Morgan Stanley

Journal of Applied Corporate Finance

SUMMER 1992 VOLUME 5.2

Capital Choices: Changing the Way America Invests in Industry

by Michael E. Porter,
Harvard Business School

CAPITAL CHOICES: CHANGING THE WAY AMERICA INVESTS IN INDUSTRY

*by Michael E. Porter, Harvard Business School**

The Project on Capital Choices*, sponsored by the Harvard Business School and the Council on Competitiveness, initially set out to determine the extent to which the competitiveness of American industry is being undermined by a short time horizon. The project has since evolved into a broader examination of how private capital is allocated in the United States, Japan, and Germany and an assessment of the relative effectiveness of the American corporate governance system. Eighteen research papers were prepared by 25 prominent scholars in a wide range of disciplines. Professor Porter's paper, from which the following article is excerpted, develops an overall framework for understanding national investment systems and their consequences, drawing on the project papers and his own research. The complete paper is available through the Council on Competitiveness. A book containing all the project papers will be published by the Harvard Business School Press.*

To compete effectively in international markets, companies must continuously innovate and upgrade their competitive advantages. This requires sustained investment in a wide variety of forms, including not only physical assets but also intangible assets such as R&D, employee training and skills development, information systems, organizational development, and close supplier relationships. Today, the changing nature of competition and the increasing pressure of globalization make investment the most critical determinant of competitive advantage.

Yet the U.S. system of allocating investment capital both within and across companies appears to be failing.[1] Although the system has many strengths, including efficiency, flexibility, responsiveness, and high rates of corporate profit, it does not seem to be effective in directing capital to companies that can deploy it most productively and, within companies, to the most productive investment projects. As a consequence, many American companies invest too little in assets and capabilities critical for competitiveness (such as employee training), while others waste capital on investments with limited financial or social rewards (such as unrelated acquisitions). This distortion of corporate investment priorities puts American companies in a range of industries at a serious disadvantage in global competition and, ultimately, threatens the long-term growth of the U.S. economy.

*This article draws heavily on the research and commentary of my colleagues in the Project on Capital Choices, which was co-sponsored by the Harvard Business School and the Council on Competitiveness. Rebecca Wayland's research assistance and insights have contributed greatly to the study.

1. Although this report focuses on private sector investment behavior, public sector investment in education and in efficient transportation, communication, and information networks is also critical to industrial competitiveness.

Although critics frequently blame the shortcomings of American industry on a short time horizon, ineffective corporate governance, or a high cost of capital, these concerns are just symptoms of a larger problem. What is at issue here is the effectiveness of the entire U.S. system of allocating investment capital both among and within companies—a system that includes shareholders, lenders, investment managers, corporate directors, managers, and employees.

The U.S. system of capital allocation creates a divergence of interests between owners and corporations that interferes with the flow of capital to those corporate investments that offer the highest long-run payoffs. American owners, investment managers, directors, managers, and employees are thus trapped in a system in which all are acting rationally, but none is satisfied. The U.S. system also has difficulty aligning the interests of private investors and corporations with those of society as a whole, including employees, suppliers, and local educational institutions.

The problems with the U.S. system are largely of our own making and have been building over a long period of time. Yet the investment problem has surfaced particularly in the last two decades. Through a series of regulatory decisions and other choices with unintended consequences, important changes have occurred in such areas as the pattern of corporate ownership, stock valuation and trading practices, and capital budgeting practices—all of which have fundamentally altered the way corporate investment choices are made.

At the same time, the nature of competition has shifted in ways that make investment more critical to success—especially in forms of investment like employee training and development of close supplier relationships that are most heavily penalized by the U.S. system. Also, globalization has brought American firms into more frequent contact with firms based in nations with different capital allocation systems, intensifying the impact of U.S. investment practices.

Reform is needed to shore up the weaknesses in the U.S. system, while preserving its strengths. Meaningful change will be difficult because the U.S. investment problem is far more complex than conventional wisdom suggests. Most current proposals aimed at addressing America's investment problem fail to recognize the interdependencies among the different parts of our capital allocation system. Proposals to tax transactions or eliminate quarterly financial reports address the symptoms of the investment problem rather than its underlying causes. Other proposals seek to deal with the investment problem indirectly, through government support for investment in particular sectors and the encouragement of widespread collaboration among competitors. These, too, treat symptoms and risk unintended and unwanted consequences.

Reform must address many aspects of the U.S. system, ideally all at once. Policymakers, institutional investors, and corporate managers must all play a role in instituting necessary changes.

THE IMPORTANCE OF INVESTMENT IN A COMPETITIVE ECONOMY

The appropriate rate of investment in one form often depends on making complementary and sequential investments in others. A physical asset such as a new factory, for example, may not reach its potential level of productivity unless there are parallel investments in intangible assets such as employee training and product redesign.[2] Such "softer" investments are of growing importance to competition, and are also the most difficult to measure and evaluate using traditional approaches to evaluating investment alternatives.

The optimal rate of investment for society may also differ from that of an individual firm because of the presence of "externalities" or "spillovers" from private investment. These spillovers create benefits for the economy as a whole (referred to as "social returns") above and beyond the private returns accruing to a firm's shareholders.[3] Social returns include such things as potentially higher wages of employees or benefits to local suppliers that result from productivity-increasing technology investments. One important test of national systems for allocating investment capital is the extent to which such social benefits are created and captured.

2. See Carliss Y. Baldwin and Kim B. Clark, "Capabilities and Capital Investment: New Perspectives on Capital Budgeting," in the project on Capital Choices, Harvard Business School and Council on Competitiveness, 1992. The article also appears in this issue.

3. For example, the social returns from R&D have been documented to be 50 to 100% higher than private returns to investors. See J.I. Bernstein and M.I. Nadiri, "Research and Development and Intra-industry Spillovers: An Empirical Application of Dynamic Duality," *Review of Economic Studies*, Vol. 56, 1989, pp. 249-269. The difference between private and social returns varies by form of investment and tends to be higher for intangible forms of investment such as R&D than for investments in physical assets such as plant and equipment.

