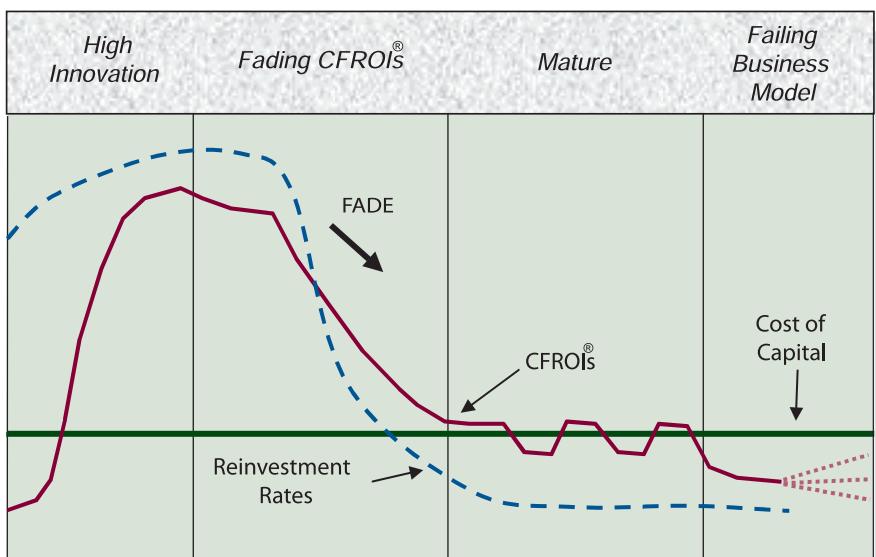
## Firms' Competitive Life-cycle Framework

A firm's total market value reflects a forecasted long-term net cash receipt stream discounted to a present value using the firm's weighted average cost of capital. (See the appendix for a further explanation.) A particularly useful way to handle the net cash receipt forecast is to deal with its key components: (1) the firm's economic returns (2) and its reinvestment rates.

Figure 2, below, depicts the four stylized life-cycle stages which serve as a useful guide for evaluating a firm's track record and judging its likely future performance, i.e., its future, long-term, net cash receipt stream.

*The Cash-Flow-Return-on-Investment (CFROI®) is a proxy for the firm's economic return. It is an inflation-adjusted (real) ROI metric constructed from annual financial statements to approximate the average real ROIs being achieved on the firm's portfolio of on-going projects.<sup>5</sup>*

Figure 2 Firms' Competitive Life-cycle



CFROI® is a registered trademark of Credit Suisse First Boston.

**High innovation** stage firms turn innovations into successful business ventures and earn CFROIs well above their cost of capital. The typical successful startup is characterized by reinvestment rates continually in excess of CFROIs. At this stage, firms are opportunity rich and often seek external financing to more quickly exploit the abundant opportunities.

Attracted by the superior CFROI opportunities, competitors attempt to duplicate the innovator's business model and/or improve upon it so that customers are served even more effectively. The tension between managerial skill and competition produces a fade of CFROIs towards the long-term average of the corporate sector's CFROIs (which approximates the corporate sector's long-term cost of capital) and a fade of reinvestment rates towards the lower long-term average growth rate of the overall economy.

The **fading CFROIs** stage reflects regression of economic returns towards the average. For firms at high CFROI levels, calculated valuations become unbelievably high when CFROIs and reinvestment rates are forecasted not to fade. As a practical matter, this never happens. "Greedy" competitors go after the high returns for themselves. Growth opportunities associated with the high-return venture eventually become fully exploited. Innovations in products, services, technologies, and processes overtake the advantages of earlier innovators, further reducing the opportunity for growth. Firms that maintain well-above-average economic returns and reinvestment rates over decades must continually reinvent themselves in order to out-perform competitors. The rate of fade thus is an indicator of managerial skill.

In the **mature** stage, management often suffers from a bigger-is-better mind-set, lulled into business-as-usual complacency due to past successes. Large firms with mature businesses need hard-nosed CEOs and boards that recognize economic reality is dynamic and requires continuous change. They should be receptive to strategies for recycling resources to shareholders via dividends and spin-offs of business units that might well perform better as stand-alone enterprises. At this life-cycle stage, strategies to prevent a decline in CFROIs should be the first priority.

In the **failing business model** stage, employees, shareholders, and all other stakeholders pay a heavy price for the inability of top management and boards to successfully adapt to changing business conditions. Firms in this fourth stage eventually take a path of CFROI improvement that invariably involves down-sizing, or they go bankrupt. Capital markets force this up-and-onward or down-and-out transition because continually investing resources at returns below the cost of capital not only destroys shareholder value, but also prevents resources from recycling to higher-valued uses.

## 4

## Linking Firms' Market Values to Life-cycle Performance

The purpose of this section is to demonstrate the life-cycle framework through two real world data displays for IBM — the classic example of successful management actions taken to rescue a firm in the failing business model stage of its life-cycle. Long-term corporate track records of the type displayed here lay out the key elements employed by knowledgeable investors to judge managerial skill, make long-term forecasts, and set the prices at which they will buy or sell. Experience indicates such examples are an effective means to communicate, partly because the stories reveal the critical interplay of competition and skill that resonates with the direct personal experiences of those in business.

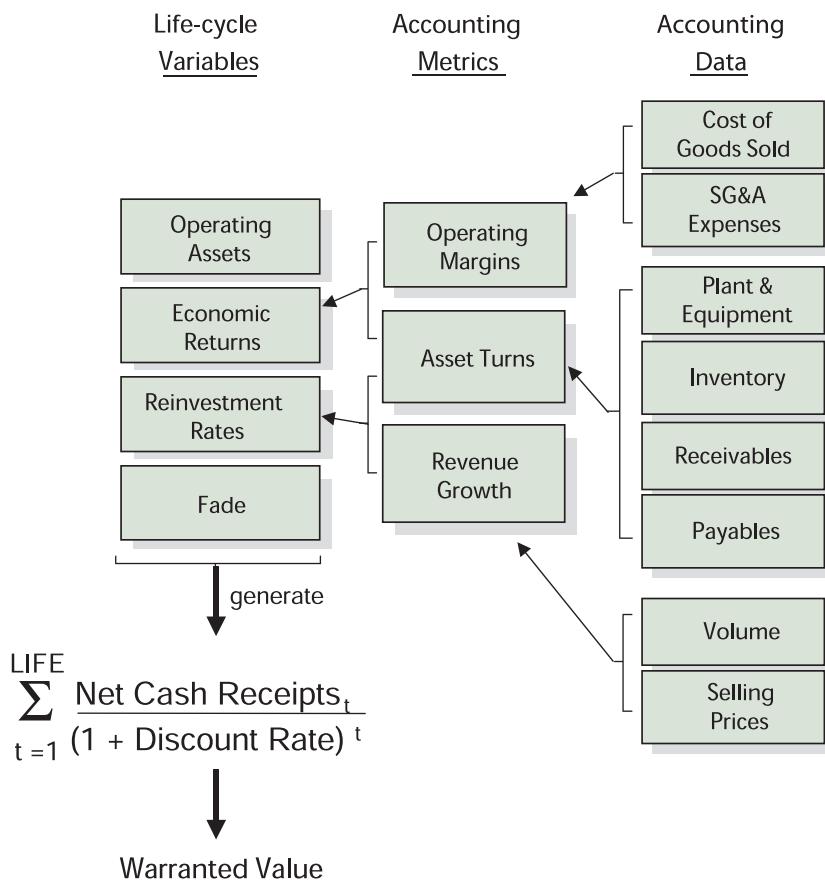
*In the CFROI valuation model, the key variables of CFROIs, asset growth rates (proxy for reinvestment rates), and investor discount rates (or firms' costs of capital) are all calculated in inflation-adjusted, or real, units.*

*Particularly useful is a long-term time series of a firm's CFROIs, which are directly comparable across time and across companies regardless of their industries and home countries. In today's global economy, this aspect of the CFROI metric and valuation model is especially beneficial.*

Over long periods in the U.S., the CFROI for the industrial sector has averaged about 6 percent real. The long-term real asset growth (reinvestment rate) has been in the 2 to 3 percent range. The investors' real discount rate has averaged around 6 percent, with variation attributable to changing environments of investor tax rates for dividends and capital gains.<sup>6</sup>

The life-cycle variables of the CFROI valuation model are much more useful for analyzing and discussing firms' valuations than are conventional accounting data or metrics that are simple ratios of selected accounting data. Figure 3 summarizes connections among key accounting-based metrics and the life-cycle variables. For a specified investors' discount rate and initial asset base, the forecasted life-cycle pattern of CFROIs and reinvestment rates generates a net cash receipt stream that is then discounted to a present value, or warranted valuation.

**Figure 3 Translating Accounting Data to Warranted Value**



The warranted value equation can be explained by an analogy to a bond. With a bond, the net cash receipt stream is the expected interest and principal payments. The yield-to-maturity is the discount rate. And the market value of the bond is the warranted value. For valuing a firm, the life-cycle variables are used to estimate a net cash receipt stream. The investor estimates an appropriate discount rate in order to make a present value calculation of the net cash receipts, which is a **warranted value** based on the specific estimates used.

## 5

## IBM Life-cycle Case Study

This case study describes the rise, fall, and recovery of IBM highlighting management's success/failure in maximizing shareholder value. At the end of the 1980s, IBM was the most profitable company in the world. It was so successful that the Federal Government tried to force the breakup of IBM for having alleged monopoly power. IBM managers automatically assumed that the future would largely mirror the past.

But, enormous bureaucratic inefficiencies had developed at IBM. By 1993 IBM was running out of cash. At that critical time, the board made a very wise decision in hiring Lou Gerstner as the new CEO. In his book, *Who says Elephants Can't Dance?*, Gerstner noted:<sup>7</sup>

When there's little competitive threat, when high profit margins and a commanding market position are assumed, then the economic and market forces that other companies have to live or die by simply don't apply. In that environment, what would you expect to happen? The company and its people lose touch with external realities, because what's happening in the marketplace is essentially irrelevant to the success of the company.

What IBM forgot was that all the trappings of its culture—from behaviors that the company valued and rewarded, to how fast things happened, to the luxury of creating all kinds of pride-inducing employee benefits and programs—were a function of the franchise created by the System/360. It wasn't really the product of enlightened management or world-class processes. IBM's dominant position had created a self-contained, self-sustaining world for the company. IBM had ridden one horse, and ridden it well. But that horse could carry it only so far before it broke down. pp. 117-118

Imagine the difficulty in restructuring a firm with 300,000 employees, IBM's total employment in 1992. In addition to the enormously important cultural overhaul orchestrated by Gerstner, he sold off non-core assets; commercialized IBM's formidable research lab; reconfigured strategy to focus on services, software, and network-centric computing; and made an early and very astute commitment to the Internet.

