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Corporate Governance and Corporate Employment:
Is Prosperity Sustainable in the United States?

by

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and
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1. Sustainable Prosperity?

Can the American economy achieve *sustainable prosperity* -- a progressive spreading of the benefits of economic growth to more and more people over a prolonged period of time? During the first half of the twentieth century -- despite the debacle of the Great Depression -- the United States emerged as the world's most powerful industrial nation. In the post-World War II decades, the United States had not only by far the world's highest per capita income, but also a distribution of income that, until the early 1970s, showed continuous improvement. Since then, Japan has mounted a dramatic challenge to the economic leadership of the United States, while the U.S. income distribution has become increasingly unequal.¹ A report from the Organization for Economic Cooperation and Development shows that in the 1980s, of all the advanced industrial economies, the United States had the widest income gap between the rich and poor.²

It is not only those at the bottom of the U.S. income distribution who are losing out. A distinctive dimension of growing income inequality in the United States has been a drop in the real incomes of those in the middle of the income distribution -- what many have called "the vanishing middle class".³ Adjusted for inflation, the median income of American employees in the mid-1990s is some five percent lower than it was in the late 1970s. Yet since the early 1970s the American economy has grown at an average annual rate of well over two percent. Why have such a small proportion of Americans -- perhaps only the top 20 or 30 percent of the income distribution -- been sharing in this growth?

A major cause of the growing inequality in income distribution has been the mounting disappearance of "good jobs" in the American economy. These are jobs that provide high standards of living in terms of earnings, employment stability, and benefits for sickness and old age. In the past, the widespread availability and economic viability of these good jobs provided the foundations for sustainable prosperity in the United States. The disappearance of such jobs has placed sustainable prosperity in considerable jeopardy.

Good jobs have been under pressure since the 1970s, and have been disappearing rapidly since around 1980.⁴ The phenomenon is structural, not cyclical. Hundreds of thousands of previously stable and well-paid blue-collar jobs

that were lost in the recession of 1980-1982 were never subsequently restored. Between 1979 and 1983 the number of people employed in the economy as a whole increased by 377,000 or 0.4 percent while employment in durable goods manufacturing -- which supplied most of the good blue-collar jobs -- declined by 2,023,000 or 15.9 percent.⁵

Indeed, the "boom" years of the mid-1980s saw hundreds of major plant closings. Between 1983 and 1987 4.6 million workers lost their jobs, of which 40 percent were from the manufacturing sector.⁶ The elimination of these well-paid and stable blue-collar jobs is reflected in the decline of the proportion of the manufacturing labor force that is unionized from 47.4 percent in 1970 to 27.8 percent in 1983 to 18.2 percent in 1994.⁷

Throughout the 1980s, American corporations displayed a mounting predilection toward "downsizing". Not only blue-collar workers were affected. Professional, administrative, and technical personnel -- so-called "white-collar" employees -- experienced a significant share of the elimination of previously stable and remunerative jobs. For example, a Business Week cover story of August 1986, entitled, "The End of Corporate Loyalty?", observed that "cutbacks are becoming a way of life even in healthy companies."⁸ In the "white-collar" recession of the early 1990s tens of thousands of managerial positions were eliminated, again apparently on a permanent basis. Even in this recession, blue-collar workers bore the brunt of displacement, but the dismissal of professional, administrative, and technical employees became more prevalent. In 1982 the rate of unemployment of professional, administrative, and technical employees was 37 percent of the rate of unemployment of all employees; in 1994 44 percent.⁹

Leading the downsizing of the 1980s and 1990s were many of America's largest corporations. From 1990 to 1995, the number of employees of the 50 U.S. companies with the greatest sales volume declined by almost 13 percent even though the proportion of sales to U.S. gross national product accounted for by these companies declined by less than 1.5 percent (see Table 1). Seventeen U.S. industrial corporations that in 1990 each employed more than 100,000 people, and combined employed 3.4 million people worldwide, had by 1995 reduced their net employment by a total of over 700,000, or by about 21 percent from the 1990 levels (see Table 2).