Evidence (and Complexities) of the U.S. Investment Problem

Ideally, we could test directly whether the rate and mix of investment in the United States are optimal. Unfortunately, the lack of available data, coupled with the many influences on the optimal rate of investment, rule out such a direct test. Instead, we are forced to proceed indirectly, and examine a variety of measures of the comparative outcomes, rates, and patterns of U.S. investment and the behavior of American investors.

Although there are important complexities, as described below, there is a great deal of evidence that supports the view that American industry invests at a lower rate and on a shorter-term basis than German and Japanese industry in many areas:

- The competitive position of significant parts of the U.S. economy seems to have declined relative to those of other nations.
- Aggregate investment in property, plant, and equipment, civilian R&D, and intangible assets such as corporate training and related forms of human resource development is lower in the U.S. than in Japan and Germany.
- Leading American firms in many industries, including automobiles, computers, and tires, are outinvested by their Japanese counterparts.
- Anecdotal evidence suggests that American firms invest at a lower rate than both Japanese and German firms in non-traditional forms such as human resource development, relationships with suppliers, and start-up losses to enter foreign markets.
- The R&D portfolios of American firms include a smaller share of long-term projects than those of European and Japanese firms.[4]
- The hurdle rate used by U.S. firms to evaluate investment projects appears to be higher than estimates of the cost of capital.[5]
- American CEOs believe that their firms have shorter investment horizons than their international competitors.
- The average holding period of stocks has declined from over seven years in 1960 to about two years.
- Long-term growth has become a less important influence on U.S. stock prices.[6]
- Many recent U.S. policy proposals such as government funding of specific industries, R&D consortia, and joint production ventures implicitly reflect a private investment problem.

Although these findings present a broadly consistent picture of lagging U.S. investment, there are some interesting and important complexities that seem to defy the overall pattern. These puzzles contradict many simple explanations of why America invests less or has a shorter time horizon:

- The U.S. investment problem varies by industry and even by company. Understanding why there are differences across industries and companies is crucial to telling a convincing story.[7]
- The United States does well in funding emerging industries and high-risk start-ups that require investments of five years or more. How does a low-investing, short-horizon nation achieve such performance?
- The average profitability of American industry is higher than that in Japan and Germany,[8] yet American shareholders have consistently achieved no better or lower returns.[9] There is thus no simple connection between average corporate returns on investment and long-term shareholder returns, as much American thinking about shareholder value seems to suggest.
- American industry seems clearly to have overinvested in some forms, such as unrelated acquisitions.[10] How this overinvestment can be reconciled with a lower average rate of investment in crucial forms such as intangible assets is important to fully understanding U.S. investment behavior.

---

4. A recent survey of CEOs in the United States, Japan, and Germany provides insights into the composition of R&D portfolios, hurdle rates, and CEO perceptions of the relative investment time horizons of their competitors. See James M. Poterba and Lawrence H. Summers, "Time Horizons of American Firms: New Evidence from a Survey of CEOs," in the project on Capital Choices, Harvard Business School and Council on Competitiveness, 1992.

5. See Poterba and Summers, cited in the previous note.

6. See Burton G. Malkiel, "The Influence of Conditions in Financial Markets on the Time Horizons of Business Managers: An International Comparison," in the project on Capital Choices, Harvard Business School and Council on Competitiveness, 1992.

7. Although leading U.S. firms in industries such as construction equipment and steel invest less in R&D and capital expenditures than their Japanese or German counterparts, those in telecommunications and, compared to Japan, in pharmaceuticals, seem to invest as much or even more.

8. See R. Z. Lawrence, "Time Horizons of American Management: The Role of Macroeconomic Factors," in the project on Capital Choices, Harvard Business School and Council on Competitiveness, 1992.

9. The average return to shareholders in the first section of the Tokyo Stock Exchange between 1980 and 1990 was 13.0%, while the average return of shareholders of the NYSE for the same period was 11.8%. Results for the period 1960-1990 were 12.6% for the Tokyo Stock Exchange and 10.3% for the NYSE. For the periods 1960-1970 and 1970-1980, average returns were 8.2% and 15.2% for the TSE and 8.5% and 9.5% for the NYSE. Returns include dividend payments and price appreciation using year-end figures. They are not adjusted for inflation or the relative risk of the two markets. The generally lower rates of inflation in Japan and Germany strengthen this finding.

10. See M.E. Porter, "From Competitive Advantage to Corporate Strategy," *Harvard Business Review*, May-June 1987, and D. J. Ravenscraft and F.M. Scherer, *Mergers, Sell-offs, and Economic Efficiency*, Brookings Institute, 1987.

The nature of competition has shifted in ways that make investment more critical to success—especially in forms of investment like employee training and development of close supplier relationships that are most heavily penalized by the U.S. system.

■ There is persuasive evidence of systematic overinvestment by some companies in studies documenting significant shareholder gains from takeovers.[11] Why do some firms underinvest while others apparently invest too much?

■ The United States has the most efficient capital markets of any nation. How can such efficient capital markets be guilty of apparently sub-optimal investment behavior?

■ The investment problem seems to have become more significant today than it was several decades ago. Why this is so is another puzzle that must be addressed in understanding the investment problem.

Clearly, it is not so simple as concluding that the U.S. underinvests or that the U.S. has a short time horizon. Yet many of these complexities only reinforce the notion that the U.S. system is missing the mark by failing to invest the appropriate amount in the appropriate forms. Explaining these paradoxes, as well as the differences in investment behavior across industries, companies, and forms of investment, is essential to gaining a full understanding of the U.S. investment problem.

THE DETERMINANTS OF INVESTMENT

The determinants of investment can be grouped into three broad categories: the macroeconomic environment; the allocation mechanisms by which capital moves from its holders to investment projects; and the conditions surrounding specific investment opportunities themselves.