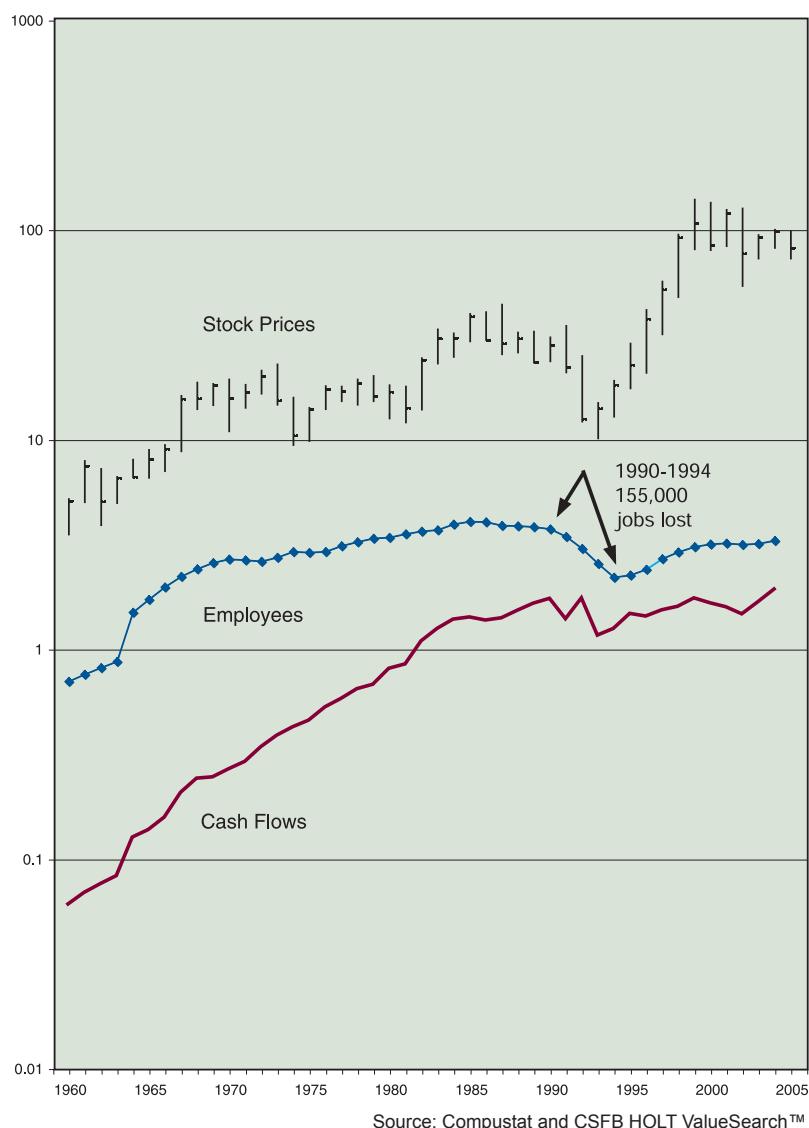
IBM was in desperate shape because, at bedrock, it failed to perceive that the external world of customers and competitors was radically changing. Gerstner described it this way:

This hermetically sealed quality — an institutional viewpoint that anything important started inside the company — was, I believe, the root cause of many of our problems. To appreciate how widespread the dysfunction was, I need to describe briefly some of its manifestations.

They included a general disinterest in customer needs, accompanied by a preoccupation with internal politics. There was general permission to stop projects dead in their tracks, a bureaucratic infrastructure that defended turf instead of promoting collaboration, and a management class that presided rather than acted. IBM even had a language all its own. p. 189

This fossilized corporate mind-set resulted in “gifting” the PC operating system to Microsoft and helped Intel execute its strategy to gain the dominant industry position in microprocessors.

IBM’s rise, decline, and remarkable turnaround are documented in the next two figures displaying IBM’s track record from 1960 to 2004. Figure 4 on the next page plots three time series on a logarithmic scale (data points changing at the same rate plot as a straight line). The top series displays the annual high-low stock price range and shows the yearly close as a horizontal line in the range. The middle series plots number of employees. Cash flow is plotted in the lower series. The raw data series are multiplied by factors of 0.1, 10, 100, etc. for clearer displays.<sup>8</sup>

**Figure 4 IBM Stock Prices, Employees, and Cash Flows**

IBM's economic performance and shareholder returns are displayed in Figure 5: the top panel displays CFROIs, the middle panel shows real asset growth rates, and the bottom panel displays a cumulative index reflecting annual changes in the yearly excess (positive or negative) of the total shareholder return (dividends plus price appreciation) on IBM's stock relative to the S&P 500. Share performance versus the S&P 500 is depicted by rising/falling trends in the relative wealth index.

**Figure 5 IBM Life-cycle Performance**



Source: Compustat and CSFB HOLT ValueSearch™

In general, to analyze shareholder value performance, use the life-cycle display shown above in the following manner:

- Select a given historical year, observe the *past* levels and trends in CFROIs and asset growth rates, and make a judgment of the firm's life-cycle status.
- Keeping in mind the firm's life-cycle status, and the tendency for CFROIs to fade towards the long-term average, estimate *future* fade rates (up, flat, down) for the firm's CFROIs and asset growth rates.
- Compare *actual* subsequent patterns of CFROIs and asset growth to *expected* patterns.

**In a great majority of instances, the excess (positive/negative) shareholder returns for any period are associated with “surprising” (positive/negative) patterns of actual fade in relation to earlier plausible expected patterns for that period.**

Although the industry circumstances and management personalities differ with each historical example of value creation/destruction, there are some general MSV guidelines.



## 6

## Three Management Rules for Maximizing Shareholder Value

Warranted value increases (decreases) when the firm makes investments expected to generate ROIs greater (less) than the firm's cost of capital. This most important economic principle translates to three rules for management:

- (1) Avoid investments in businesses likely to earn economic returns below the cost of capital.
- (2) Reinvest in businesses likely to earn economic returns above the cost of capital.
- (3) Make strategic plans that can realistically achieve favorable future fade rates.

The third rule deserves some discussion. Portfolio Managers (PMs) well versed in company life-cycle histories use this empirically-based knowledge to evaluate managements' strategies. PMs are wary of mega-acquisitions by large, mature firms whose economic returns are at or below the cost of capital. All too often, such investments make it even more difficult to achieve greater-than-cost-of-capital future performance.

PMs realize that firms steadfastly earning less-than-cost-of-capital returns need to fundamentally break the business-as-usual mentality and almost always need to downsize the asset base, as did IBM. Therefore, PMs are enormously skeptical of managements of such firms who want to "grow the business" but fail to address the need for restructuring.

Finally, knowledgeable PMs realize that MSV is not a short-term, earnings per share, growth issue. Given the firm's current life-cycle position and existing skills, its strategy should ideally produce close to an optimum blend of future fade rates for both CFROIs and reinvestment rates. Large, above-average, CFROI firms may logically target more modest reinvestment rates to maintain their wealth-creating CFROIs, rather than reinvesting at much higher rates, and encountering a significantly rapid downward CFROI fade.



## 7

## Future Fade Rates

Four key factors determine future fade rates:

- Business strategy
- Organizational structure
- Long-term focus on core business processes
- Win-win partnership between management and employees

In his book, *Good To Great*, Jim Collins describes the **business strategies** of both successful and unsuccessful firms. Successful CEOs evolve innovative, wealth-creating plans that are long-lived, accommodate flexibility and change, and are firmly rooted in providing genuine value to customers. The unsuccessful CEOs tend to employ “quick fix” strategies doomed to be short-lived.

**Organizational structure** refers to the degree of hierarchical control and the allocation of decision rights. A highly effective organizational structure for a firm in its early life-cycle years can become quite ineffective as the firm grows large and diversified. For example, throughout the 1970s and 1980s, Digital Equipment prospered with its obsession on path-breaking innovation and enormous independence given to its business units. A key contributor to DEC’s eventual collapse was its organizational structure that was ill-equipped to handle a \$14 billion sales firm out of step with rapidly changing customer needs.

Governance is also included as part of organizational structure. A firm’s board should be composed of directors who have relevant business experiences and high motivation to ensure that the firm is managed in the interests of its shareholders. An effective board will tie executive compensation to the creation of long-term shareholder value.

As to **core business processes**, Tom Johnson makes an insightful argument that the widely acclaimed Toyota Production System is fundamentally a process of “managing by means” as opposed to “managing by results.” Johnson argues that management whose decision-making is entrenched in an accounting world will act in ways that improve short-term accounting results but disregard the fundamental business processes that determine long-term performance.<sup>9</sup> This has deep implications for how work can be organized to provide feedback and control while remaining highly flexible; and how

managers and workers can experiment, solve problems, and participate in a continuous learning environment. Successful firms invariably have a long-term focus on core business processes leading to competitive advantage.

To *earn* lasting loyalty and trust of employees, a firm's management must abandon layoffs as a convenient, near-term means to cut costs and in return employees need to embrace flexibility in order to adjust to changes in the workplace. This is needed, at a minimum, to secure a **win-win partnership** and make the standard Annual Report rhetoric that "employees are the firm's most important asset" a reality.

To minimize restructurings and layoffs: (1) the board of directors must be highly effective in hiring a skilled CEO and when a hiring mistake is made, in quickly facing up to it, (2) top management must maintain a hard-nosed, disciplined policy on reinvestment rates such that capital expenditures and employment growth should make economic sense vis-à-vis an objective assessment of the firm's competitive advantages or lack thereof, and (3) investments in employee education/training should be attuned to skills currently in demand and likely to be important in the future.

To secure a viable win-win partnership, management must adopt a practice of analyzing, experimenting, and working with employees in good faith. Management should strive for an optimum balance between sustained, high employee productivity and appropriate employee compensation, benefits, education, and last-resort layoffs.

**8**

## Trade-off Decisions

It may be good public relations for management to declare that they run the business in the interests of all stakeholders, yet they cannot possibly make decisions that always are “best” for all stakeholders. Customers, a key stakeholder, always want lower prices, other things being equal. So, how low should the firm cut its prices? To the point of incurring losses? Or to take an extreme case, consider a local mayor who wants the CEO of a firm to improve the community (a stakeholder) by employing all the homeless people in the city.

**Maximizing shareholder value (the total market value of all the firm’s capital owners) is the appropriate decision-making criterion for corporate management.** Without this criterion there are infinite stakeholder demands, which defy analysis in any fundamentally meaningful way relevant to maximizing social well-being. Yet, maximizing shareholder value does not imply disregarding the interests of other stakeholders.

The goal of the firm might well be expressed in terms of a truly inspiring mission statement to produce uniquely valuable benefits to particular consumers. *Achieving its stated goal in an efficient manner* maximizes shareholder value. A fact often noted is that the creation of shareholder value came from motivated employees, leading-edge R&D, attention to customer needs, and the like. In other words, *how* a firm maximizes shareholder value invariably rests with efficiency in using resources in fulfilling customers’ wants over time. That the expected effects of activities on shareholder value are often difficult to quantify does not diminish the importance of this crucial economic compass.

