Part One

Foundations of Value

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1

Why Value Value?

Value is the defining dimension of measurement in a market economy. People invest in the expectation that when they sell, the value of each investment will have grown by a sufficient amount above its cost to compensate them for the risk they took. This is true for all types of investments, be they bonds, derivatives, bank accounts, or company shares. Indeed, in a market economy, a company's ability to create value for its shareholders and the amount of value it creates are the chief measures by which it is judged.

Value is a particularly helpful measure of performance because it takes into account the long-term interests of all the stakeholders in a company, not just the shareholders. Alternative measures are neither as long-term nor as broad. For instance, accounting earnings assess only short-term performance from the viewpoint of shareholders; measures of employee satisfaction measure just that. Value, in contrast, is relevant to all stakeholders, because according to a growing body of research, companies that maximize value for their shareholders in the long term also create more employment, treat their current and former employees better, give their customers more satisfaction, and shoulder a greater burden of corporate responsibility than more shortsighted rivals. Competition among value-focused companies also helps to ensure that capital, human capital, and natural resources are used efficiently across the economy, leading to higher living standards for everyone. For these reasons, knowledge of how companies create value and how to measure value—the subjects of this book—is vital intellectual equipment in a market economy.

In response to the economic crisis unfolding since 2007, when the U.S. housing bubble burst, several serious thinkers have argued that our ideas about market economies must change fundamentally if we are to avoid similar crises in the future. The changes they propose include more explicit regulation governing what companies and investors do, as well as new economic theories. Our view, however, is that neither regulation nor new theory will prevent future bubbles or crises. The reason is that past ones have occurred largely when

companies, investors, and governments have forgotten how investments create value, how to measure value properly, or both. The result has been confusion about which investments are creating real value—confusion that persists until value-destroying investments have triggered a crisis.

Accordingly, we believe that relearning how to create and measure value in the tried-and-true fashion is an essential step toward creating more secure economies and defending ourselves against future crises. That is why this fifth edition of *Valuation* rests on exactly the same core principles as the first.

The guiding principle of value creation is that companies create value by investing capital they raise from investors to generate future cash flows at rates of return exceeding the cost of capital (the rate investors require to be paid for the use of their capital). The faster companies can increase their revenues and deploy more capital at attractive rates of return, the more value they create. The combination of growth and return on invested capital (ROIC) relative to its cost is what drives value. Companies can sustain strong growth and high returns on invested capital only if they have a well-defined competitive advantage. This is how competitive advantage, the core concept of business strategy, links to the guiding principle of value creation.

The corollary of this guiding principle, known as the conservation of value, says anything that doesn't increase cash flows doesn't create value.[1] For example, when a company substitutes debt for equity or issues debt to repurchase shares, it changes the ownership of claims to its cash flows. However, it doesn't change the total available cash flows,[2] so in this case value is conserved, not created. Similarly, changing accounting techniques will change the appearance of cash flows without actually changing the cash flows, so it won't change the value of a company.

To the core principles, we add the empirical observation that creating sustainable value is a long-term endeavor. Competition tends to erode competitive advantages and, with them, returns on invested capital. Therefore, companies must continually seek and exploit new sources of competitive advantage if they are to create long-term value. To that end, managers must resist short-term pressure to take actions that create illusory value quickly at the expense of the real thing in the long term. Creating value for shareholders is not the same as, for example, meeting the analysts' consensus earnings forecast for the next quarter. It means balancing near-term financial performance against what it takes to develop a healthy company that can create value for decades ahead—a demanding challenge.

This book explains both the economics of value creation (for instance, how competitive advantage enables some companies to earn higher returns on invested capital than others) and the process of measuring value (for example, how to calculate return on invested capital from a company's accounting

[1] Assuming there are no changes in the company's risk profile.
[2] In Chapter 23 we show that the tax savings from debt may increase the company's cash flows.

statements). With this knowledge, companies can make wiser strategic and operating decisions, such as what businesses to own and how to make trade-offs between growth and returns on invested capital. Equally, this knowledge will enable investors to calculate the risks and returns of their investments with greater confidence.

CONSEQUENCES OF FORGETTING TO VALUE VALUE

The guiding principle of value creation—the fact that return on invested capital and growth generate value—and its corollary, the conservation of value, have stood the test of time. Alfred Marshall spoke about the return on capital relative to the cost of capital in 1890.[3] When managers, boards of directors, and investors have forgotten these simple truths, the consequences have been disastrous. The rise and fall of business conglomerates in the 1970s, hostile takeovers in the United States in the 1980s, the collapse of Japan's bubble economy in the 1990s, the Southeast Asian crisis in 1998, the Internet bubble, and the economic crisis starting in 2007 can all, to some extent, be traced to a misunderstanding or misapplication of these principles.