The *macroeconomic environment* establishes the context in which investment by all firms in a nation takes place. Investment tends to flourish in a fiscally stable and growing economy; the expectation of stability and future economic growth reassures investors of adequate returns over the long term. In the United States, high federal budget deficits, low national savings rates, sporadic and unpredictable changes in tax policy, and a tax code favoring consumption over investment have dampened both private and public sector investment over the past two decades.[12]

The *capital allocation mechanisms* in an economy work through two distinct but related channels: the *external* capital market, in which holders of equity and debt provide capital to particular companies; and the *internal* capital market, in which companies allocate the internally and externally generated funds at their disposal to particular investment programs. Previous work has focused on individual aspects of these markets but has not addressed them as a whole. Our research focuses on the dual markets and their effects on investment behavior.

Project-specific conditions reflect the different payoffs that can be gained from a particular investment project. The potential returns of an investment can be affected by the nature of the industry, the competitive position of the company, and the nation or region in which the investment is made. My previous research suggests that the capacity to invest and innovate effectively depends largely upon the following factors: the presence of specialized skills, technology, and infrastructure; sophisticated and demanding local customers; capable local suppliers; competitive local companies in industries closely related by technology, skills, or customers; and a local environment that encourages sustained investment and vigorous competition.[13] These attributes combine to form a self-reinforcing system. Competitive advantage, then, grows not from a comfortable home environment but out of the pressure and challenges generated by these elements.

Sustained private investment can not only improve the skills of employees, increase the capabilities of supporting industries, or upgrade the sophistication of consumer demand, but also generates local "externalities" that develop and reinforce other parts of the system. Such "spillovers" from investment play a crucial role in building competitiveness.

The External Capital Market

Four attributes of the external capital market are of principal importance for investment behavior. The first is the pattern of share ownership and agency relationships, which refers to the nature of the owners, the extent of their representation by agents, and the size of the stakes held in companies. The second is the goals of owners and agents, which influence their desired investment outcomes. The ability to hold debt and equity jointly is one important

11. For a discussion of the corporate overinvestment problem and the role of corporate restructuring in addressing it, see Michael C. Jensen, "Corporate Control and the Politics of Finance," *Journal of Applied Corporate Finance*, Summer 1991.

12. See Lawrence, cited in note 8.

13. See M.E. Porter, *The Competitive Advantage of Nations*, New York: Macmillan, The Free Press, 1990.

influence on goals, as is the existence of a principal-agent relationship. The third attribute is the approach and information used by owners or their agents in monitoring and valuing companies. There is a spectrum of approaches to valuation ranging from fundamental research based on company-specific information to investing in index funds. The approach used by owners or agents will depend on their goals, the information available, and their incentives for information-gathering. The final important attribute is the ways in which owners or their agents influence management behavior in the companies whose shares they own. These four attributes are interrelated and, over time, mutually reinforcing.

The predominant configuration of the U.S. external capital market is very different from that in Japan and Germany. Although exceptions exist in all three nations, in each case there is a set of circumstances that affect the majority of large companies.

Fluid Capital. In the U.S., the attributes combine to create a system distinguished by fluid capital. Funds supplied by external capital providers move rapidly from company to company, usually based on perceptions of opportunities for near-term appreciation. Publicly traded companies increasingly rely on a transient ownership base comprised of institutional investors such as pension funds, mutual funds, or other money managers, which act as agents for individual investors. Such owners have increased their holdings from 8% of total equity in 1950 to 60% in 1990. The performance of U.S. money managers is typically evaluated based on quarterly or annual appreciation relative to stock indices, and they thus seek near-term appreciation of their shares, holding stock for an average of only 1.9 years. Due to legal constraints on concentrated ownership, fiduciary requirements that encourage extensive diversification, and a strong desire for liquidity, these investors hold portfolios involving small stakes in many, if not hundreds, of companies.

Because of their fragmented stakes in numerous companies, short expected holding periods, and lack of access to "inside" information through disclosure or board membership, institutional investors tend to base their buy and sell decisions heavily on relatively limited information oriented toward predicting near-term share price movements. Those investors that do conduct fundamental research are still highly sensitive to the timing of purchases and sales, given the pressure to show near-term appreciation. Investors are driven by the system to focus on measurable company attributes, such as current earnings or patent approvals, as proxies of a company's value. The value proxies employed vary among different classes of companies and can lead to underinvestment in some industries, or in certain kinds of investment, while allowing overinvestment in others.[14]

We can divide companies in the American market into three broad groups: (1) established companies in relatively mature industries; (2) companies in emerging or obviously high-technology sectors; and (3) companies in the throes of a clearly visible discontinuity. In the first category, the dominant value proxy is current earnings, which have a strong effect on share prices. For companies in the latter two groups, the value proxies are different. In such cases, current earnings are clearly an inappropriate indicator, and thus investments are based on value proxies such as scientific successes, regulatory decisions, and perceived rapid growth prospects. In such sectors, current earnings play a limited role until the firm is seen as "established."

Owing to the inability of many proxy-based approaches to outperform the market, some institutions have moved to invest as much as 70% to 80% of their equity holdings in index funds, which simply attempt to match the performance of the broad market and thus involve no use of company-specific information.

Despite their large aggregate holdings, U.S. institutional investors do not sit on corporate boards and have virtually no real influence on management behavior.

Dedicated Capital. The Japanese and German systems are fundamentally different from the U.S. system. Overall, Japan and Germany have systems defined by dedicated capital in which the funds of principal owners remain invested in companies over long periods of time. The dominant owners are principals rather than agents and hold significant ownership stakes. They are virtually perma-

14. Studies find that the stock market responds positively, on average, to announcements of increases in capital expenditures, R&D, and joint ventures. But because such studies examine broad populations of companies, they do not address the question of whether there are biases in particular subpopulations, which our theory would suggest is the proper question. For one of the few studies that attempts to address this issue, see Su H. Chan, John A. Martin, and John W. Kensinger, "The Market Rewards Promising R&D—and Punishes the Rest," in this issue.