For purposes of the win/win partnership, two points need to be very clear. First, the stake-in-the-ground support for MSV might lead some to incorrectly conclude that this implies approval of the large-scale restructurings/layoffs so frequent in the U.S. In reality, such events typically represent management failures and should no more be taken as a normal part of business as would accepting low-quality products due to inefficient manufacturing processes supervised by ineffective managers.

The second point is that employees must know about, and embrace, economic realities that (1) their long-term interests are tied to the firm’s productivity and innovation, and (2) their firm must earn, over the long term, at

least the cost of capital to remain a viable organization. If firms do not earn their cost of capital, the public's general welfare is served if those firms are starved of funds so as to prevent them from continuing their wasteful ways.

*For there to be a lasting win/win partnership, the cost-of-capital standard must be understood, and felt, by employees as a fair rule, and management must continuously demonstrate that the rule is indeed guiding their actions.*

An authentic win/win partnership between management and employees rests on continually working towards an optimum balance of high productivity and innovation with high job satisfaction for employees. Let's consider an industry that historically has had an adversarial relationship between management and employees.

During the last five years, investors in the airline industry have, on average, suffered severe losses, and large numbers of employees have been fired. A stellar exception has been Southwest Airlines, the pioneer of low-cost air travel. Its equity market capitalization now exceeds the combined equity market value of all its competitors. Under the leadership of Herb Kelleher, the firm gained a well-deserved reputation for exceptional customer service, delivered by highly motivated employees. In an interview, Kelleher talked about his views on a win/win partnership.<sup>10</sup>

When I started out, business school professors liked to pose a conundrum: Which do you put first, your employees, your customers, or your shareholders? As if that were an unanswerable question. My answer was very easy: You put your employees first. If you truly treat your employees that way, they will treat your customers well, your customers will come back, and that's what makes your shareholders happy. So there is no constituency at war with any other constituency. Ultimately, it's shareholder value that you're producing.

... We basically said to our people, there are three things that we're interested in. The lowest costs in the industry — that can't hurt you, having the lowest costs. The best customer service — that's a very important element of value. We said beyond that we're interested in intangibles — a spiritual infusion — because they are the hardest things for your competitors to replicate. The tangible things your competitors can go out and buy. But they can't buy your spirit. So it's the most powerful thing of all. p. 120

Corporate policies and management actions that imbue the firm with such a win/win culture enable employees to achieve happiness from their jobs. Over the last few decades, Mihaly Csikszentmihalyi and his colleagues have produced highly regarded analyses on people's experiences of deep enjoyment from a variety of activities and what turns out to be a remarkably similar mental state. That mental state has been labeled flow. *In Good Business: Leadership, Flow, and the Making of Meaning*, Csikszentmihalyi discusses the ingredients of job satisfaction.<sup>11</sup>

Probably the most important principle of organizational behavior that emerged from the interviews was the importance of *trust*, which is brought about by *respect*. Any group of people working toward a common goal is held together by a combination of two motives: self-interest and common interest. The former can be bought by external incentives: pay, promotion, prestige. The latter motive, common interest, must be earned through a demonstration of respect for the value of the members of the team. Workers will not place themselves at the service of a leader's vision unless they feel that the rules of the organization are fairly applied, that their contribution is recognized, and that their integrity is respected. p. 200

Beyond providing respect and a sense of common purpose, an organization that does good business is also *concerned with the personal growth of its members*. An evolving system is not static but tends toward complexity. The most obvious expression of this concern is providing opportunities for life-long education... The best way management can help motivate workers to pursue common goals and grow in the process of doing so, is by *providing opportunities for flow in the workplace*. Assuming that an appealing vision has been communicated, and trust established, then what remains to be done is to make certain that organizational behavior does not deprive workers of the enjoyment that comes naturally from being able to do one's best. To summarize briefly the essential conditions for flow to occur, they are: clear goals that can be adapted to meet changing conditions; immediate feedback to one's actions; and a matching of the challenges of the job with the worker's skills. pp. 202-203

Csikszentmihalyi's research indicates that leaders who inspire employees at all levels of the firm invariably have a passion for excellence, promote teamwork, and implant a shared vision that the firm's activities will make

the world a better place. Yet, he notes, management often fails to understand that low-level workers, like others, want to experience growth in complexity and embrace their jobs as worthwhile in their own right.

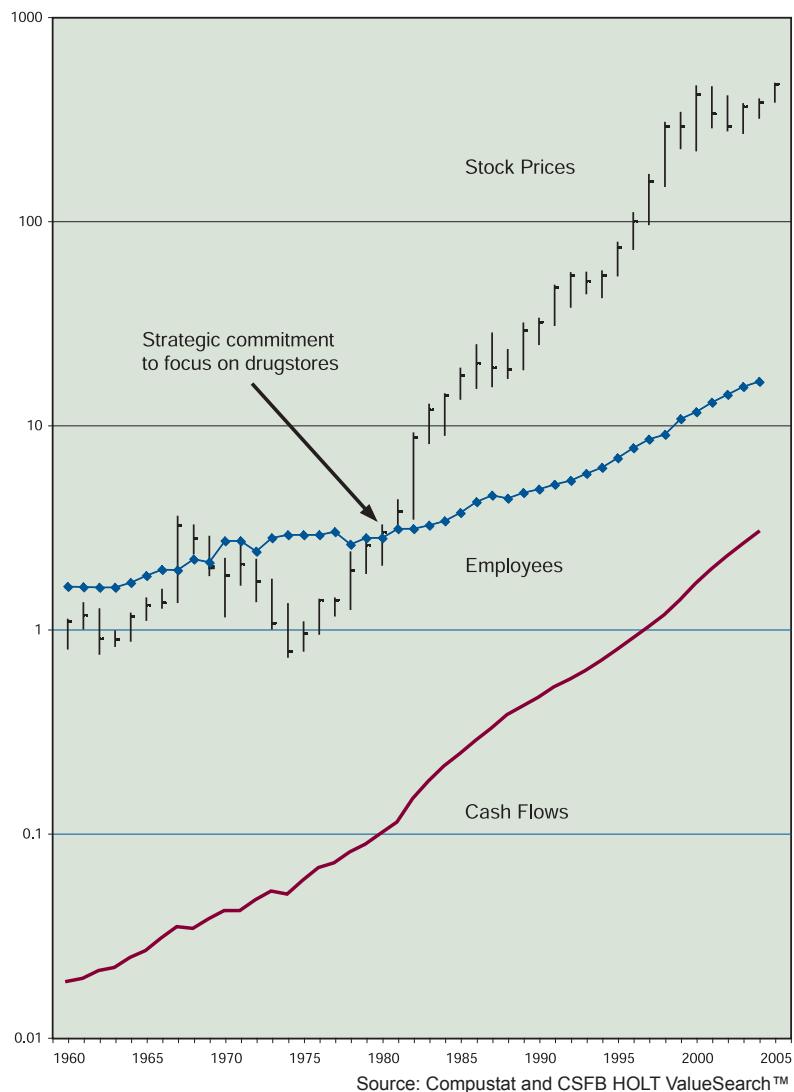
**9**

## Other Company Case Studies

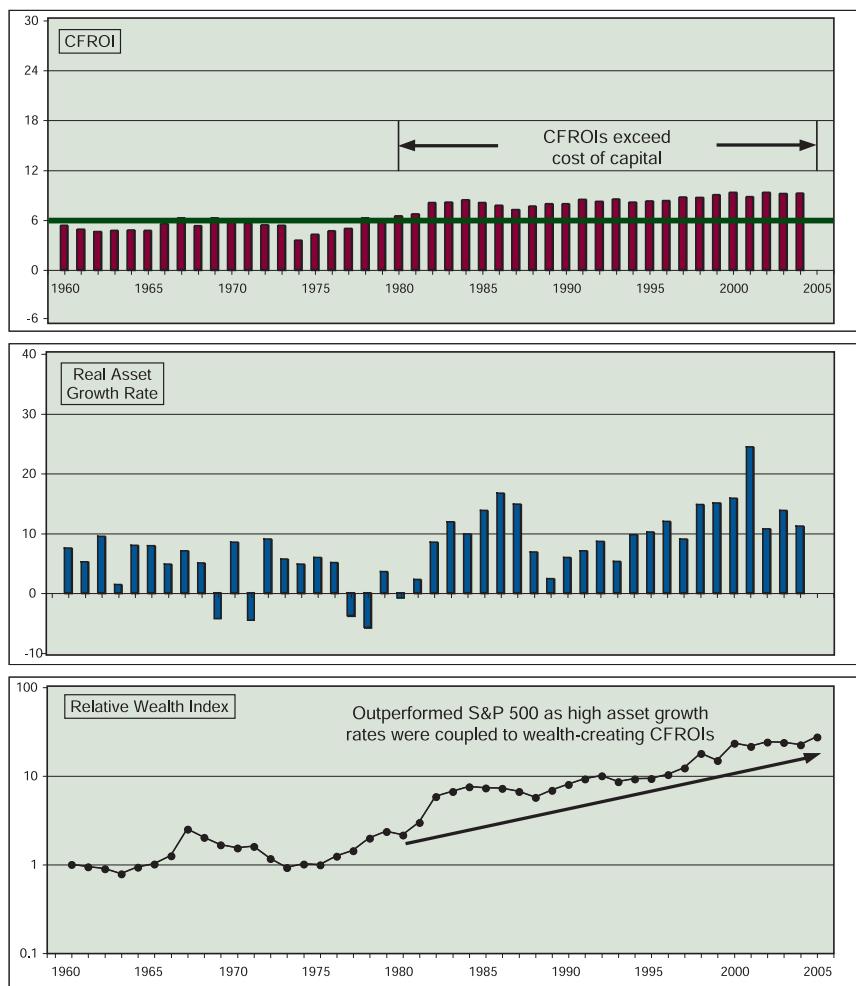
With this background, it is helpful to review other actual company track records which show different degrees of success with their strategy, organizational structure, business processes, and nurturing of a win/win partnership.

In the early 1970s, management at Walgreens made an important strategic decision to begin exiting the restaurant business and other acquired retail operations in order to specialize in drugstores. The new mission was to build drugstores in exceptionally convenient locations and seek to maximize profit per customer visit. Walgreens' operating efficiencies were complemented by innovations such as drive-thru pharmacies and a central prescription database accessible in any Walgreens' pharmacy. The large-scale expansion of essentially identical, convenient drugstores has produced a Walgreens brand that gives consumers confidence and is a reason for investors to forecast favorable fade rates for the company.<sup>12</sup>

Walgreens has a reputation for challenging capable, young people and promoting from within the company. When employees are committed to the firm's mission, and develop trust and loyalty, they stay with the firm. The 2003 Annual Report notes, "Last year, we promoted 33 district managers and 658 store managers, all from within the company. While the median age of our stores is less than five years, the average tenure of store managers is 13 years. For district managers, it's 22 and for Store Operations vice presidents, it tops 28. Such experience offers a competitive advantage that is almost impossible to replicate."