Table 1. Total Employment and Sales as a Proportion of GNP
Fifty U.S. Industrial Corporations with Largest Sales, 1954-1995

Year	Employees	Annual average percent change	Sales as percent of GNP
1954	3,729,097		18.83
1959	4,087,864	0.46 (1954-1959)	19.93
1969	6,366,904	4.53 (1959-1969)	21.69
1979	6,203,785	-0.25 (1969-1979)	29.81
1990	5,821,300	-0.57 (1979-1990)	23.41
1993	5,169,128	-3.73 (1990-1993)	20.70
1995	5,079,747	-0.86 (1993-1995)	21.99

Note: Worldwide employment and sales.

Source: *Fortune* magazine, "Fortune 500" listings, various issues.

Table 2. Net Employment Change of U.S. Industrial Corporations with over 100,000 Employees in 1990, 1990-1995

Company	Employees 1990	Employees 1995	Employment change, 1990-95	% change, 1990-95
General Motors	761,400	709,000	-52,400	-6.9
Ford	370,400	346,900	-23,410	-6.3
IBM	373,816	252,215	-121,601	-32.5
Pepsico*	308,000	480,000	172,000	55.8
General Electric	298,000	222,000	-76,000	-25.5
United Technologies	192,600	170,600	-22,000	-11.4
Philip Morris	168,000	151,000	-17,000	-10.1
Boeing	161,700	105,000	-56,700	-35.1
Du Pont	143,961	105,000	-38,961	-27.1
Eastman Kodak	134,450	96,600	-37,850	-28.2
Chrysler	124,000	126,000	2,000	1.6
Digital Equipment	124,000	61,700	-62,300	-50.2
McDonnell Douglas	121,190	63,612	-57,578	-47.5
Westinghouse	115,774	77,813	-37,961	-32.8
Xerox	110,000	85,200	-24,000	-22.5
Goodyear Tire	107,961	87,390	-20,571	-19.1
Sara Lee	107,800	149,100	41,300	38.3
Allied Signal	105,800	88,500	-17,300	-16.4
Motorola	105,000	142,000	37,000	35.2
Exxon	104,000	82,000	-22,000	-21.2
Rockwell International	101,900	82,671	-19,229	-18.9

Notes: Worldwide employment and downsizing. These figures are not adjusted for acquisitions and thus may considerably understate gross downsizing.

* In 1990, Pepsico was listed as an industrial company under the "beverage" classification; in 1995, after acquiring a substantial number of restaurants, the company was listed as a service company under the "food services" classification.

Source: "The Fortune 500 By Industry," *Fortune*, April 22, 1991; "The Fortune 1000 Ranked Within Industries," *Fortune*, April 29, 1996.

A good indicator of this decline of stable and remunerative employment is the extent to which employers provide managers and workers with sickness and old age benefits. In 1960 only 11 percent of the civilian labor force had health benefits paid by employers. By 1970 this proportion had increased to 30 percent and by 1980 to 62 percent. Yet by 1990 only 52 percent of employees had health benefits paid by

employers.¹⁰ A similar trend can be seen in employer contributions to employee pension funds. In 1960 24 percent of the civilian labor force had such benefits, in 1970 32 percent, and in 1980 45 percent. By 1990 this proportion had declined to 40 percent, and by 1993 to 39 percent.¹¹ This decline in benefits occurred for all occupational classifications. For example, comparing 1982 and 1993, coverage by group health plans dropped from 72 percent to 61 percent for semi-skilled workers, from 76 percent to 57 percent for skilled workers (precision production, craft, and repair employees), and from 76 percent to 67 percent for managerial and professional employees.¹²

The first place to look for an explanation of the disappearance of good jobs in the American economy is employment trends within the nation's major industrial corporations. In the decades after World War II, the foundations of U.S. economic development were the willingness and ability of the nation's major industrial corporations to allocate their considerable financial resources to investment strategies that created the good jobs that many Americans began to take for granted. In 1969 the 50 largest U.S. industrial corporations by sales directly employed 6.4 million people, equivalent to 7.5 percent of the civilian labor force. In 1991 these companies directly employed 5.2 million people, equivalent to 4.2 percent of the labor force (see Table 1). And since 1991 the downsizing of these companies has gone forward at a steady, and even increasing, pace. Yet, prior to the 1980s, large industrial corporations had been the employers that had provided the most stable and remunerative jobs in the economy.