Japan and Germany have systems defined by dedicated capital in which the funds of principal owners remain invested in companies over long periods of time. The dominant owners are principals rather than agents and hold significant ownership stakes.

nent owners who seek long-term appreciation, and their goals are more relationship- than transaction-driven. Suppliers and customers own stakes in each other, with the aim not of profiting from share ownership so much as cementing their business relationships.

Because principal Japanese and German owners hold significant shares for long periods, they have both the incentive and the ability to engage in extensive and ongoing information-gathering about the companies they own. Unlike the American system, principal Japanese and German owners are driven not by the need to make quick decisions on buying or selling stock for profit taking, but by the desire to assess the ongoing prospects of the company. They therefore command the respect of management, have access to inside information, and, particularly in Germany, exert considerable influence on management behavior.

Interestingly, the non-permanent owners/agents in Japan trade as much or even more frequently than those in the United States, and base buy and sell choices on even less information.[15] Yet it is important to recognize that, in both Japan and Germany, share prices and pressure from non-permanent owners/agents have virtually no influence on management.

The Internal Capital Market

The internal capital market is the system by which corporations allocate the capital available from both internal and external sources among competing investment projects within and across business units. The most important influences on the internal capital market can be divided into four categories that parallel those that shape the external market: corporate goals; organizational principles governing the relationship between senior management and business units; the information and methods used to value and monitor internal investment options; and the nature of intervention by senior managers into investment projects. Again, the predominant U.S. system of allocating capital internally differs markedly from those in Japan and Germany.

Maximizing Investment Returns. The U.S. internal system can be characterized as one structured to maximize measurable investment returns. It is organized to motivate management to achieve such returns, to raise accountability for unit financial performance, and to base decision-making and investment allocation heavily on financial criteria.

In the U.S. system, corporate goals are centered on earning high financial returns. Maximizing "shareholder value," *as measured by current stock price*, is explicitly codified in many companies as the corporate goal. The dominant influence on corporate goals is management, who are often subject to limited direct influence either by boards, which are dominated by outside directors with no other links to the firm, or by owners, who typically hold fragmented stakes in hundreds of different companies. The goals set by American managers are typically framed in terms of ROI or increasing stock price. The frequency with which managers meet with investors and analysts (once per week for CEOs, three times per week for CFOs) is both a cause and an indication of their attention to stock prices. Compensation and reward practices, based largely on current accounting profits and unrestricted stock options, only accentuate their importance.

Over the last two decades, many American companies have adopted a form of decentralization involving highly autonomous business units and limited information flow both vertically and horizontally. This is accentuated by the tendency for senior management to have little knowledge or experience in many of the company's businesses and to lack the technical background essential to understanding the substance of products or processes (partly because such background and experience are unnecessary in the typical decision-making process). Decision-making involves limited dialogue among business units or across different functions, and little consensus building. All of these factors have distanced management from the details of the business. Extensive diversification into unrelated areas has accentuated these tendencies and further restricted the flow of information throughout the organization.

15. The very high turnover rate of this rapidly traded portion of the Tokyo Stock Exchange is in stark contrast to the long holding periods of principal Japanese investors. The rapidly traded portion of the market lowers the average turnover on the TSE to 2.6 years, which is actually higher than the turnover of 2.8 years in the United States reported by Froot, Shleifer, and Stein (1992). But this comparison obscures the important difference that 70% of Japanese equity is comprised of holdings that were held, on average, over five years. Indeed, the most stable group of Japanese shareholders, insurance companies (accounting for 4% of total equity) and corporations (30%) held their shares for 18.3 and 7.4 years, on average, including shares that are actively traded. By contrast, no single group of U.S. stockholders had average holdings over five years.

For a comparison of Japanese and U.S. shareholder practices, see Kenneth Froot, Andrei Sheifer, and Jeremy Stein, "Shareholder Trading Practices and Corporate Investment Horizons," in the project on Capital Choices, Harvard Business School and Council on Competitiveness, 1992. The article also appears in this issue.

Both as a cause and an effect of the limited information available to top management, capital budgeting takes place largely through "by the numbers" systems in which unit or functional managers are required to justify investment projects quantitatively. Important investments such as R&D, advertising, or market entry are often not treated as capital investments at all; rather they are negotiated as part of the annual budgeting process, which is driven by a concern for current profitability. Intangible investments such as training may not even be tracked by the financial system and fall prey to deferral in the name of increasing near-term profits. Central control is exerted infrequently and occurs through strict financial budgeting and control systems that focus on financial measures of the unit's performance. Investment projects are placed on accelerated schedules under tight budgets, and senior managers intervene only when financial measures indicate a project is failing.

Securing Corporate Position. The Japanese and German internal capital allocation systems are significantly different from those in the United States, most notably in corporate goals and the flow of information. In both Japanese and German companies, the dominant goal is to ensure the perpetuation of the enterprise. Both Japanese and German companies practice a form of decentralization involving much greater information flow among multiple units in the company as well as with customers and suppliers. They tend to be less diversified than their American counterparts and diversification occurs into more closely related businesses. Managers are more likely to have a technical background and long tenure in the business of the firm. Top managers get involved in all important decisions, which are usually made after extensive face-to-face consultation and discussions aimed at building consensus.

Financial control and capital budgeting are practiced in Japan and Germany, but investments are heavily driven by technical considerations and the desire to ensure the firm's long-term position in the business. German companies are particularly oriented toward attaining technical leadership. Japanese companies place special value on market share, new product development, technological position, and participation in businesses and technologies that will be crucial in the next decade.

It is interesting to note that American innovations in management practices have, by and large, reduced the amount of face-to-face consultation, information flow, and direct involvement of management in the name of responsiveness and management efficiency. Many of these innovations were the American solutions to the problems of size and diversity that arose during the diversification boom of the 1960s. They preceded the major changes that occurred in the external capital markets. In contrast, Japanese innovations in management, such as total quality management and greater cross-functional coordination, result in much greater vertical and horizontal flows of information in support of management decision-making. This comes at the expense of efficiency in the short run but often results in greater effectiveness and efficiency over time as knowledge and abilities cumulate.