Market Bubbles

During the Internet bubble, managers and investors lost sight of what drove return on invested capital; indeed, many forgot the importance of this ratio entirely. When Netscape Communications went public in 1995, the company saw its market capitalization soar to $6 billion on an annual revenue base of just $85 million, an astonishing valuation. This phenomenon convinced the financial world that the Internet could change the way business was done and value created in every sector, setting off a race to create Internet-related companies and take them public. Between 1995 and 2000, more than 4,700 companies went public in the United States and Europe, many with billion-dollar-plus market capitalizations.

Many of the companies born in this era, including Amazon.com, eBay, and Yahoo!, have created and are likely to continue creating substantial profits and value. But for every solid, innovative new business idea, there were dozens of companies (including Netscape) that turned out to have nothing like the same ability to generate revenue or value in either the short or the long term. The initial stock market success of these flimsy companies represented a triumph of hype over experience.

Many executives and investors either forgot or threw out fundamental rules of economics in the rarefied air of the Internet revolution. Consider the concept of *increasing returns to scale*, also known as "network effects" or

[3] A. Marshall, *Principles of Economics*, vol. 1 (New York: Macmillan, 1890), 142.

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"demand-side economies of scale." The idea enjoyed great popularity during the 1990s after Carl Shapiro and Hal Varian, professors at the University of California–Berkeley, described it in a book titled *Information Rules: A Strategic Guide to the Network Economy*.[4]

The basic idea is this: In certain situations, as companies get bigger, they can earn higher margins and return on capital because their product becomes more valuable with each new customer. In most industries, competition forces returns back to reasonable levels. But in increasing-returns industries, competition is kept at bay by the low and decreasing unit costs of the market leader (hence the tag "winner takes all" for this kind of industry).

Take Microsoft's Office software, a product that provides word processing, spreadsheets, and graphics. As the installed base of Office users expands, it becomes ever more attractive for new customers to use Office for these tasks, because they can share their documents, calculations, and images with so many others. Potential customers become increasingly unwilling to purchase and use competing products. Because of this advantage, Microsoft made profit margins of more than 60 percent and earned operating profits of approximately $12 billion on Office software in 2009, making it one of the most profitable products of all time.

As Microsoft's experience illustrates, the concept of increasing returns to scale is sound economics. What was unsound during the Internet era was its misapplication to almost every product and service related to the Internet. At that time, the concept was misinterpreted to mean that merely getting big faster than your competitors in a given market would result in enormous profits. To illustrate, some analysts applied the idea to mobile-phone service providers, even though mobile customers can and do easily switch providers, forcing the providers to compete largely on price. With no sustainable competitive advantage, mobile-phone service providers were unlikely ever to earn the 45 percent returns on invested capital that were projected for them. Increasing-returns logic was also applied to Internet grocery delivery services, even though these firms had to invest (unsustainably, eventually) in more drivers, trucks, warehouses, and inventory when their customer base grew.

The history of innovation shows how difficult it is to earn monopoly-sized returns on capital for any length of time except in very special circumstances. That did not matter to commentators who ignored history in their indiscriminate recommendation of Internet stocks. The Internet bubble left a sorry trail of intellectual shortcuts taken to justify absurd prices for technology company shares. Those who questioned the new economics were branded as people who simply "didn't get it"—the new-economy equivalents of defenders of Ptolemaic astronomy.

[4] C. Shapiro and H. Varian, *Information Rules: A Strategic Guide to the Network Economy* (Boston: Harvard Business School Press, 1999).

P1: OTA/XYZ P2: ABC
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When the laws of economics prevailed, as they always do, it was clear that many Internet businesses, including online pet food sales and grocery delivery companies, did not have the unassailable competitive advantages required to earn even modest returns on invested capital. The Internet has revolutionized the economy, as have other innovations, but it did not and could not render obsolete the rules of economics, competition, and value creation.