**Figure 6 Walgreens Stock Prices, Employees, and Cash Flows**

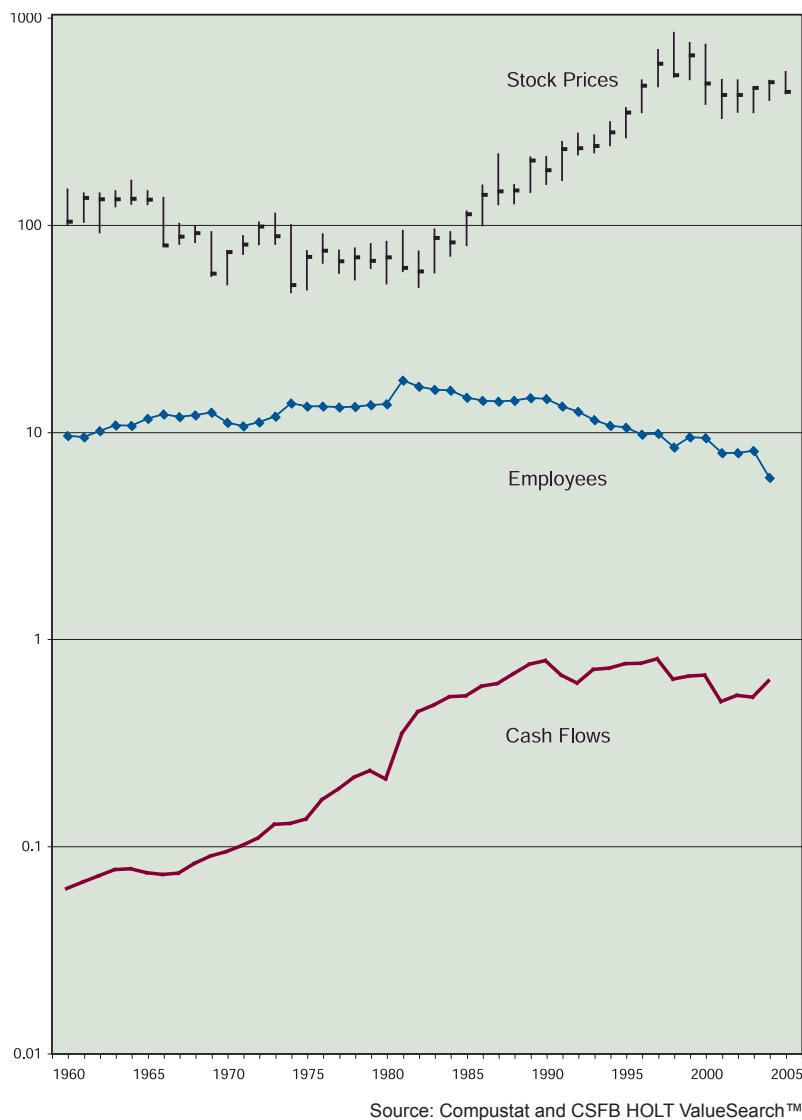
**Figure 7 Walgreens Life-cycle Performance**



Source: Compustat and CSFB HOLT ValueSearch™

In the next example, the life-cycle framework provides a sharpened lens to reveal levels and trends in economic performance for DuPont.

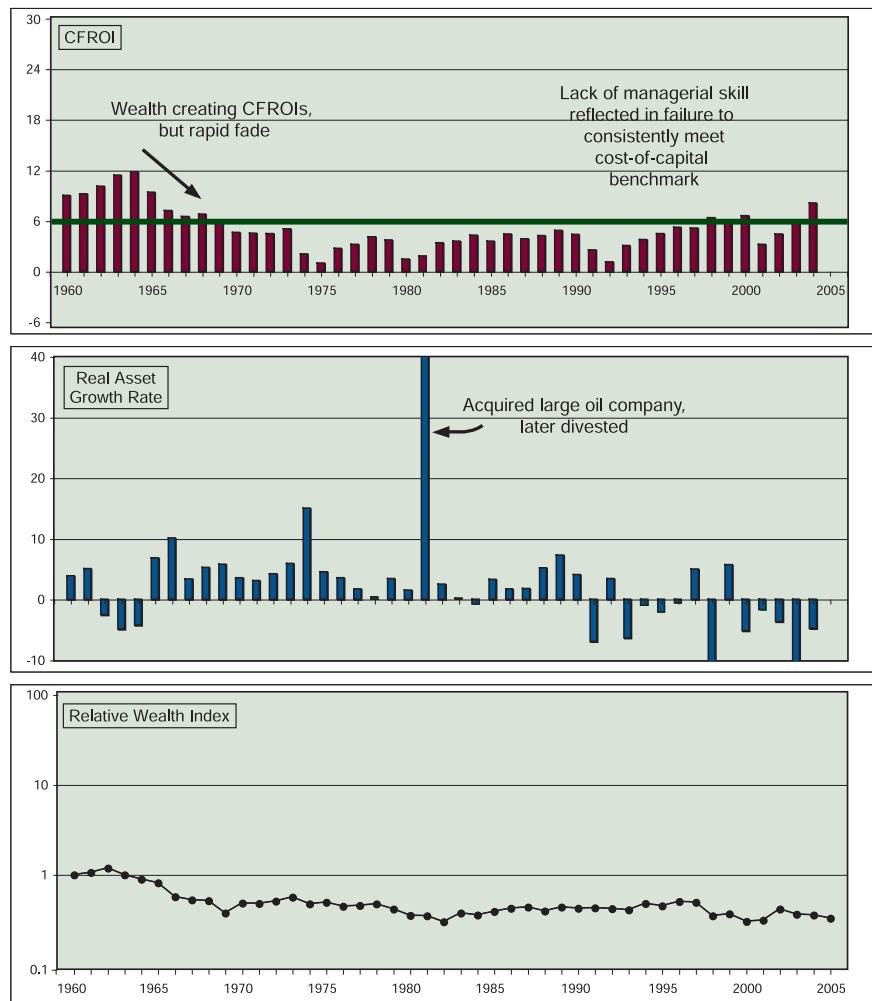
**Figure 8 DuPont Stock Prices, Employees, and Cash Flows**



Source: Compustat and CSFB HOLT ValueSearch™

DuPont's life-cycle chart begins in the early 1960s with CFROIs well above the cost of capital. Those CFROIs rapidly faded to below-cost-of-capital levels for most of the subsequent years as the large, mature firm went through a series of acquisitions and divestitures. Having purged the firm of assets tied to its chemical, energy, and drug businesses, current management has focused R&D and acquired firms in five high-tech business areas that may have substantial future growth potential.

**Figure 9 DuPont Life-cycle Performance**

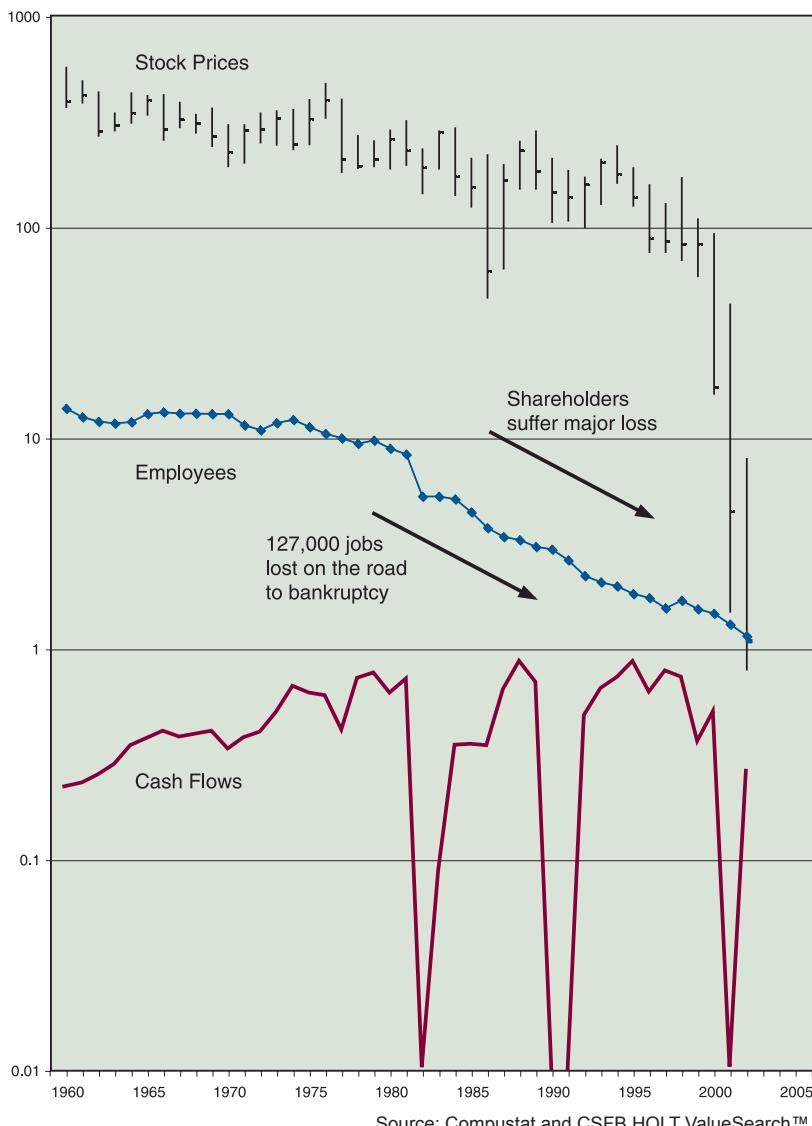


Source: Compustat and CSFB HOLT ValueSearch™

Investors can appreciate exiting businesses which were earning below-cost-of-capital CFROIs under DuPont's management. Now a critical question is: "Why not break up DuPont into five, pure-play, high-tech firms instead of relying on the asset-shuffling management culture that delivered the unsatisfactory life-cycle performance shown above?"