COMPARATIVE CAPITAL ALLOCATION SYSTEMS

The external and internal capital markets are linked and form a self-reinforcing national system for allocating investment capital. The way corporations allocate capital internally will be influenced by their perceptions of how equity holders and lenders value companies. At the same time, investors' process of valuation will be affected by their perceptions of how companies are managed and how they allocate their funds internally, thus creating a circular chain of influence. Reinforcing this effect, the use of stock options in management compensation creates a direct link between stock market valuation and management behavior.

Effects on Investment Behavior

The U.S. system for allocating investment capital creates the following tendencies and biases in investment behavior, which differ from those in Japan and Germany.

- The U.S. system is less supportive of investment overall, because of its sensitivity to current returns for many established companies combined with corporate goals that stress current stock price over long-term corporate value. This explains why the average level of investment in U.S. industry lags that in Japan and Germany.
- The U.S. system favors those forms of investment for which returns are most readily measurable due to the importance of financial returns and the limited information available to investors and managers. This helps explain why the United States underinvests,

American innovations in management practices have, by and large, reduced the amount of face-to-face consultation, information flow, and direct involvement of management in investment choices in the name of responsiveness and management efficiency.

on average, in intangible assets, where returns are more difficult to measure.

- The U.S. system favors investment in discrete projects as opposed to ongoing programs of complementary investment that yield sustained capability improvements. This helps explain why the United States underinvests in areas such as employee training and supplier relationships.
- While the U.S. system is prone to underinvest in some forms, it simultaneously overinvests in others. The U.S. system heavily favors acquisitions, which involve assets that can be easily valued, over internal development projects that are more difficult to value and that constitute a drag on current earnings.
- The U.S. system encourages investment in some sectors while limiting it in others. It is at its best with companies in obviously high technology or emerging industries, especially those with rapid growth and high upside potential. The American system also supports investment in turnarounds or other situations of clear discontinuity. In these cases, investors recognize that current earnings are irrelevant and seek other value proxies, such as patents, new product announcements, and the track records of new management, that are more supportive of investment. This helps explain why the United States invests more than its competitors in some industries but less in others, why it performs well in funding emerging companies, and why it often awards high stock prices to turnarounds with current losses.
- The U.S. system allows some types of companies to overinvest. For example, case studies of takeovers demonstrate a tendency by target company managements to continue investing (or accumulating cash) despite few profitable opportunities as long as current earnings are satisfactory or until a company's situation so clearly deteriorates that it changes hands.[16] This helps explain why some companies waste resources while U.S. industry as a whole lags in investment.

There are companies and owners that operate differently from the predominant U.S. system and that achieve superior results. Firms with permanent family ownership, such as Hallmark, Hewlett-Packard, Motorola, and others seem to enjoy competitive advantages in investing. Investors such as Warren Buffett's Berkshire Hathaway have thrived by becoming, in effect, permanent owners of acquired companies, supporting well-performing current management, and concentrating on franchise building. Such investors seem to have devised their own alternative ownership and governance systems to overcome many of the weaknesses of the U.S. system.

Venture capital firms and leveraged buyout groups are also structured in ways designed to overcome some of the problems that trouble the dominant U.S. system. In both cases, investors with concentrated stakes receive inside information, participate actively on corporate boards, and exert strong influence over management. Yet neither venture capital firms nor LBOs represent the ideal solution. In both cases, the term of the investment is limited. Rather than being long-term, quasi-permanent owners, most American venture capital and LBO firms are at best medium-term owners who feel intense pressure to sell companies or take them public. This leads to a tendency to emphasize the rapid achievement of profits, and the company enters or reenters the mainstream system (perhaps prematurely) with its attendant problems.

Trade-Offs Among Systems

The U.S. system for allocating investment capital has major disadvantages, yet the Japanese and German systems are not ideal in every respect. While reform of the U.S. system is sorely needed, our system has important strengths that should be preserved. The U.S. system is good at reallocating capital among sectors, funding emerging fields, shifting resources out of "unprofitable" industries, and achieving high private returns each period, as measured by higher corporate returns on investment. Such responsiveness and flexibility, however, are often achieved at the price of failing to invest enough to secure competitive positions in existing businesses, investing in the wrong forms, and overinvesting in some circumstances.

The Japanese and German systems encourage aggressive investment to upgrade capabilities and productivity in existing fields. They also encourage

16. The slow-growth, mature industries (particularly those facing strong international competition) which our theory identifies as most vulnerable to overinvestment are those which Hall (1992) identifies as experiencing the predominant share of financial restructurings and control changes. See Bronwyn H. Hall, "Corporate Restructuring and Investment Time Horizons," in the project on Capital Choices, Harvard Business School and Council on Competitiveness, 1992.

internal diversification into related fields—the kind of diversification that builds upon and extends corporate strengths. This comes at the cost, however, of a tendency to overinvest in capacity, to produce too many products, and to maintain unprofitable businesses indefinitely. For this reason, the U.S. system may come closer to optimizing short-term private returns.

The Japanese and German systems, however, appear to come closer to optimizing long-term private and social returns. Their greater focus on long-term corporate position—encouraged by an ownership structure and governance process that incorporate the interests of employees, suppliers, customers, and the local community—allow the Japanese and German economies to better capture the social benefits of private investment.

DIRECTIONS FOR SYSTEM-WIDE REFORM

The aim of reform should be to create an environment in which managers make investments that maximize the long-term value of their corporations. Capital providers must have interests aligned with those of the corporation and the information necessary to make sound valuation decisions and appropriate corporate investment choices. Corporations must be organized and managed in ways that encourage investment in the forms essential to building competitiveness. Finally, public policymakers must identify those areas in which private returns diverge from those of society as a whole, and craft laws and regulations to better align them. Constructive pressures from capital providers are beneficial and necessary, provided that they have the proper goals and information. Regulators must refrain from creating "protective" measures that insulate firms from such pressures.