What underlies the prevalence and persistence of corporate downsizing? A typical top-management explanation is that changes in competition and technology have rendered significant proportions of existing corporate labor forces redundant in terms of both the quantity of people who can generate corporate revenues and the quality of skills needed to do so. From this perspective, downsizing is part and parcel of a strategy for corporate restructuring that will enhance the ability of remaining corporate employees to generate the revenues that can sustain their employment. Should the corporation try to maintain existing levels of employment, so the argument goes, the long-term viability of the whole enterprise could be in jeopardy. From this perspective, the obligation of the corporation is to remain competitive, an objective that may well be in conflict with maintaining the prior stock of good jobs.

The realities of international competition and technological change undoubtedly demand organizational restructuring. If that process is to form a

renewed foundation for sustainable prosperity, however, it must entail innovative investments. Such investments mean committing resources to the development of integrated skill bases, and whether these investment strategies will require the employment of more or less people is an open question. It is possible that, in implementing their downsizing strategies, top managers of major U.S. corporations have focused so much on job cutting as the prime mode of cost cutting that they have ignored the allocation of corporate resources to innovative investment strategies.

Although competitive outcomes are always uncertain when investment decisions are made, innovative investment strategies can result in higher quality and/or lower cost products than the enterprise had previously been capable of generating. Such investment strategies invariably require the allocation of substantial resources to skill formation within the enterprise. This skill formation builds on capabilities that the enterprise has already accumulated, and provides the foundation for learning processes that can enable the enterprise to gain sustained competitive advantage.

Changes in the employment performance of major U.S. industrial corporations appear to be related to changes in the ways in which those who govern these corporations have been choosing to allocate corporate revenues. The fact is that corporate managers control substantial financial and productive resources that permit them to make strategic choices in the allocation of resources. Retained earnings --undistributed profits and capital consumption allowances -- have always provided, and continue to provide, the financial resources that are the foundation of investments in productive capabilities that can make innovation and industrial development possible. From 1970 to 1989, for example, retained earnings accounted for 91 percent of the net sources of finance for U.S. nonfinancial industrial corporations, while debt finance accounted for 34 percent with new equity and other sources of finance being negative.¹³

How major corporations allocate their vast revenues are matters of strategic choice, and the strategic choices of corporate decision makers can have profound effects on the availability and viability of stable and remunerative employment opportunities. To understand what has been happening to employment opportunities in the United States, therefore, we have to understand strategic decision making within the nation's major industrial corporations, and how and why it has changed over time. The rhetoric used to support downsizing proclaims that the prime, if not only, corporate responsibility is to "create value for shareholders". And

indeed, since the 1970s, many corporations have become obsessed with shedding employees for the sake of boosting profits and distributing revenues to stockholders.

Under the slogan of "creating shareholder value", these distributions have taken the forms of not only dividends but also stock repurchases. Dividends as a proportion of corporate earnings -- the payout ratio -- has risen from about 45 percent in the 1960s and 1970s to over 60 percent in the 1980s and 1990s. Stock repurchases have risen even more dramatically. Prior to the 1980s, corporations tended to issue more equities than they repurchased, although, as we shall see, equity issues have never been an important source of funds for investment in productive capabilities. But during the 1980s the net equity issues for U.S. corporations became negative in many years, largely as a result of stock repurchases. In 1985, when total corporate dividends were \$92 billion, stock repurchases were \$20 billion, or about 22 percent of dividends. In 1989, when dividends had risen to \$128 billion, stock repurchases had increased to over \$60 billion, or almost half the amount of dividends. In 1990 to 1993 annual stock repurchases averaged about \$33 billion, but in 1994 rose to close to \$70 billion -- 33 percent of dividends -- and during the first nine months of 1995 were already over that amount.¹⁴

The strategic managers of the major U.S. industrial corporations were not always so oriented as they are at present toward "creating value for shareholders". In the quarter century after World War II, when the trend was toward greater income equality in the United States, the strategic orientation of American corporations was to allocate corporate revenues to the organization in the forms of incomes and benefits for both managers and workers as well as for investments in plant, equipment, and skills, especially the skills of managerial personnel.