Financial Crises

Behind the more recent financial and economic crises beginning in 2007 lies the fact that banks and investors forgot the principle of the conservation of value. Let's see how. First, individuals and speculators bought homes—illiquid assets, meaning they take a while to sell. They took out mortgages on which the interest was set at artificially low teaser rates for the first few years but rose substantially when the teaser rates expired and the required principal payments kicked in. In these transactions, the lender and buyer knew the buyer couldn't afford the mortgage payments after the teaser period ended. But both assumed either that the buyer's income would grow by enough to make the new payments or that the house value would increase enough to induce a new lender to refinance the mortgage at similar, low teaser rates.

Banks packaged these high-risk debts into long-term securities and sold them to investors. The securities, too, were not very liquid, but the investors who bought them—typically other banks and hedge funds—used short-term debt to finance the purchase, thus creating a long-term risk for whoever lent them the money.

When the interest rate on the home buyers' adjustable-rate debt increased, many could no longer afford the payments. Reflecting their distress, the real estate market crashed, pushing the values of many homes below the values of loans taken out to buy them. At that point, homeowners could neither make the required payments nor sell their houses. Seeing this, the banks that had issued short-term loans to investors in securities backed by mortgages became unwilling to roll over those loans, prompting the investors to sell all such securities at once. The value of the securities plummeted. Finally, many of the large banks themselves owned these securities, which they, of course, had also financed with short-term debt they could no longer roll over.

This story reveals two fundamental flaws in the decisions made by participants in the securitized mortgage market. They assumed that securitizing risky home loans made the loans more valuable because it reduced the risk of the assets. This violates the conservation of value rule. The aggregated cash flows of the home loans were not increased by securitization, so no value was created, and the initial risks remained. Securitizing the assets simply enabled their risks to be passed on to other owners: some investors, somewhere, had to be holding them. Yet the complexity of the chain of securities made it impossible to know who was holding precisely which risks. After the housing

market turned, financial-services companies feared that any of their counterparties could be holding massive risks and almost ceased to do business with one another. This was the start of the credit crunch that triggered a recession in the real economy.

The second flaw was to believe that using leverage to make an investment in itself creates value. It does not, because—referring once again to the conservation of value—it does not increase the cash flows from an investment. Many banks used large amounts of short-term debt to fund their illiquid long-term assets. This debt did not create long-term value for shareholders in those banks. On the contrary, it increased the risks of holding their equity.

Financial crises and excessive leverage As many economic historians have described, aggressive use of leverage is the theme that links most major financial crises. The pattern is always the same: Companies, banks, or investors use short-term debt to buy long-lived, illiquid assets. Typically some event triggers unwillingness among lenders to refinance the short-term debt when it falls due. Since the borrowers don't have enough cash on hand to repay the short-term debt, they must sell some of their assets. The assets are illiquid, and other borrowers are trying to do the same, so the price each borrower can realize is too low to repay the debt. In other words, the borrower's assets and liabilities are mismatched.

In the past 30 years, the world has seen at least six financial crises that arose largely because companies and banks were financing illiquid assets with short-term debt. In the United States in the 1980s, savings and loan institutions funded an aggressive expansion with short-term debt and deposits. When it became clear that these institutions' investments (typically real estate) were worth less than their liabilities, lenders and depositors refused to lend more to them. In 1989, the U.S. government bailed out the industry.

In the mid-1990s, the fast-growing economies in East Asia, including Thailand, South Korea, and Indonesia, fueled their investments in illiquid industrial property, plant, and equipment with short-term debt, often denominated in U.S. dollars. When global interest rates rose and it became clear that the East Asian companies had built too much capacity, those companies were unable to repay or refinance their debt. The ensuing crisis destabilized local economies and damaged foreign investors.

Other financial crises fueled by too much short-term debt have included the Russian government default and the collapse of the U.S. hedge fund Long-Term Capital Management, both in 1998; the U.S. commercial real estate crisis in the early 1990s; and the Japanese financial crisis that began in 1990 and, according to some, continues to this day.

Market bubbles and crashes are painfully disruptive, but we don't need to rewrite the rules of competition and finance to understand and avoid them. Certainly the Internet has changed the way we shop and communicate. But it has not created a "New Economy," as the 1990s catchphrase went. On the

P1: OTA/XYZ P2: ABC
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contrary, it has made information, especially about prices, transparent in a way that intensifies old-style market competition in many real markets. Similarly, the financial crisis triggered in 2007 will wring out some of the economy's recent excesses, such as people buying houses they can't afford and uncontrolled credit card borrowing by consumers. But the key to avoiding the next crisis is to reassert the fundamental economic rules, not to revise them. If investors and lenders value their investments and loans according to the guiding principle of value creation and its corollary, prices for both kinds of assets will reflect the real risks underlying the transactions.