Reform of the U.S. system must recognize it is an internally consistent system involving many parts. A series of changes must be made, ideally all at once. Altering one aspect of the system without simultaneously altering others may well lead to unwanted consequences. Giving institutional investors more power over management without changing their goals, for example, may heighten pressures toward underinvestment. Appropriate reform will also require that each important constituency give up some of its perceived benefits under the current system. Institutions should not expect to gain greater influence over management without giving up some of their trading flexibility, while management should not expect informed and committed owners without giving them a real voice in corporate decisions.

Many current proposals for improving the U.S. system are counterproductive. They suffer from a partial view of the problem and address symptoms rather than causes. Taxing stock transactions, for example, will make stock markets less efficient without addressing the underlying reasons that investors trade. Similarly, eliminating quarterly financial reports will make investors less informed and will have little impact on the forces that make current earnings so important. Increasing the use of stock options in management compensation only heightens pressure to maximize current stock price unless restrictions are placed on managers' ability to exercise those options. Finally, providing government subsidies for particular sectors or creating joint production ventures allows companies to economize on investment but deals only indirectly with the underlying problem. These approaches do not address the reasons that companies are seemingly unable to make the investments needed for competitiveness. Moreover, they run the risk of blunting innovation and undermining competitiveness. The only real solution to the failure of the U.S. capital allocation system is to address it as a "system."

We can create a more appropriate system of capital allocation if we choose to do so. Improving the U.S. system for capital allocation will require complementary changes in public policy, the behavior of institutional investors, and the practices of management. Reform is needed in the five broad areas listed below. Such changes will not only reduce underinvestment but also limit overinvestment in those companies and those forms prone to it.

Improve the macroeconomic environment. Steps are needed to increase the stability of the macroeconomic environment and to enlarge the pool of savings in order to reduce risk premiums and lower the cost of capital.[17] A more supportive macroeconomic

17. It is important to note that the most relevant cost of capital for investment is not the hypothetical average cost of capital for a nation, but the cost of capital for a particular firm and for a particular form of investment. The perceived cost of capital for an individual firm or project is affected by the macroeconomic environment but not determined by it. The capital allocation process itself exerts an equally important effect through its influence on how investors and managers perceive companies and value projects.

Venture capital firms and leveraged buyout groups are structured in ways designed to overcome some of the problems that trouble the dominant U.S. system. In both cases, investors with concentrated stakes receive inside information, participate actively on corporate boards, and exert strong influence over management.

environment will provide a foundation for the other systemic changes needed, but this alone will not change the structure of incentives and information that underlie the true capital allocation problem.

Expand true ownership throughout the system. The current concept of ownership in the U.S. system is too limited, and ownership is largely restricted to outside shareholders. Outside owners should be encouraged to hold larger stakes and to take a more active and constructive role in companies. Ownership should be expanded to include directors, managers, employees, and even customers and suppliers. Expanded ownership will foster commonality of interest and help make investors more aware of the value of investment spillovers, such as more highly skilled workers, that strengthen firms and benefit related industries and the economy as a whole.

Better align the goals of capital providers, corporations, directors, managers, employees, customers, suppliers, and society. More ownership *per se* will not be sufficient if the goals of owners, corporations, and others are not aligned with each other and with maximizing the long-term value of corporations. It is possible to create a system of incentives and to alter rules in a way that helps align the goals of all corporate constituencies.

Improve the information used in decision-making. Even if goals are better aligned, the quality of information used to allocate capital throughout the system will affect investment choices. The U.S. system of investment should offer greater access to information that better reflects actual corporate performance. Both investors and managers should be encouraged to supplement strictly quantitative measures of investment and performance with assessments of qualitative factors, such as the quality of the firm's work force or its level of technological sophistication.

Foster more productive modes of interaction and influence among capital providers, corporations, and business units. Appropriate investment choices require effective systems and processes by which owners interact with corporate management and corporate management interacts with business and functional units.

Implications for Public Policy

Government policies, laws, and regulations play a decisive role in defining the macroeconomic environment and both the external and the internal capital markets. The weaknesses of the U.S. system and the importance of regulation in defining that system suggest that those policy areas that affect investment behavior (and thus corporate performance) should be reexamined.

The current American system is the result of explicit regulatory choices typically designed to promote goals other than growth in corporate investment. They have developed out of the regulatory regime established in the 1930s to deal with the perceived abuses occurring in financial markets at that time. Yet the record shows a near total failure by legislators from the 1930s to the 1980s to consider the effects of regulation on corporate investment behavior.

The principles guiding U.S. regulation address some legitimate and commendable purposes, and have achieved the goal of keeping abuses to a bare minimum. Nevertheless, the cumulative pattern of regulation has had unfortunate, unintended consequences for investment behavior. Through diversification requirements and the threat of lawsuits, the U.S. system encouraged excessive diversification and the holding of many small stakes in companies, which in turn has led to frequent trading and heightened the influence of accounting earnings on buy and sell decisions.

Some of the most important directions for public policy change are outlined in a table below. These reforms rest on principles that differ markedly from those which have defined the regulatory framework of the traditional U.S. system. They seek to create incentives that support corporate investment rather than focus on avoiding abuses through regulatory restraints with unintended consequences for corporate investment. For example, broadening corporate ownership and allowing investors to hold larger stakes will better align the goals of capital providers, corporations, managers, employees, and society; it will create a constructive tension among these groups that prevents unilateral, self-interested action by either investors or managers. Capital providers thus become knowledgeable and constructive participants rather than adversaries. Under this provision, the market would continue to have the strength of a wide investor base, while gaining the benefit of owners with larger stakes in particular companies. At the same time, the large number of substantial U.S. institutional investors will prevent any undue concentration of economic power.