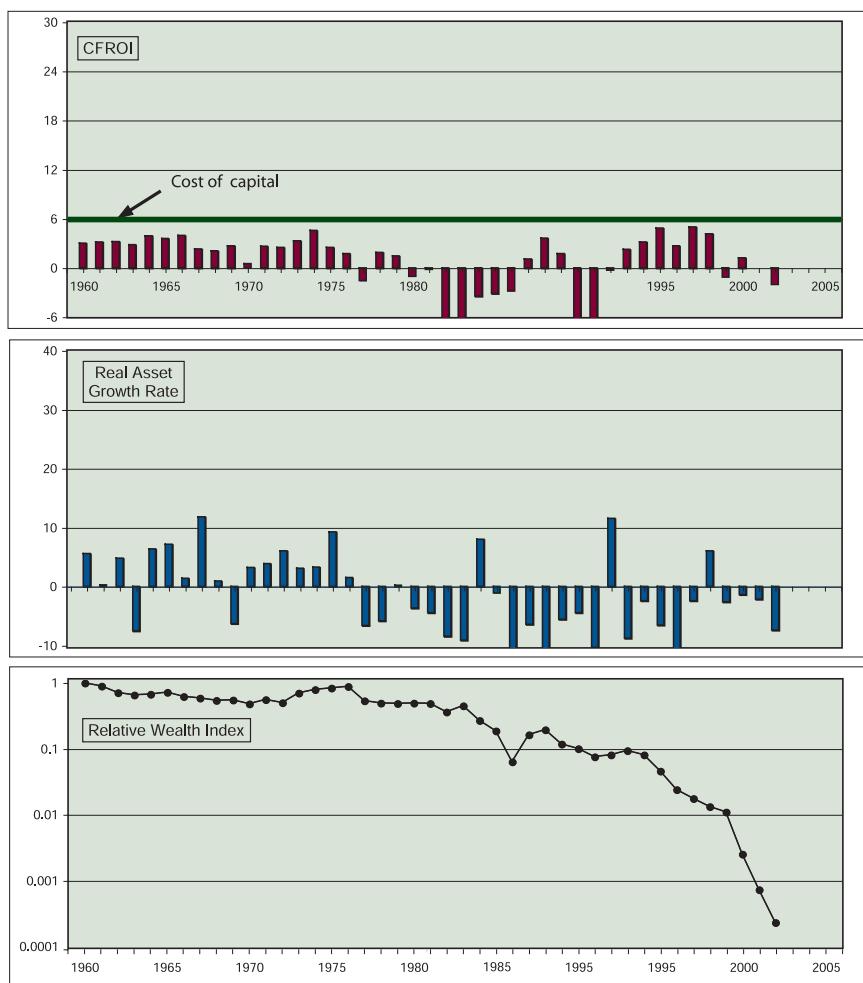
After World War II, Bethlehem Steel's large share of the steel market indicated to top management that the firm's future was bright. The firm's executives developed a country club atmosphere with extraordinarily lavish perks and a tight-knit culture disinterested in hard-nosed thinking about emergent competition, new technologies, or the lack of a viable partnership with employees. Employees had an adversarial relationship with management and negotiated ever-higher wages and benefits.<sup>13</sup>

**Figure 10 Bethlehem Steel Stock Prices, Employees, and Cash Flows**



Throughout the life-cycle years displayed below, Bethlehem Steel failed to earn the 6 percent average CFROI/cost of capital. That was a repetitively ominous sign, especially for employees concerned about long-term, job security. As time passed, foreign competitors were providing higher quality steel at lower prices. Mini-mills proved to be a highly successful disruptive technology beginning in the mid-1960s, garnering 19 percent of the North American steel market by 1975, 32 percent by 1985, with continued gains to the present day.<sup>14</sup> For decades, Bethlehem Steel was led by a series of ineffective, business-as-usual, top managements who drove the firm to bankruptcy, all the while looking to the government for protection from “unfair” foreign competition.

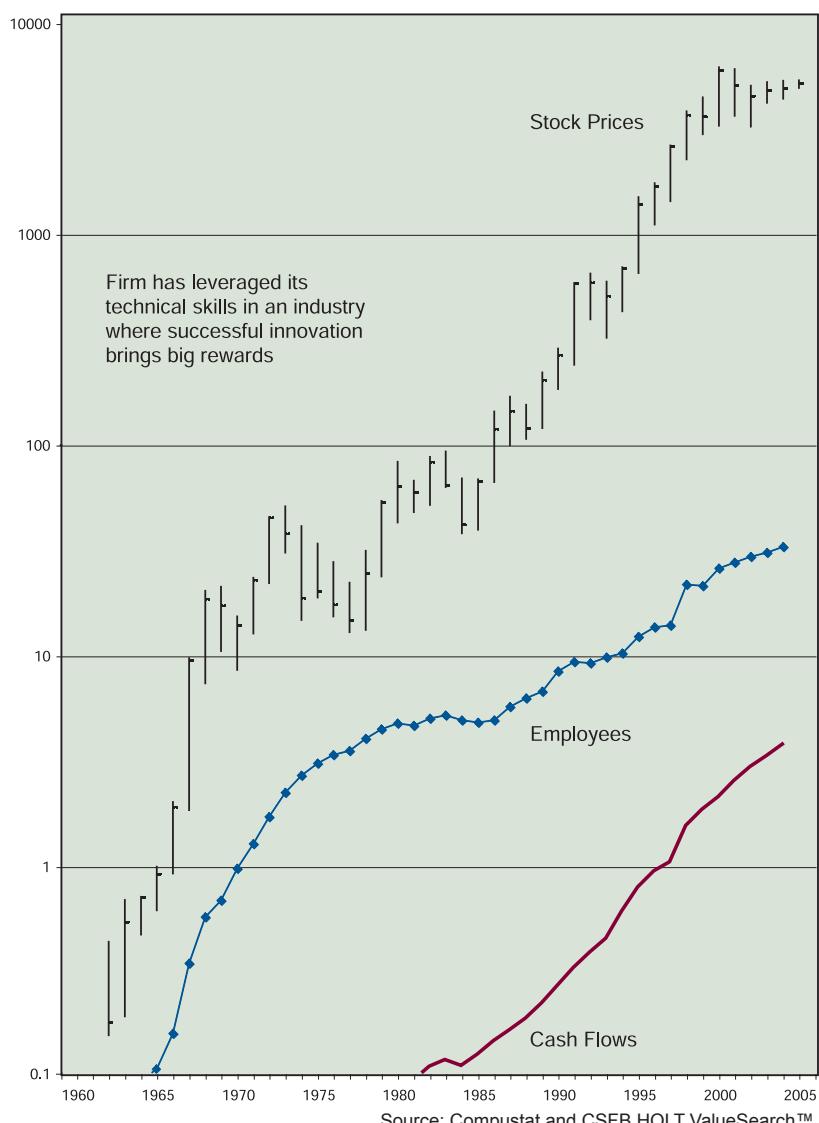
**Figure 11 Bethlehem Steel Life-cycle Performance**



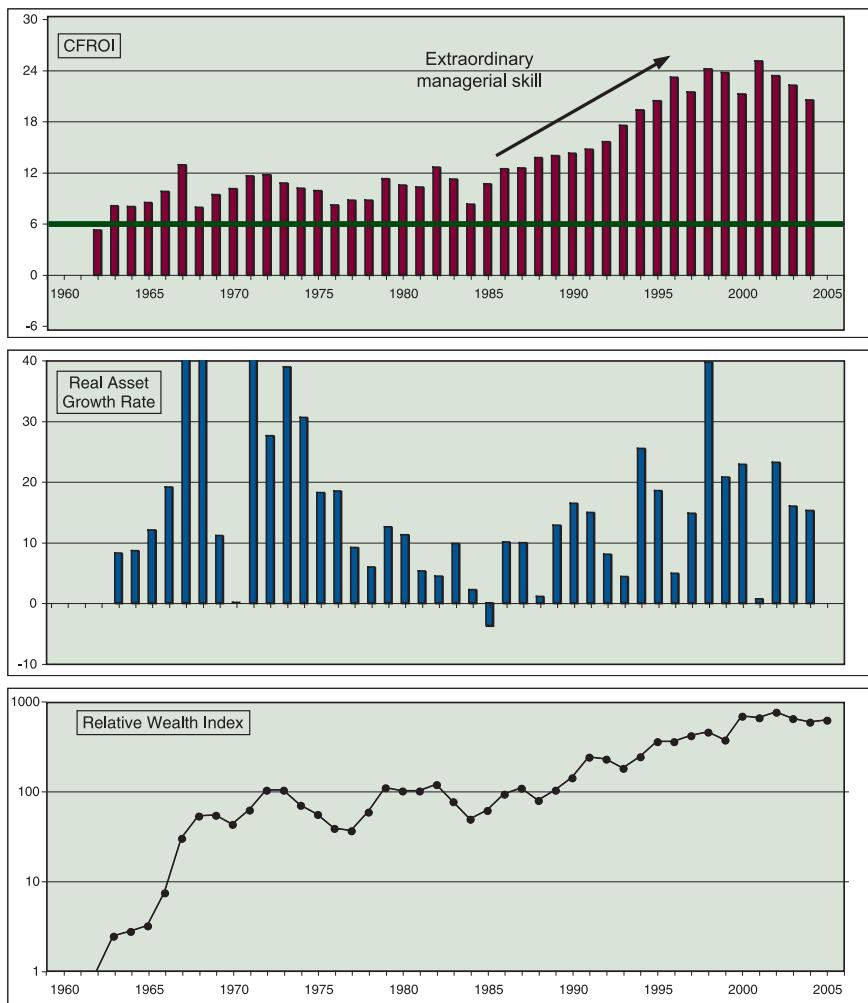
Source: Compustat and CSFB HOLT ValueSearch™

Medtronic is a medical technology company with the lion's share of the market for pacemakers and defibrillators, plus many other innovative medical products. For more than four decades, employees have had genuine opportunities to pursue happiness in fulfilling the firm's founding mission, "To contribute to human welfare by the application of biomedical engineering in the research, design, manufacture and sale of products that alleviate pain, restore health and extend life." In 1991, Bill George became CEO and took Medtronic to a remarkable new level of excellence with *upward fading* CFROIs during his tenure.

**Figure 12 Medtronic Stock Prices, Employees, and Cash Flows**



**Figure 13 Medtronic Life-cycle Performance**



Source: Compustat and CSFB HOLT ValueSearch™

Bill George summarized his management approach as follows: “The best path to long-term growth in shareholder value comes from having a well-articulated mission that inspires employee commitment. Companies that pursue that mission in a consistent and unrelenting manner will create greater shareholder value than anyone believes possible. There are simply no shortcuts to creating long-term shareholder value. Sustainable growth *cannot* be achieved by a series of short-term actions. Real value can only be created by the hard work of dedicated, motivated employees that develop innovative products and services, establish intimate customer relationships, and build organizations over an extended period of time.”<sup>15</sup>



**10**

## Overcoming Management's Quarterly Earnings Mind-set

While the above company examples are dramatic in terms of outcomes for shareholders, they are also representative of how stock prices, in general, are driven by long-term expectations of economic returns and reinvestment rates. Moreover, they constitute historical evidence that customers, employees, and shareholders have mutual interests that are well served by MSV, properly understood, as the paramount corporate decision criterion.

But management and boards are almost never exposed to analyses of the determinants of stock prices over the long term. That short-term movements in stock prices often correlate with quarterly earnings announcements has apparently led many CEOs to assume that MSV means “managing” quarterly earnings in order to receive favorable reactions from Wall Street analysts.

One might expect that CEOs would rely on their financial staffs for guidance in this important area. But recent research plainly reveals that many financial executives put top priority on managing the firm’s near-term earnings and even are willing to forego wealth-creating investments in this pursuit.<sup>16</sup>

This quarterly report mind-set runs counter to a large body of modern finance research that concludes: **In setting stock prices, knowledgeable investors make long-term forecasts of net cash receipts that are, on average, astute forecasts of managerial skill and “see through” reported accounting data to the underlying economics of the business.**<sup>17</sup> Characterizing such forecasts as astute does not deny that extreme investor optimism and pessimism can take stock prices to levels subsequently “corrected” by sharp, big moves in the opposite direction.