Financial crises and equity markets Contrary to popular opinion, stock markets generally continue to reflect companies' intrinsic value during financial crises. For instance, after the 2007 crisis had started in the credit markets, equity markets too came in for criticism. In October 2008, a *New York Times* editorial thundered, "What's been going on in the stock market hardly fits canonical notions of rationality. In the last month or so, shares in Bank of America plunged to $26, bounced to $37, slid to $30, rebounded to $38, plummeted to $20, sprung above $26 and skidded back to almost $24. Evidently, people don't have a clue what Bank of America is worth."[5] Far from showing that the equity market was broken, however, this example points up the fundamental difference between the equity markets and the credit markets. The critical difference is that investors could easily trade shares of Bank of America on the equity markets, whereas credit markets (with the possible exception of the government bond market) are not nearly as liquid. This is why economic crises typically stem from excesses in credit rather than equity markets.

The two types of markets operate very differently. Equities are highly liquid because they trade on organized exchanges with many buyers and sellers for a relatively small number of securities. In contrast, there are many more debt securities than equities because there are often multiple debt instruments for each company and even more derivatives, many of which are not standardized. The result is a proliferation of small, illiquid credit markets. Furthermore, much debt doesn't trade at all. For example, short-term loans between banks and from banks to hedge funds are one-to-one transactions that are difficult to buy or sell. Illiquidity leads to frozen markets where no one will trade or where prices fall to levels far below a level that reflects a reasonable economic value. Simply put, illiquid markets cease to function as markets at all.

During the credit crisis beginning in 2007, prices on the equity markets became volatile, but they operated normally for the most part. The volatility reflected the uncertainty hanging over the real economy. (See Chapter 17 for more on volatility.) The S&P 500 index traded between 1,200 and 1,400 from January to September 2008. In October, upon the collapse of U.S. investment bank Lehman Brothers and the U.S. government takeover of the insurance

[5] Eduardo Porter, "The Lion, the Bull and the Bears," *New York Times*, October 17, 2008.

P1: OTA/XYZ P2: ABC
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company American International Group (AIG), the index began its slide to a trading range of 800 to 900. But that drop of about 30 percent was not surprising given the uncertainty about the financial system, the availability of credit, and their impact on the real economy. Moreover, the 30 percent drop in the index was equivalent to an increase in the cost of equity of only about 1 percent,[6] reflecting investors' sense of the scale of increase in the risk of investing in equities generally.

There was a brief period of extreme equity market activity in March 2009, when the S&P 500 index dropped from 800 to 700 and rose back to 800 in less than one month. Many investors were apparently sitting on the market sidelines, waiting until the market hit bottom. The moment the index dropped below 700 seemed to trigger their return. From there, the market began a steady increase to about 1,100 in December 2009. Our research suggests that a long-term trend value for the S&P 500 index would have been in the 1,100 to 1,300 range at that time, a reasonable reflection of the real value of equities.

In hindsight, the behavior of the equity market has not been unreasonable. It actually functioned quite well in the sense that trading continued and price changes were not out of line with what was going on in the economy. True, the equity markets did not *predict* the economic crisis. However, a look at previous recessions shows that the equity markets rarely predict inflection points in the economy.[7]

BENEFITS OF FOCUSING ON LONG-TERM VALUE

There has long been vigorous debate on the importance of shareholder value relative to other measures of a company's success, such as its record on employment, social responsibility, and the environment. In their ideology and legal frameworks, the United States and the United Kingdom have given most weight to the idea that the objective function of the corporation is to maximize shareholder value, because shareholders are the owners of the corporation who elect the board of directors to represent their interests in managing the corporation's development. In continental Europe, an explicitly broader view of the objectives of business organizations has long been more influential. In many cases, this is embedded in the governance structures of the corporate form of organization. In the Netherlands and Germany, for example, the board of a large corporation has a duty to support the continuity of the business and to do that in the interests of all the corporation's stakeholders, including employees and the local community, not just its shareholders. Similar philosophies underpin corporate governance in other continental European countries.

[6] Richard Dobbs, Bin Jiang, and Timothy Koller, "Why the Crisis Hasn't Shaken the Cost of Capital," *McKinsey on Finance*, no. 30 (Winter 2009): 26–30.
[7] Richard Dobbs and Timothy Koller, "The Crisis: Timing Strategic Moves," *McKinsey on Finance*, no. 31 (Spring 2009): 1–5.