RECOMMENDATIONS FOR POLICY MAKERS

- Increase private and public sector saving
- Create a stable macroeconomic environment
- Modify corporate ownership structures by
  - Removing restrictions on share ownership
  - Lowering tax barriers to holding significant private ownership stakes
  - Encouraging long-term employee ownership
- Shift the goals of owners and lenders by
  - Creating a long-term equity investment tax incentive
  - Extending the long-term equity investment incentive to currently untaxed investors by differential taxation of pension/annuity benefits
  - Eliminating restrictions on joint ownership of debt and equity by commercial banks
  - Reducing the extent of explicit and implicit subsidies for investment in real estate
- Improve the information used by investors by
  - Modifying accounting rules so that earnings better reflect corporate performance
  - Expanding public disclosure to reduce the cost of assessing true corporate value
  - Allowing the disclosure of "inside" information to significant long-term owners
- Improve the relationships between owners, lenders, and management by
  - Loosening restrictions on institutional board membership
  - Encouraging board representation by significant customers, suppliers, financial advisers, employees, and community representatives
- Shift corporate goals by
  - Codifying long-term shareholder value rather than current stock price as the appropriate corporate goal
  - Limiting tax incentives for stock options and stock purchase plans to those plans with restrictions on selling
- Improve corporate investment incentives
  - Provide tax incentives for investment in R&D and training

Implications for Institutional Investors

The U.S. system of capital allocation creates perverse outcomes for institutional investors, especially pension funds. Such institutions should be the ideal long-term investors. Instead, we have the paradoxical situation in which many institutions, especially pension funds, are entrusted with funds for extremely long periods yet trade actively. Institutions are at odds with management, whom they see as misapplying corporate resources while they feel powerless to do anything about it. Many institutions relish takeovers, not only because stock prices rise quickly but also because they are a way to dislodge entrenched managements. Worst of all, institutions are trapped as crucial actors in a system that undermines the long-term earning power of the American companies on which they must ultimately depend for the bulk of their portfolio investments.

While the U.S. system is partly the result of regulation, there are positive steps that can be taken by institutions without the need for public policy changes (see table below). First and foremost, institutions must begin to understand why managements view them as adversaries. They must understand the subtle consequences of their monitoring and valuation practices on corporate investment behavior. They must also recognize that greater influence over management will come only at the price of less flexibility, less trading, and greater knowledge of and concern with company fundamentals.

The new breed of institutional investor that we envision will have a larger stake in the corporations in its portfolio, greater knowledge about the companies, and a more important role in corporate oversight and decision-making. Index funds, which might be seen as long-term investors, cannot play this role effectively. With their investment philosophy, extreme fragmentation of ownership, and lack of incentive to invest in information, index funds have little realistic prospect of credibly monitoring and influencing management behavior.

RECOMMENDATIONS FOR INSTITUTIONAL INVESTORS

- Increase the size of stakes
- Reduce turnover and transactions costs
- More carefully select companies based on fundamental earning power
- Encourage changes in agent measurement and evaluation systems to reflect long-term investment performance
- Transform interactions with management to productive, advisory discussions
- Create special funds to test these new investment approaches
- Support systemic public policy changes.

These needed reforms are likely to be resisted by some institutional investors who have grown up

Outside owners should be encouraged to hold larger stakes and to take a more active and constructive role in companies. Ownership should be expanded to include directors, managers, employees, and even customers and suppliers.

in the current system, perceive the risks of a more active role as investors, and are currently ill-equipped to move to new investment practices. Despite these challenges, the end result of systemic reform will prove to be far superior to the situation today.

Implications for Corporations

The U.S. system of capital allocation raises challenging questions for the directors and managers of American companies, particularly those that are publicly traded. Stated most boldly, our research suggests the need to reexamine much of what constitutes the U.S. system of management, with its extreme approach to managing decentralization, its limited flow of information, and its reliance on financial control and quantitative capital budgeting processes. This system, a post-war innovation that has been widely diffused to other countries, carries subtle costs for investment behavior, particularly investments in intangible and non-traditional forms.

Managers are not simply victims of the U.S. system, but have helped to create it. They have not only shaped internal capital allocation practices, but they have defined their relationship with the external market through their board selections, disclosure practices, and the nature of their discussions with investors. American managers are the group best positioned to make changes in the current system, and to benefit most from reform.

While it is not possible here to explore fully all the potential implications of our research for corporations, some of the most significant directions for change are listed in the table opposite. Moving in the appropriate directions may be uncomfortable for some managers who have grown up in the current system. Directors may have to take the lead in some companies to push through needed reforms, not only in corporate governance but also in internal management practices.

RECOMMENDATIONS FOR CORPORATIONS

- Seek long-term owners and give them a direct voice in governance
- Refrain from erecting artificial anti-takeover defenses that insulate management from competitive pressures
- See management buy-outs as a fallback solution
- Nominate significant owners, customers, suppliers, employees, and community representatives to the board of directors
- Link incentive compensation to measures of competitive position
- Move away from unrelated diversification
- Shift from fragmented to integrated organizational structures
- Transform financial control systems into position-based control systems based on
  - broader definition of assets
  - measurement of asset quality and productivity in addition to quantity
  - relative instead of absolute measures
- Move to universal investment budgeting by
  - evaluating investment programs instead of discrete projects
  - unifying treatment of all forms of investment
  - separating the determination of required asset position from evaluation of the means of achieving it

TOWARD A SUPERIOR AMERICAN SYSTEM

Corporate investment behavior defies simple explanations. Its causes go to the very heart of how corporations are owned, how capital markets function, and how companies are managed in a world of international competition. Although our research on corporate investment behavior is by no means the final word on the subject, the evidence does suggest that moving in the directions described promises to yield more appropriate investment behavior in American industry without threatening those aspects of the current system that represent advantages.