The free-market process is also subject to other types of human error/abuse; but there are feedback loops for correcting them. For example, the process purged untrustworthy executives from the likes of Enron, WorldCom, and Tyco and adjusted to reduce the recurrence of similar episodes. Investors also learn from errors due to over-optimism and misplaced trust. While these hard lessons don’t ensure against a repetition (scoundrels and fools being in endless supply), they do deter repetition of past mistakes, and, over time, this considerably improves the efficiency of the system.

Although CEOs and directors are ultimately responsible for maximizing shareholder value, they seldom, if ever, are exposed to valuation models, or

even to data that focuses on long-term levels of stock prices as a reflection of future economic returns and reinvestment rates. Managements and boards, by and large, do not have an adequate understanding of either the forecasting efficiency of the market, or the knowledgeable investors' attentiveness to the long-term wealth creation or dissipation potential of their management decisions. Absent this knowledge, and misled by the short-termism of in-house financial executives and Wall Street analysts, many CEOs and directors slide into acting as if MSV means maximizing quarterly accounting earnings.

Managing the firm to achieve analysts' quarterly earnings expectations can very likely impede the hard, innovative work of developing core business processes and the investing in human capital required for a sustained competitive advantage, and favorable CFROI and reinvestment fade rates. If management is "on target" with a strategy, and developing its processes, and if this is coupled with a highly trained and motivated work force, then the desired results should follow. *In particular, management should adhere to making decisions to maximize long-term shareholder value regardless of the near-term effect on quarterly earnings.*

In an effort to move management away from its allegiance to quarterly earnings, Joseph Fuller and Michael C. Jensen have argued that:<sup>18</sup>

Managers must confront the capital markets with courage and conviction. They must not collude with analysts' expectations that don't fit with their strategies and the underlying characteristics of their markets. They must not bow to analysts' demands for highly predictable earnings ... Companies do not grow in a constant fashion with each quarter's results better than the last ...They must dispel any air of unreality that settles over their stock and highlight what they cannot do as readily as they trumpet their prospects ... Managers must recognize that an overvalued stock can be damaging to the long-run health of the company, particularly when it serves as a pretext for overpriced acquisitions ... Managers must work to make their organizations far more transparent to investors ... to limit wishful thinking, managers must reconcile their own company's projections to those of the industry and their rivals' projections. p. 45

Progressive Insurance stands tall as a role-model corporation for the "radical" notion of managing to maximize long-term shareholder value while breaking the shackles of doing what it takes to meet Wall Street's quarterly EPS expectations.

The firm's treasurer recently highlighted management's philosophy:<sup>19</sup>

.. [W]e have voluntarily given up our ability to change reserves to manipulate earnings. We give complete independence to our head actuary and his staff to revise loss reserve estimates up or down as they see fit ... Our actuaries' performance evaluations are tied to how well they predict what the losses turn out to be over the following year ...[We] started this practice of monthly disclosure in the spring of 2001 by providing underwriting results — essentially operating costs and expected losses as a percentage of premiums taken in. Since then, we have expanded the scope of these disclosures so that we now release a condensed GAAP balance sheet, income statement, and earnings per share. Our investors now have access to the same operating data that management has, they have the same macroeconomic data that we do, and so they are now in a position to make their own judgments about our performance and prospects ... The volatility of our stock price relative to a broad market index has fallen sharply — by as much as 50% — since the spring of 2001.

Managements should give utmost priority to MSV and be willing to accept whatever may be the resulting volatility in quarterly earnings. But if that requires managements to change their policy to follow this recommendation, will their firms' stock prices suffer?

First, it should be noted that managements' participation in the extreme focus on short-term earnings contributes to the survival of a low-quality, Wall Street, research process. They should ask themselves, "Why should we contribute to a process that is at cross-purposes with our firms' over-arching goal of maximizing shareholder value?"

Analysts should be doing the time consuming, difficult work of understanding plausible scenarios as to firms' future, life-cycle performances. They should be analyzing and valuing these firms as if they were going to buy and operate them as owners for the foreseeable future.

As described earlier, Progressive Insurance has led the way in not dancing to Wall Street's quarterly tune, and through greater ongoing disclosure, and a clear management strategy, *reduced* its stock price volatility.

The reaction of stock prices of firms that join Progressive Insurance in breaking the quarterly earnings game can be predicted. It is highly likely that firms expected to earn less than the cost of capital will be harshly treated

with the slightest sign of quarterly under performance after announcing expanded investments. In these situations, the market is looking for signs that management is actually dealing with the key valuation issue of needing to improve economic returns. If quarterly reported earnings decline due to management actions that fundamentally change the firm's operations, and realistically can lead to improved economic returns, then near-term stock prices probably would decline little or not at all.

For highly skilled firms clearly earning economic returns in excess of the cost of capital, increased volatility in quarterly earnings, attributable to an expanded investment program, will tend to not hurt near-term stock prices, providing the reasons and underlying strategy are clearly communicated. In fact, stock prices could easily out-perform.

**II**

## Intangibles, Life-cycle Analysis, and the Future of Financial Reporting

The evolution of new requirements for financial reporting is intimately involved with MSV because of its impact on managerial decision making. Managing the firm to maximize long-term shareholder value necessitates the removal of all accounting distortions that interfere with economic decision-making that creates shareholder value.

GAAP (Generally Accepted Accounting Principles) balance sheets are overwhelmingly based on transactions for *tangible* items, such as equipment, or accounts receivable. However, expenditures by a firm for innovation (R&D, patents, business process reorganizations, information systems, brands), buildup of human capital (employee training), and many other capabilities-enhancing activities are classified as expenditures on *intangibles*.

Financial reports provide very little information on intangibles, even though they are recognized as having enormous significance in our modern, knowledge economy. A well-documented estimate puts annual U.S. expenditures for intangibles at approximately \$1 trillion.<sup>20</sup>

This is an important topic because intangibles involve knowledge-building and human capital which are tied to a win/win partnership between management and employees. Moreover, the current accounting framework will likely evolve to incorporate data on intangibles, beginning with more extensive supplementary disclosures.

**Importantly, the life-cycle valuation framework can illuminate insightful ways of thinking through and clarifying complex accounting issues.**

As background, the most comprehensive research program conducted on intangibles has been orchestrated by Baruch Lev.<sup>21</sup> He and his colleagues have provided convincing empirical evidence on the value-relevance of intangibles. One conclusion is that reported earnings for companies with substantial intangibles become distorted due to inaccurate matching of economic expenses with revenues. This makes it more difficult to analyze these firms and leads to increased investor risk and higher costs of capital (lower stock prices). Since companies with high intangibles are often at the leading edge of innovation, it is especially important for managers of those firms to effectively measure and communicate their economic performance, so that resources flow to the highest-valued uses.

From the investors' perspective, intangibles complicate the forecasting of a firm's future net cash receipt stream. Those complications impact both the evaluation of a firm's managerial skill relative to peers and the calculated values of the drivers of net cash receipts: (1) asset base, (2) economic returns (CFROIs), (3) reinvestment rates, and (4) fade rates.

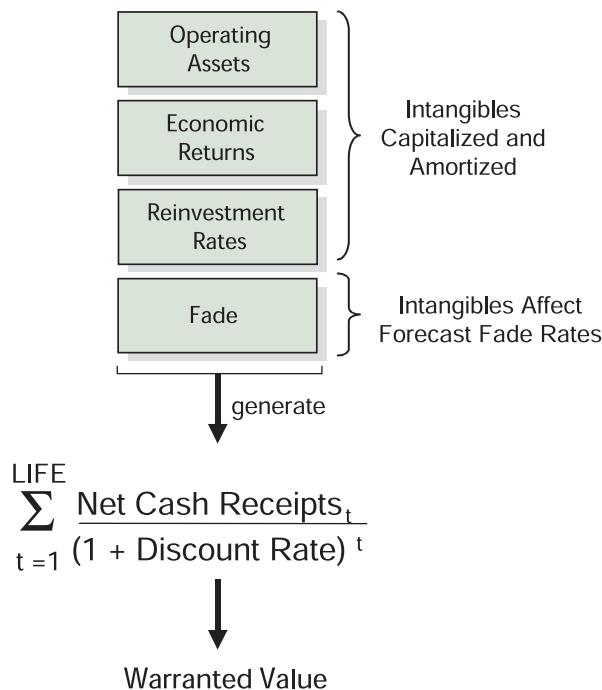
If accounting rule-makers were to endorse the provision of supplementary information on intangibles, what should be included? Lev recommends that useful disclosure would include details on: the proportion of basic R&D versus applied R&D, R&D successes and failures, patents, alliances and joint ventures, advertising, brands, trademarks, contribution of new products, current product pipeline, employee training, and organizational innovations, to name some of the possibilities.<sup>22</sup>

The accounting profession could help by advocating that firms *experiment* to learn what detailed, supplementary data are the most helpful to investors. This might require legislation to block trial lawyers from using increased disclosure to bring frivolous class-action lawsuits.

The supplementary data could eventually lead to standardized procedures for the capitalization of important intangibles as assets on a supplementary balance sheet and their amortization on a supplementary income statement. Detailed data on standardized intangibles should still accompany such reports so that sophisticated investors and analysts can develop their own ways of adjusting the raw data for use in valuation models.

Investors are challenged to decide how much "soft" information to weave into the balance sheets and income statements. That challenge can be handled by conceptually dealing with value-relevant intangibles as shown in Figure 14 on the next page.

**Figure 14 Configuring the Net Cash Receipt Drivers to Handle Intangibles**



Value relevant intangibles with a life that can reasonably be estimated are candidates for capitalization and amortization. As shown in Figure 14, they affect a firm's operating assets, economic returns, and reinvestment rates. By capitalizing such intangibles, the calculated economic returns are much more comparable, therefore improving cross-company and cross-industry performance comparisons.

Value relevant intangibles that lack a sufficient basis for estimating their useful lives, or for otherwise quantifying them, can be captured in forecasted fade rates. For example, lean manufacturing know-how might be selected as a value relevant intangible.



## 12

## The Toyota Way and the Toyota Production System

In his book, *The Toyota Way*, Jeffrey K. Liker describes Toyota's preeminent form of lean manufacturing — the Toyota Production System (TPS). Liker acknowledges that firms can boost productivity in the short term by implementing TPS tools. But long-term sustainability critically depends on what he terms the Toyota Way, which is Toyota's management commitment to invest in its people and promote a continuous-improvement culture.<sup>23</sup>

The more I studied TPS and the Toyota Way, the more I understand that it is a system designed to provide the tools for people to continually improve their work. The Toyota Way means more dependence on people, not less. It is a culture, even more than a set of efficiency and improvement techniques. You depend upon the workers to reduce inventory, identify hidden problems, and fix them. The workers have a sense of urgency, purpose, and teamwork because if they don't fix it there will be an inventory outage. On a daily basis, engineers, skilled workers, quality specialists, vendors, team leaders, and — most importantly — operators are all involved in continuous problem solving and improvement, which over time trains everyone to become better problem solvers. p. 36

Consider three manufacturing firms, A, B, and C that are identical except for how work is organized:

- Firm A combines TPS with the Toyota Way culture.
- Firm B has implemented TPS, but is missing the Toyota Way culture.
- Firm C has not yet implemented TPS and has substantial manufacturing inefficiencies.