P1: OTA/XYZ P2: ABC
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In much of Asia, company boards are more likely than in the United States and Europe to be controlled by family members, and they are the stakeholders whose interests will set the direction of those companies.

Our analysis and experience suggest that for most companies anywhere in the world, pursuing the creation of long-term shareholder value does not cause other stakeholders to suffer. We would go further and argue that companies dedicated to value creation are more robust and build stronger economies, higher living standards, and more opportunities for individuals.

Consider employee stakeholders. A company that tries to boost profits by providing a shabby work environment, underpaying employees, and skimping on benefits will have trouble attracting and retaining high-quality employees. With today's more mobile and more educated workforce, such a company would struggle in the long term against competitors offering more attractive environments. While it may feel good to treat people well, it is also good business.

Value-creating companies also create more jobs. When examining employment, we found that the U.S. and European companies that created the most shareholder value in the past 15 years have shown stronger employment growth. In Exhibit 1.1, companies with the highest total returns to shareholders (TRS) also had the largest increases in employment. We tested this link within individual sectors of the economy and found similar results.

An often-expressed concern is that companies that emphasize creating value for shareholders have a short time horizon that is overly focused on accounting earnings rather than revenue growth and return on invested capital. We disagree. We have found a strong positive correlation between long-term shareholder returns and investments in research and development

EXHIBIT 1.1 **Correlation between Total Returns to Shareholders (TRS) and Employment Growth**

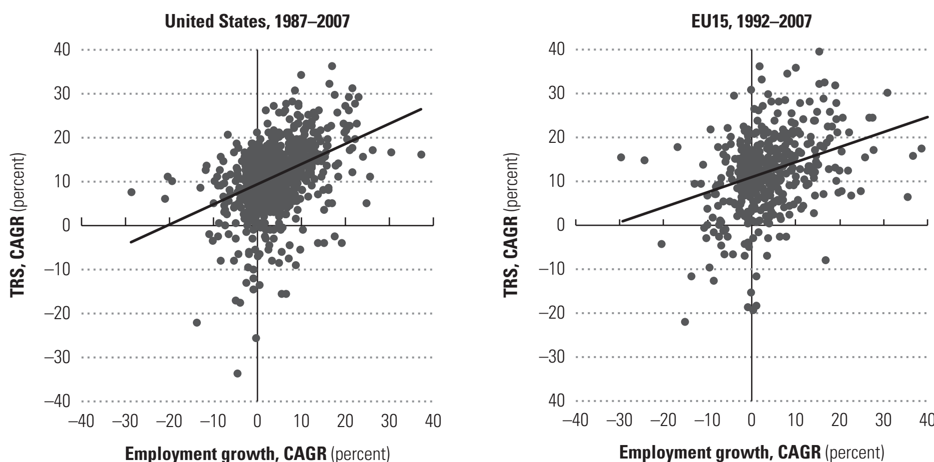
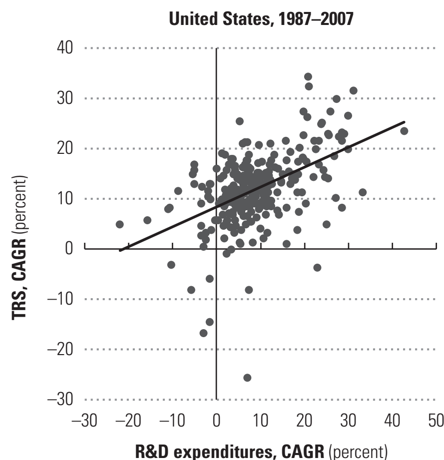


EXHIBIT 1.2 **Correlation between TRS and R&D Expenditures**



(R&D)—evidence of a commitment to creating value in the longer term. As shown in Exhibit 1.2, companies that earned the highest shareholder returns also invested the most in R&D. These results also hold within individual sectors in the economy.

Companies that create value also tend to show a greater commitment to meeting their social responsibilities. Our research shows that many of the corporate social responsibility initiatives that companies take can help them create shareholder value.[8] For example, IBM provides free Web-based resources on business management to small and midsize enterprises in developing economies. Helping build such businesses not only improves IBM's reputation and relationships in new markets, but also helps it develop relationships with companies that could become future customers. And Best Buy has undertaken a targeted effort to reduce employee turnover among women. The program has helped women create their own support networks and build leadership skills. As a result of the program, turnover among female employees decreased by more than 5 percent.