Why, during the late 1970s and early 1980s, did the major U.S. corporations turn from reinvesting revenues and generating growing numbers of stable and remunerative jobs to distributing revenues to shareholders and shedding long-time employees? The problem is not just a change in ideological outlook by the top managers of America's major industrial corporations. To understand the transformation of U.S. industrial corporations from financial commitment to financial liquidity, and from value creation to value extraction, requires an analysis of the social foundations of U.S. industrial development during the quarter century after World War II and the erosion of these foundations -- which are both institutional

and organizational -- since the 1970s. At work in the erosion process, we shall argue, are industrial competition from abroad and financial transformation at home.

2. The Promise of Sustainable Prosperity

The United States has always prided itself on being the land of growing opportunity -- a nation in which any individual might rise or fall economically but in which for the population as a whole economic prosperity would be an ever-increasing reality. The United States emerged from World War II with by far the highest GDP per capita in the world (see Table 3). In the post-World War II decades, the United States not only held leading positions in capital goods industries such as steel, machine tools, and chemicals but was also dominant in consumer goods industries such as automobiles, electronics and pharmaceuticals.

Table 3. Gross Domestic Product per Capita, 1913-1989

U.S.\$ at 1985 relative prices

Nation	1913		1950		1973		1989	
	US\$	% of US	US\$	% of US	US\$	% of US	US\$	% of US
United States	4,846	100	8,605	100	14,093	100	18,282	100
Germany	2,506	52	3,295	38	10,124	72	13,752	75
Japan	1,153	24	1,620	19	9,524	68	15,336	84
France	2,746	57	4,176	49	10,351	73	13,952	76
Britain	4,152	86	5,651	66	10,079	72	13,519	74

Source: Angus Maddison, "Explaining the Economic Performance of Nations, 1820-1989," in William J. Baumol, Richard R. Nelson, and Edward N. Wolff, Convergence of Productivity: Cross-National Studies and Historical Evidence, Oxford University Press, 1994: 22.

In the rapidly expanding global economy that prevailed in the decades after World War II, U.S. leadership in technology and productivity enabled dominant American corporations to offer stable and remunerative employment to growing numbers of managers and workers, both within their own enterprises and in their supply and distribution networks. Table 4 illustrates the commanding international lead the United States had in high technology in the early 1960s.

In the mid-1960s the United States had 30 percent or more of world market share in aircraft and parts (50 percent in 1965), guided missiles and aerospace (43 percent), professional and scientific instruments (36 percent), office, computing and accounting machinery (36 percent), and engines, turbines, and parts (31 percent).¹⁵ In 1965 the number of scientists and engineers engaged in R&D as a proportion of total employment was 2-1/2 to 3 times higher in the United States than in Japan, Germany, or France.¹⁶ Into the late 1960s, in absolute terms, expenditure on R&D

in the United States was more than double that of the United Kingdom, Germany, France, and Japan combined, largely because of massive U.S. federal government funds deployed in combination with investment and employment by U.S. industrial corporations.¹⁷ In the late 1960s the United States also had a 26 percent share of world machine tool production, larger even than that of Germany, which had by far the largest share of world exports (see Table 5).

Table 4. National Shares of World High-Technology Markets, 1962-1980

percent Nation	World Market Share			World Export Share		
	1962	1970	1980	1962	1970	1980
USA	30.3	27.6	23.9	38.4	38.6	32.9
Japan	4.1	9.6	12.3	4.6	6.9	5.8
Germany	17.6	18.0	17.5	8.5	13.2	16.0
France	7.7	7.8	9.0	7.2	10.6	12.1

Source: Romesh Diwan and Chandana Chakraborty, High Technology and International Competitiveness, Praeger, 1991: 45.