Should the basic way manufacturing work is organized be categorized as an intangible asset? It certainly involves innovation and a business process that yields future benefits. But it is not obvious if one should alter financial statements to incorporate such a decidedly soft intangible. Yet, firms deserve sharply different market valuations for having different business processes (sometimes referred to as organizational capital).

Looking a bit deeper: Firms A and B would be more efficient than C and would likely generate higher cash flows using less resources in the future. CFROIs of A and B would be much higher than C's. Lower CFROIs for firm C contribute to a lower forecasted net cash receipt stream and thus a lower warranted value.

Next, assume that the CFROIs of A and B are currently at the same above-average level. But A's culture promotes continuous improvement, which should sustain CFROIs far better than B. The forecasted fade for A would be better, translating into a higher warranted value for A than B.

To summarize, the template of Figure 14 can guide investor thinking on how to handle intangibles, either by making no adjustment to financial statements and simply using the performance measures as usually calculated (lower CFROIs for C); or by capitalizing and amortizing intangibles (not applicable in this example); or by adjusting forecasts of company fade (better fade for A than B).

In recent decades, a widespread global recognition has emerged that the private-capital, market-based, economic system is far superior to alternative systems in generally improving the well-being of people. Yet, there remains a loud minority of critics here in the U.S. (and more so in Old Europe) who focus on the inevitable negatives associated with a changing economy, which a growing economy must be.

To more firmly secure public support for the foundational prerequisites for a free society and the continuing economic improvement of its people, false notions about the functioning of business firms (held by business executives as well as others) need to be rooted out. This monograph addressed that need by exploring the question, “Should society want firms to maximize shareholder value?”

The analysis here, relying on a life-cycle framework for analyzing how firms’ economic performance connects to market valuations, warrants the conclusion that maximizing shareholder value advances the greater good.

*The life-cycle framework is critical for getting executives to stop making decisions primarily based on meeting or exceeding short-term accounting targets and instead to focus on creating long-term shareholder value.*

With the sharper life-cycle lens by which to observe economic histories of firms; specific company track records reveal that the long-term, mutual interests of customers, employees, and shareholders are served by the “maximize shareholder value” guide for taking corporate actions. Clear, concrete examples such as Bethlehem Steel (showing economic wealth and job destruction) or Medtronic (showing economic wealth and job creation) may convince some people of this solid ground when abstract arguments about the greater good have failed.

Professional money managers have been in the forefront in implementing the life-cycle framework because it provides insights as to firms’ past economic performance, current market expectations, and plausible benchmarks for future economic performance. This analytical approach puts a premium on assessing a firm’s overall managerial skill in terms of business strategy, organizational structure, core business processes, and the degree of a win/win partnership between management and employees.

Security analysis therefore becomes more attuned to monitoring the fundamental causes of big changes in shareholder value.

Corporate management and boards of directors should follow the lead of professional money managers in using this approach and, at a minimum, develop life-cycle-type data displays to observe the long-term economic performance of their business units and overall firm. The data can also be used to compare the firm against competitors and the cost-of-capital standard.

One would expect those most responsible for wealth creation would especially benefit from a clearer understanding of what drives stock prices over the long term.

## Appendix

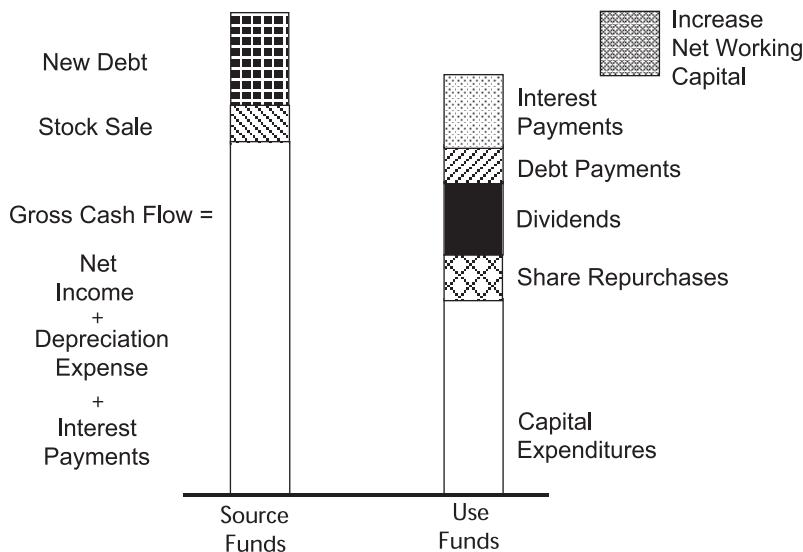
The material in this appendix summarizes the basic technical details of the CFROI framework as explained in the author's book, *CFROI Valuation – A Total System Approach To Valuing The Firm*.

### **CFROI® Primer**

The market value of a firm is based on investors' forecasts of the long-term net cash receipt (NCR) stream, discounted to present value. The long-term NCR drivers are forecasts specifying the amounts of future investments as well as the *economic returns* on these investments.

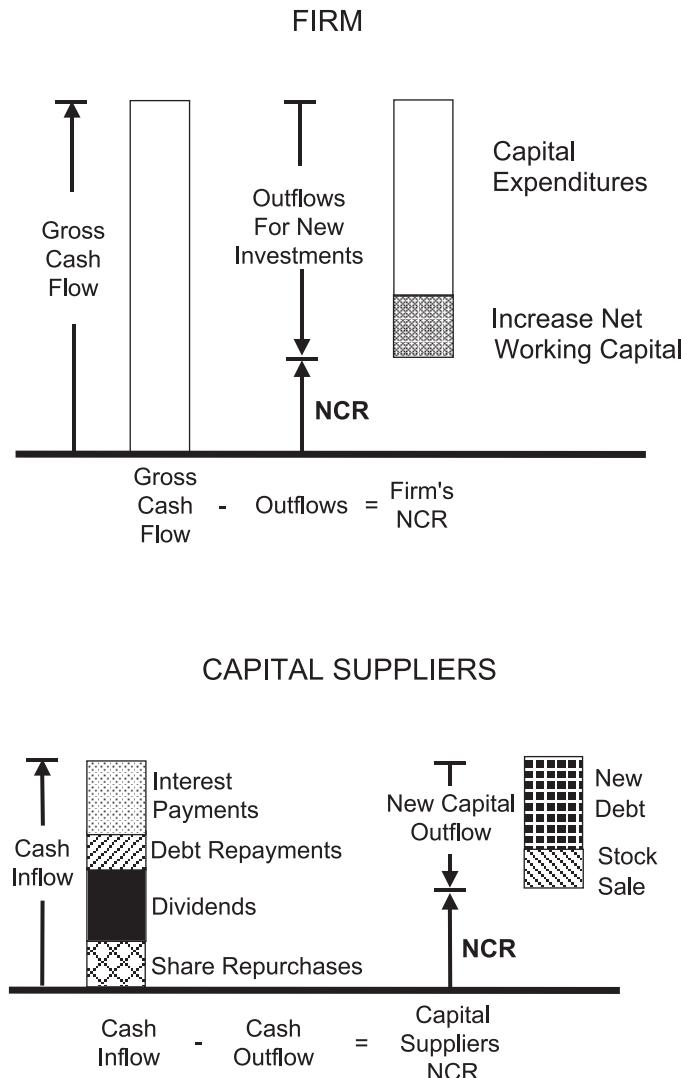
A firm's NCRs represent what the firm gets, less what it gives up. The analysis of a conventional statement of sources and uses of funds, which focuses on net working capital, helps to identify NCR both from the firm's perspective and from the capital suppliers' perspective. Figure 15 shows that the change in net working capital is the difference between sources of funds and uses of funds. Since CFROI utilizes accrual accounting to represent economic transactions, the funds statement, based on net working capital (not cash), is appropriate.

**Figure 15 Sources and Uses of Net Working Capital**



Capital suppliers, both debt and equity owners, have claims on the firm. For a non-financial firm, the standard CFROI perspective is to value the entire firm. The firm's total warranted value less debt provides the warranted equity value. The firm's NCR stream thus represents receipts to which both debt and equity suppliers have a claim.

**Figure 16 Firm's NCR Equals Capital Suppliers' NCR**



From the *firm's perspective*, NCR is gross cash flow less reinvestment which consists of gross capital expenditures and change in net working capital.

Figure 16 illustrates the important relationship that the firm's NCR is equal to the capital suppliers' NCR.

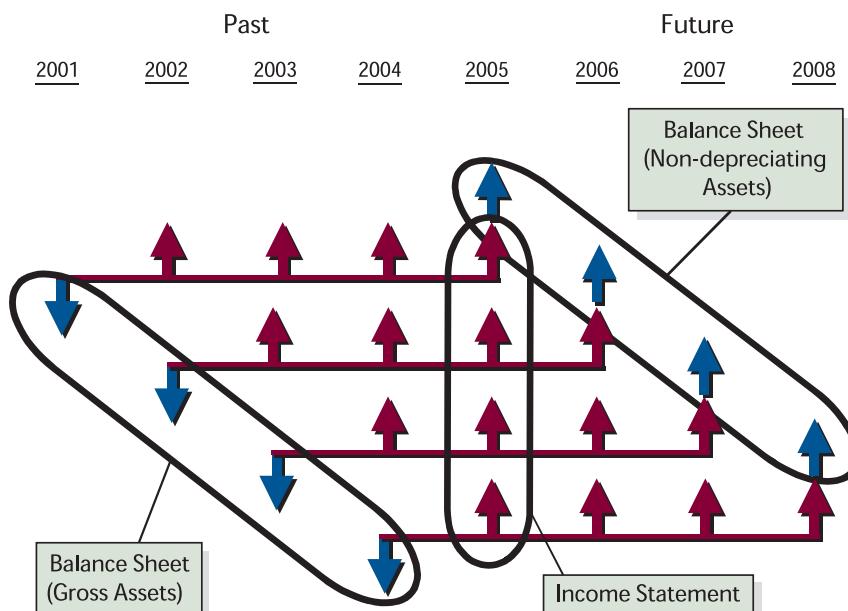
From the *capital suppliers' perspective*, cash in their pockets takes the form of interest payments, debt principal repayments, dividends, and share repurchases. The NCR of this group is these cash receipts, less new debt and less the sale of any equity shares. This NCR equality of Figure 16 is obtained by rearrangement of the sources and uses of funds (as displayed in Figure 15).

*Figure 16 demonstrates how balance sheets and income statements can be used to calculate NCRs.* Since a firm is a portfolio of on-going projects, how the economics of individual projects tie into a firm's balance sheet and income statements needs to be conceptualized.

Figure 17 illustrates how the outflows and inflows of projects are represented *cross-sectionally* in time by balance sheets and income statements.

Note that a single project is represented by a down arrow followed by up arrows in each of the subsequent four years.