CHALLENGES OF FOCUSING ON LONG-TERM VALUE

Focusing on return on invested capital and revenue growth over the long term is a tough job for executives. They can't be expected to take it on unless they are sure it wins them more investor support and a stronger share price. But as later chapters will show, the evidence is overwhelming that investors

[8] Sheila Bonini, Timothy Koller, and Philip H. Mirvis, "Valuing Social Responsibility Programs," *McKinsey on Finance*, no. 32 (Summer 2009): 11–18.

do indeed value long-term cash flow, growth, and return on invested capital, and companies that perform well on those measures perform well in the stock market. The evidence also supports the corollary: companies that fail to create value over the long term do less well in the stock market.

Yet despite the evidence that shareholders value value, companies continue to listen to misguided supposed truths about what the market wants and fall for the illusion of the free lunch—hoping, for example, that one accounting treatment will lead to a higher value than another, or some fancy financial structure or improvement in earnings per share will turn a mediocre deal into a winner.

To illustrate, when analyzing a prospective acquisition, the question most frequently posed is whether the transaction will dilute earnings per share (EPS) over the first year or two. Given the popularity of EPS as a yardstick for company decisions, you would think that a predicted improvement in EPS would be an important indicator of whether the acquisition was actually likely to create value. However, there is no empirical evidence linking an increased EPS with the value created by a transaction (see Chapter 21 for the evidence). Deals that strengthen EPS and deals that dilute EPS are equally likely to create or destroy value.

If such fallacies have no impact on value, why do they prevail? We recently participated in a discussion with a company pursuing a major acquisition and its bankers about whether the earnings dilution likely to result from the deal was important. To paraphrase one of the bankers, "We know that any impact on EPS is irrelevant to value, but we use it as a simple way to communicate with boards of directors."

Yet company executives say they, too, don't believe the impact on EPS is so important. They tell us they are just using the measures the Street uses. Investors also tell us that a deal's short-term impact on EPS is not that important for them. In sum, we hear from almost everyone we talk to that a transaction's short-term impact on EPS does not matter, yet they all pay attention to it.

As a result of their focus on short-term EPS, major companies not infrequently pass up value-creating opportunities. In a survey of 400 CFOs, two Duke University professors found that fully 80 percent of the CFOs said they would reduce discretionary spending on potentially value-creating activities such as marketing and R&D in order to meet their short-term earnings targets.[9] In addition, 39 percent said they would give discounts to customers to make purchases this quarter rather than next, in order to hit quarterly EPS targets. Such biases shortchange all stakeholders.

From 1997 to 2003, a leading company consistently generated annual EPS growth of between 11 percent and 16 percent. That seems impressive until you look at measures more important to value creation, like revenue growth.

[9] John R. Graham, Cam Harvey, and Shiva Rajgopal, "The Economic Implications of Corporate Financial Reporting," *Journal of Accounting and Economics* 40 (2005): 3–73.

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During the same period, the company increased revenues by only 2 percent a year. It achieved its profit growth by cutting costs, usually a good thing, and the cost cutting certainly did produce productivity improvements in the earlier years. However, as opportunities for those ran out, the company turned to reductions in marketing and product development to maintain its earnings growth. In 2003, its managers admitted they had underinvested in products and marketing and needed to go through a painful period of rebuilding, and the stock price fell.

The pressure to show strong short-term results often mounts when businesses start to mature and see their growth begin to moderate. Investors go on baying for high growth. Managers are tempted to find ways to keep profits rising in the short term while they try to stimulate longer-term growth. However, any short-term efforts to massage earnings that undercut productive investment make achieving long-term growth even more difficult, spawning a vicious circle.

Some analysts and some irrational investors will always clamor for short-term results. However, even though a company bent on growing long-term value will not be able to meet their demands all of the time, this continuous pressure has the virtue of keeping managers on their toes. Sorting out the trade-offs between short-term earnings and long-term value creation is part of a manager's job, just as having the courage to make the right call is a critical personal quality. Perhaps even more important, it is up to corporate boards to investigate and understand the economics of the businesses in their portfolio well enough to judge when managers are making the right trade-offs and, above all, to protect managers when they choose to build long-term value at the expense of short-term profits.

Applying the principles of value creation sometimes means going against the crowd. It means accepting that there are no free lunches. It means relying on data, thoughtful analysis, and a deep understanding of the competitive dynamics of your industry. We hope this book provides readers with the knowledge to help them make and defend decisions that will create value for investors and for society at large throughout their careers.