The Convergence of National Systems

There is evidence that Japan and Germany may be moving toward a more American-like system in certain respects, but actual changes have thus far been modest. Observers note, for example, the declining influence of Japanese banks as companies rely less on debt capital and the impending liquidity standards that may require that Japanese banks to sell some of their equity holdings. In the internal market, observers have recently noted shifts toward greater emphasis on profitability and the beginnings of unrelated diversification. In Germany there are proposals to limit bank ownership of equity. Yet even if banks are forced to sell some of their equity holdings, they will first sell their non-permanent

shares, which are actively traded and have little influence on corporate behavior. Internally, Japanese firms have long been concerned with profits insofar as they help fund their investment programs. The increased profit consciousness of Japanese firms today thus reflects the need to raise cash flow during a time of depressed market conditions, not a concern with stock prices. If major changes were to occur in the Japanese or German systems, the threat to these nations' economies would be substantial due to the relatively uninformed traded capital markets.

The U.S. system is also experiencing changes in several areas. Some institutional investors are having discussions with management, some boards are taking a more active role in corporations, and some firms are developing closer relationships with customers, suppliers, and employees. Yet these changes are occurring only at the margin and, in the U.S., reflect frustration at the current situation rather than a shift in the goals of investors, boards, or managers. The underlying causes of our investment problem—particularly the goals and information that guide the decisions of investors, directors, and managers—remain unchanged. We should not let isolated improvements nor hope that Japan and Germany are changing prevent reform of our national system. It exacts a cost on our corporations and our economy that will remain even if Japan's and Germany's systems evolve to match our own.

The Promise of Reform

The suggested changes can be expected to produce the following benefits:

- increase true ownership in the economy by giving owners a long-term, active role in companies;
- better align the goals of American shareholders, corporations, managers, employees, and society;
- improve the quality of information used in investment decisions;
- allow investors more effectively to scrutinize management performance based on criteria more appropriate to competitiveness; and
- make internal management processes more consistent with the sources of competitive advantage.

Such changes will not only encourage investment in more appropriate forms, but also reduce wasted investment in companies most liable to it.

If progress can be made on these fronts, it will not only reduce the disadvantages of the U.S. system but could result in a system superior to that in Japan and Germany. A reformed U.S. system would be more flexible, more responsive, and even better informed in allocating capital than those in Japan and Germany. Investors in a reformed U.S. system would be long-term owners, though not necessarily permanent ones. This would provide more flexibility to withdraw capital if long-term prospects were genuinely unattractive than exists in Japan or Germany. In a reformed U.S. system, the substantial number of sophisticated American investors would redirect their valuation methods and make investment choices that would be better informed than those in Japan and Germany. Owners would have the incentive to gather more information that is useful in evaluating the creation of long-term private and social value.

A reformed U.S. system would also produce more careful monitoring of management and more pressure on poor performers than exists in Japan or Germany. The result should be less wasted investment. With greater incentives for individual employee performance and less tolerance of non-performers, a reformed U.S. system would avoid some of the internal inefficiencies of the Japanese and German systems. Finally, a reformed U.S. system, with its already higher levels of disclosure and transparency, promises to be fairer to all shareholders than the Japanese and German systems.

But changing the U.S. system of capital allocation will be made difficult by the need for all the major corporate constituencies to sacrifice some of their interests in the pursuit of a more satisfying overall system. We must avoid the tendency to take half-measures and tinker at the margin. The widespread concern and dissatisfaction with the status quo suggests that system-wide reform may be possible. The gains will accrue not only to investors and firms, but will increase the rate of long-term productivity growth, competitiveness, and prosperity of the U.S. economy.

■ MICHAEL PORTER

is C. Roland Christensen Professor of Business Administration at the Harvard Business School.

Journal of Applied Corporate Finance (ISSN 1078-1196 [print], ISSN 1745-6622 [online]) is published quarterly on behalf of Morgan Stanley by Blackwell Publishing, with offices at 350 Main Street, Malden, MA 02148, USA, and PO Box 1354, 9600 Garsington Road, Oxford OX4 2XG, UK. Call US: (800) 835-6770, UK: +44 1865 778315; fax US: (781) 388-8232, UK: +44 1865 471775, or e-mail: subscrip@bos.blackwellpublishing.com.

Information For Subscribers For new orders, renewals, sample copy requests, claims, changes of address, and all other subscription correspondence, please contact the Customer Service Department at your nearest Blackwell office.

Subscription Rates for Volume 17 (four issues) Institutional Premium Rate* The Americas† $330, Rest of World £201; Commercial Company Premium Rate, The Americas $440, Rest of World £268; Individual Rate, The Americas $95, Rest of World £70, €105‡; Students**, The Americas $50, Rest of World £28, €42.

*Includes print plus premium online access to the current and all available backfiles. Print and online-only rates are also available (see below).

†Customers in Canada should add 7% GST or provide evidence of entitlement to exemption

‡Customers in the UK should add VAT at 5%; customers in the EU should also add VAT at 5%, or provide a VAT registration number or evidence of entitlement to exemption

** Students must present a copy of their student ID card to receive this rate.

For more information about Blackwell Publishing journals, including online access information, terms and conditions, and other pricing options, please visit www.blackwellpublishing.com or contact our customer service department, tel: (800) 835-6770 or +44 1865 778315 (UK office).

Back Issues Back issues are available from the publisher at the current single-issue rate.

Mailing *Journal of Applied Corporate Finance* is mailed Standard Rate. Mailing to rest of world by DHL Smart & Global Mail. Canadian mail is sent by Canadian publications mail agreement number 40573520. **Postmaster** Send all address changes to Journal of Applied Corporate Finance, Blackwell Publishing Inc., Journals Subscription Department, 350 Main St., Malden, MA 02148-5020.

Journal of Applied Corporate Finance is available online through Synergy, Blackwell's online journal service which allows you to:

- Browse tables of contents and abstracts from over 290 professional, science, social science, and medical journals
- Create your own Personal Homepage from which you can access your personal subscriptions, set up e-mail table of contents alerts and run saved searches
- Perform detailed searches across our database of titles and save the search criteria for future use
- Link to and from bibliographic databases such as ISI.

Sign up for free today at http://www.blackwell-synergy.com.