**Figure 17 Firm as a Portfolio of Projects**



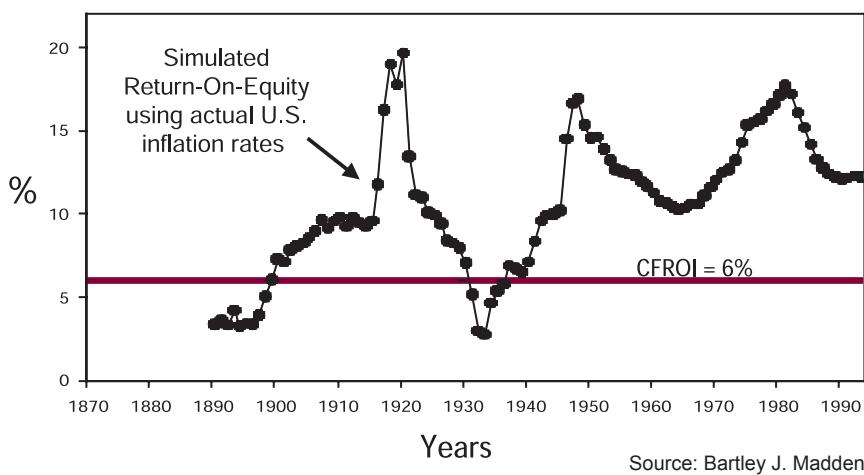
The above figure shows the financial performance for any given year represents combined results of past projects. In this example, the balance sheet and income statements are for the year 2005. The gross outlays for past project investments are shown on the balance sheet. The non-depreciating portion of gross assets is released in future years as projects come to an end.

Also illustrated in Figure 17 is that the income statement is driven by aggregate cash flows from past projects. The project ROI perspective recognizes specific elements of asset composition, including the extent of non-depreciable assets, as well as the estimated lives of depreciable assets.

*The critical importance of minimizing measurement error in calculating firms' long-term financial performance histories is seen when conventional measures of financial performance such as Return-on-Equity (ROE) are compared with CFROIs.*

Figure 18 presents simulated results of as-reported ROE for most of the 1900s that would have been calculated for a representative U.S. industrial firm specified to earn 6 percent real ROIs throughout the time period covered. The impact of actual U.S. inflation rates, coupled with historical cost accounting, can be seen in the ROE roller coaster time series ranging from 3 percent to 20 percent.

**Figure 18 A Simulated Firm Which Earns 6 Percent Real Project ROIs Repeatedly**



Source: Bartley J. Madden,  
"The CFROI Life-cycle,"  
*Journal of Investing*,  
V. 5, No. 2, 1996, exhibit 4.

Importantly, in the above figure, CFROIs, calculated from simulated, as-reported financial statements, were identical to the average project ROIs of 6 percent, showing that inflation adjustments add important information because they reduce misleading information.

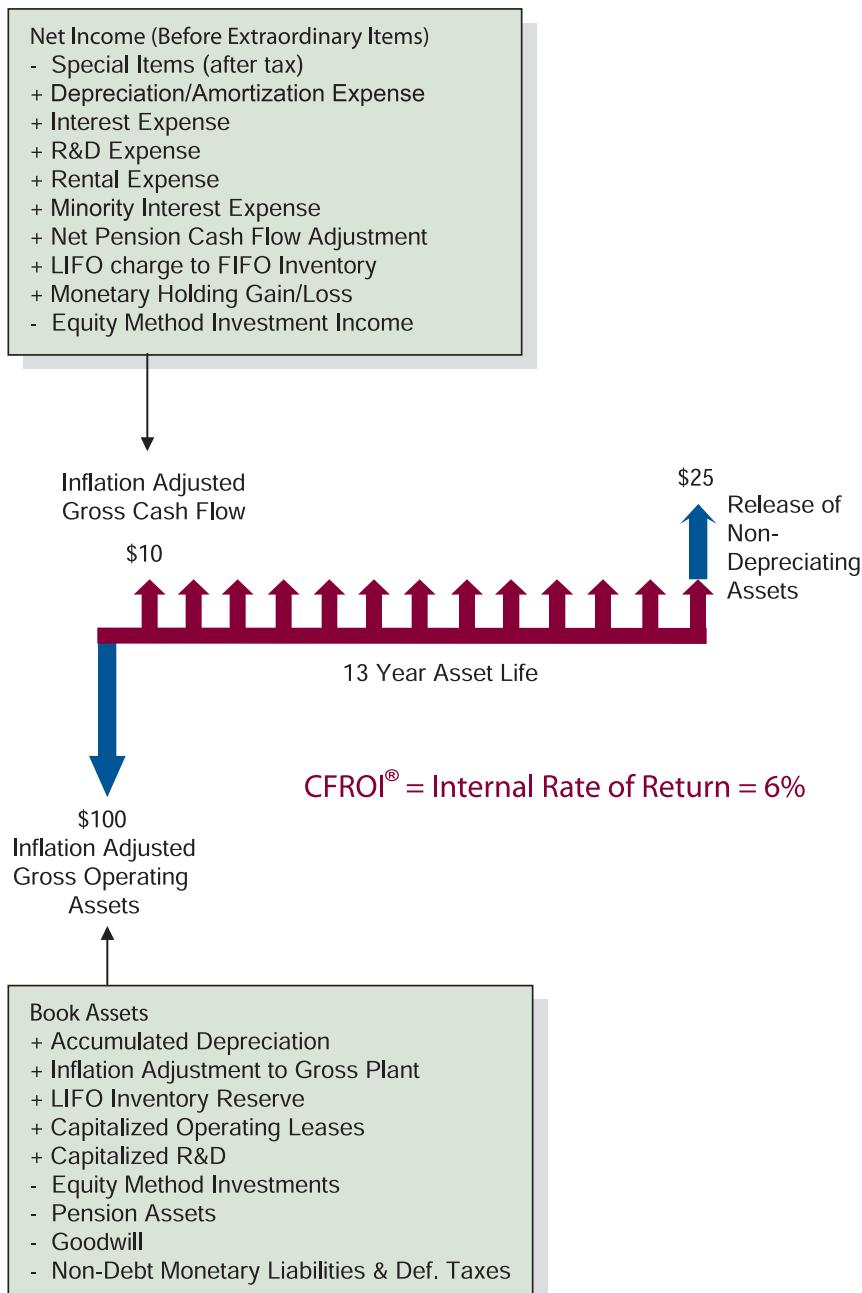
The simulation depicted in Figure 18 highlights the fundamental purpose of the CFROI metric: to translate financial statements into a cross-sectional ROI metric that, over time, reflects the approximate average ROI being achieved from a firm's portfolio of projects.

In addition to adjustments for inflation, CFROIs incorporate extensive adjustments to accounting data so that the CFROIs more closely approximate the true underlying economics of a firm's business activities. *These adjustments, in total, make CFROIs comparable across time periods with varying inflation rates and across companies, regardless of asset structure or home-country accounting conventions.*

There are four primary components to the calculation of a CFROI as shown in Figure 19 on the next page. It is important to note that depreciating and non-depreciating assets are both expressed in current dollars, the same measuring units used for gross cash flows. In Figure 19, the CFROI of 6 percent is calculated as the internal rate of return for a “project” specified as an initial investment outflow of \$100, followed by annual inflows of \$10 for each of 13 years, and a final recapture of \$25 of non-depreciating assets.

In summary, real (inflation-adjusted) CFROIs are internal rates-of-return which can be compared directly to real investors' discount rates (cost of capital) in order to gauge if the firm is creating or dissipating shareholder value. The CFROI is not a hard-wired set of calculations. It is a work-in-process research tool that improves as insights are gained about connections between firms' economic performance and reported financial statements.

**Figure 19 CFROI® Components**



## Endnotes

1. William W. Lewis, *The Power of Productivity*, Chicago: University of Chicago Press, 2004.
2. Ed Diener and Martin E. P. Seligman, "Beyond Money: Toward an Economy of Well-Being," *Psychological Science in the Public Interest*, Volume 5, no. 1, 2004, 1-31.
3. Charles Murray, *In Pursuit*, San Francisco: ICS Press, paperback, 1988.
4. See Chapters 2 and 3 of Thomas Sowell, *Basic Economics: A Citizen's Guide to the Economy*, New York: Basic Books, 2000.
5. See Chapter 5 of Bartley J. Madden, *CFROI Valuation – A Total System Approach To Valuing The Firm*, Oxford: Butterworth-Heinemann, 1999.
6. See Chapter 4 of *CFROI Valuation* and an article of mine, "CFROI Valuation, Efficient Markets, and Behavioral Finance," posted on my website, [www.LearningWhatWorks.com](http://www.LearningWhatWorks.com).
7. Louis V. Gerstner, Jr., *Who Says Elephants Can't Dance?*, New York: HarperBusiness, 2002.
8. The last year for plotted annual data was fiscal 2004 and prices ended as of June month-end 2005.
9. H. Thomas Johnson and Anders Broms, *Profit Beyond Measure*, New York: Free Press, 2000.
10. Chuck Lucier, "Herb Kelleher: The Thought Leader Interview," *Strategy + Business*, Issue 35, Summer 2004, page 120.
11. Mihaly Csikszentmihalyi, *Good Business: Leadership, Flow, and the Making of Meaning*, New York: Viking, 2003.
12. John U. Bacon, *America's Corner Store*, Hoboken, New Jersey: John Wiley & Sons, 2004.

13. John Strohmeyer, *Crisis in Bethlehem*, Bethesda, Maryland: Adler & Adler, 1986.
14. Clayton M. Christensen, *The Innovator's Dilemma*, Boston: Harvard Business School Press, 1997.
15. Bill George, *Authentic Leadership*, San Francisco: Jossey Bass, paperback, 2003, pages 62-63.
16. Graham, John Robert, Harvey, Campbell R. and Rajgopal, Shivaram, "The Economic Implications of Corporate Financial Reporting," Working Paper, September 13, 2004.
17. Joel M. Stern and Donald H. Chew, Jr., *The Revolution In Corporate Finance*, Blackwell Publishing Ltd., 2003.
18. Joseph Fuller and Michael C. Jensen, "Just Say No To Wall Street: Putting A Stop To The Earnings Game," *Journal of Applied Corporate Finance*, Volume 14, No. 4, (Winter 2002), pp. 41-46.
19. "Roundtable on Corporate Disclosure," *Journal of Applied Corporate Finance*, Vol. 16, No. 4, (Fall 2004), p 45.
20. Leonard Nakurma, "A Trillion Dollars a Year in Intangible Investment and the New Economy," Chapter 1, John Hand and Baruch Lev (editors), *Intangible Assets*, Oxford: Oxford University Press, 2003.
21. Baruch Lev, *Intangibles*, Washington, D.C.: Brookings Institution Press, 2001.
22. Baruch Lev, "What Then Must We Do?", Chapter 20, *Intangible Assets*.
23. Jeffrey K. Liker, *The Toyota Way*, New York: McGraw-Hill, 2004.