Table 5. Global Shares of Production and Exports of Machine Tools, 1968-1986

percent Year	USA		Germany		Japan	
	Production	Exports	Production	Exports	Production	Exports
1968	26.3	10.0	N/A.	28.9	7.5	3.6
1976	16.3	8.5	18.3	28.5	7.9	7.2
1980	18.2	7.3	17.9	24.8	14.5	13.2
1986	9.7	4.1	17.8	22.9	24.2	21.4

Note: N/A means not available

Source: Artemis March, "The U.S. Machine Tool Industry and its Foreign Competitors," in MIT Commission on Industrial Productivity, The Working Papers of the MIT Commission on Industrial Productivity, Volume 2, MIT Press, 1989: 88.

In the decades after World War II, the advantageous position of U.S. industry in the global economy created the promise of sustainable prosperity for Americans. A more limited promise of sustainable prosperity had also appeared in the 1920s when, particularly in the consumer durable, chemical, and electrical manufacturing industries, a number of corporations consolidated their control over large market shares. Between 1919 and 1929 manufacturing production in the United States grew at a rate of 8.0 percent per annum and labor productivity in manufacturing at a rate of 5.6 percent per annum. In sharing in this growth, managers and stockholders fared much better than workers. Between 1920 and 1929, managerial salaries in manufacturing rose by 22 percent and enterprise surpluses rose by 63 percent, while the wages of workers in manufacturing fell by 6 percent.¹⁸

The workers who fared best during the 1920s were those who found employment with the dominant mass producers. In the automobile industry, for example, which was dominated by General Motors and Ford Motor Company, wages rose by 24 percent during the 1920s, while managerial salaries rose by 15 percent and enterprise surpluses by 193 percent. At a small number of "progressive" corporations such as General Motors, General Electric, National Cash Register, Eastman Kodak, and Procter & Gamble, the 1920s saw the introduction of organizational initiatives, including systematic promotion and pay policies, grievance procedures, and employee representation, designed to provide stable and remunerative employment to cooperative shop-floor workers.¹⁹

Yet, in the early 1930s, the promise of sustainable prosperity vanished. Despite initial attempts at worksharing, the deepening depression of economic activity put an end to the stable employment that the dominant corporations had been able and willing to provide in the 1920s. In 1929 Detroit automobile companies employed 475,000 workers; by the end of 1931 almost half of this number had been laid off. In 1933 wages and salaries in U.S. manufacturing were less than half, and in the automobile and steel industries well under 40 percent, of their 1929 levels.²⁰

Within the major industrial corporations, shop-floor workers were particularly affected by these massive cutbacks. Having invested in the skills of managerial employees, the corporations sought to keep their managerial organizations intact. The more valuable the employees as productive assets, the more reluctant were the corporations to part company with them. Indeed, during the 1930s, the industrial corporations continued to augment their R&D capabilities. The research laboratories of U.S. manufacturing enterprises employed 2,775 scientific and engineering personnel, or 0.56 research professionals per thousand manufacturing employees in 1921; 10,927 professionals or 1.93 per thousand in 1933; and almost 28,000 professionals or 3.5 per thousand in 1940.²¹

During the early 1930s most of the industrial corporations -- even those that had pursued progressive employment policies in the 1920s -- deemed shop-floor workers to be dispensable because the companies had not invested in their skills. From the nineteenth century, the prevailing managerial ideology in the United States had been to develop technology in ways that could dispense with the need for shop-floor skills in the utilization of technology.²² The progressive employment practices of the 1920s had been designed to secure the cooperation of shop-floor workers in supplying their efforts to ensuring high levels of utilization of expensive

high-throughput technologies. But at the same time, corporate managers sought to develop new technologies that could take the exercise of skills off the shop floor.

When, during the 1930s, even the most dominant industrial corporations failed to provide shop-floor workers with stable and remunerative jobs, these employees turned to industrial unionism to provide them with some control over their futures. Backed by New Deal legislation that protected the rights of workers to organize unions and engage in collective bargaining, shop-floor employees in American manufacturing built powerful mass-production unions that would become a major force in ensuring them employment security and high wages in the post-World War II expansion. In the postwar decades, these unions did not challenge the principle of management's right to control the development and utilization of the enterprise's productive capabilities.²³ In practice, however, the *quid pro quo* for union cooperation was that seniority be a prime criterion for promotion along well-defined job structures, thus giving older workers best access to a succession of jobs paying gradually rising hourly wage rates. This labor-management accord provided the organizational basis on which the dominant industrial corporations shared the gains of the post-World War II prosperity with shop-floor workers.

The economic basis for the growth of secure and stable employment opportunities and a more equal distribution of income in the United States in the post-World War II decades was the rapid growth of the international economy combined with the productive capability of the major U.S. industrial corporations to dominate in global competition. The basis of the sustained competitive advantage of these corporations was organizational learning. Through learning that was both collective and cumulative, these enterprises developed product and process technologies that competitors could not easily replicate. In most of the U.S. industrial corporations that dominated in global competition, this organizational learning occurred among technical, administrative, and professional personnel within the managerial organization and specifically excluded operatives on the shop floor.

Nevertheless, these corporations still relied on the cooperative effort of shop-floor employees to secure high degrees of utilization of the process technologies in which they had invested. Within the framework of the new industrial unionism, therefore, these corporations could benefit economically by sharing some of the returns from their sustained competitive advantage with shop-floor workers in the forms of stable employment and good wages and benefits.

In providing these shop-floor workers with stable and remunerative employment, however, the corporations made little if any attempt to integrate shop-floor workers into the organizational learning processes. Rather, despite the provision of good jobs to shop-floor workers, the ideology persisted that shop-floor workers were merely "hourly employees", and hence easily interchangeable and replaceable units of labor. Such hourly employees stood in contrast to professional, managerial, and technical employees who, as "salaried personnel," were deemed to be members of the enterprise in whose skills the corporation had to invest and whose capabilities that corporation had to retain. The result was a sharp organizational segmentation between managers and workers -- between insiders and outsiders to the learning process -- that would prove to be the Achilles heel of American industrial corporations when challenged from abroad by corporations that integrated shop-floor labor into the processes of organizational learning.

3. The Challenge to Sustainable Prosperity

The sustained competitive advantage of an enterprise, region, or nation depends on its ability to develop and utilize productive resources better than rival enterprises, regions, or nations. Across nations and over time, the superior development and utilization of productive resources has increasingly required learning that is collective and cumulative -- that is, organizational learning -- rather than simply the aggregation of learning by individuals.²⁴ Hence, the importance of organizations, both government and business, to the process of economic development, even in "market economies" such as those of the United States, Germany, and Japan.

The collective skill bases that can be organizationally integrated to generate organizational learning vary across industries characterized by different technologies that provide different opportunities for collective learning. For example, organizational learning in the pharmaceuticals industry relies on the integration of a very different skill base than organizational learning in the automobile industry. Moreover, even within a particular industry, the character of the integrated skill base that can generate organizational learning varies over time as cumulative learning transforms the possibilities for a collective skill base to develop and utilize productive resources. For example, compared with the skill bases within the managerial structures of the enterprise that enabled the U.S. automobile companies to be the dominant mass producers from the 1920s to the 1960s, the successful challenge of the Japanese automobile producers has relied on broader and deeper skill bases -- ones that include both managerial and shop-

floor employees within core enterprises and organizational integration of the skills bases in core enterprises with those of suppliers.

As a general rule, within any given industry and for any given technology, the potential for organizational learning that is collective and cumulative has made economic development increasingly dependent on organizational integration characterized by broader and deeper skill bases. These broader and deeper skill bases, mobilized for industrial development, in turn can provide the foundations for the sustainable prosperity of a region or nation. Not only can they generate higher quality, lower cost products that bring economic growth, but, by relying on the participation of more people with greater skills to generate these products, they can distribute more widely among the working population the gains of economic growth.

If, as we shall argue, the effective challenges to sustainable prosperity in the United States have come from foreign enterprises that develop and utilize productive resources by integrating broader and deeper skill bases, strategic responses of U.S. enterprises could entail organizational integration that extends the collective learning process to groups of producers – other employees and other firms -- whose productive capabilities were previously excluded from the collective learning process. But such innovative responses that broaden and deepen the productive capabilities engaged in the collective learning process may not be forthcoming because strategic decision makers may have neither the incentive nor the ability to make such strategic investments. Rather they may seek to compete on the basis of the pre-existing organizational integration that had given their enterprises competitive advantage in the past. In the face of the competitive challenges, they may even choose to exit from developing and utilizing particular technologies in industries in which a competitive response demands investments in broader and deeper skill bases.

As a necessary complement to organizational integration in the process of innovation, **financial commitment** is a term we use to describe the social relations that are the basis for the ongoing access of a business organisation to the financial resources required to sustain the development and utilization of productive resources.²⁵ The level and duration of financial commitment required to generate innovation varies across industries characterized by different learning processes and over time as learning processes require broader and deeper skill bases.

In combination, organizational integration and financial commitment provide social foundations for innovative business enterprise. In terms of inputs into the production process, organizational integration supplies knowledge and financial

commitment supplies money. In contributing to the innovation process, however, these inputs are not commodities. They reflect the social relations to the business organization of people who supply knowledge and money. These social conditions constitute norms according to which strategic decisions are made within enterprises concerning the allocation of resources to the productive transformation in these organizations and the allocation of returns from it. Without institutions that support organizational integration and financial commitment -- or more precisely, without the organizational control over knowledge and money that these conditions support -- business enterprises cannot generate innovation through strategic investments in collective learning processes. In all of the advanced industrial nations, in different ways and to varying degrees at any one time as well as over time, organizational integration and financial commitment have provided the social foundations for innovation and industrial development.

The Wealth of Different Nations

From the late nineteenth century, the U.S., German, and Japanese economies all experienced a transformation in the social organization of their major business enterprises. This social transformation has become known as "the managerial revolution". The characteristic features of the managerial revolution were 1) the employment of technical and administrative personnel by business organizations on a "permanent" basis so that these employees could engage in organizational learning; and 2) the governance of these enterprises by salaried managers so that they could allocate surplus revenues to investment strategies that sought to develop further and utilize more completely the productive capabilities of the business organization.

While organizational control over both knowledge and money have been common characteristics of successful industrial development in nations such as the United States, Germany, and Japan during this century, there have also been significant differences in organizational integration and financial commitment within business enterprises across advanced economies.²⁶ We shall focus on the differences between Japan and the United States because it has been Japanese industrial enterprises that over the past two decades have mounted the most effective challenges to U.S. industrial dominance. In gaining ascendancy in international competition, the peculiar features of the Japanese economy have been 1) the extension of permanent employment to male shop-floor workers so that the enterprise can, as is the case with managerial employees, develop and utilize their

skills in an organizational learning process; and 2) the evolution and persistence of a cross-shareholding movement in which major companies hold each others' equity shares for the purpose of ensuring that these business organizations can maintain control over the revenues that they generate.

Japanese permanent employment builds on the high-quality but nonvocational primary and secondary educations that all the nation's children receive. The level of education attained (college or high school) tracks males into managerial or shop-floor employment, while females are generally expected to drop out of the paid labor force once married and hence are not considered permanent employees. At major companies, all permanent employees, both managers and workers, go through extensive internal training in a wide variety of activities that gives them the capabilities to work in teams to solve problems specific to the company's products and processes.

Cross-shareholding, which began in the 1950s to keep public shareholders from laying claim to the financial resources of companies recovering from the devastations of World War II, currently involves about 70 percent of the outstanding shares of the major industrial corporations. Companies hold these shares of other companies, not for capital gains or dividends, but to suppress the property rights of individuals and thereby ensure that business organizations, by controlling their financial resources, can govern their investment strategies. In effect, for the sake of industrial development, the Japanese business community has organized itself to suspend the traditional rights of individual shareholding in collective business organizations. These companies have been run for the sake of permanent employees -- that is, male managers and workers within the company. The practice of cross-shareholding, however, also means that across companies the critical relations are not ones of property but of business. Major Japanese companies not only commit resources to develop the productive capabilities of their own companies but also release skills and money to set up new autonomous companies and make investments in other legally distinct enterprises (especially suppliers) with which the company is engaged in a process of organizational learning.

The Japanese Challenge to American Industry

In the 1970s and 1980s the Japanese successfully challenged the Americans in industries that mass produced durable goods such as passenger cars, televisions, audio equipment, video equipment, photocopiers, and computers -- industries in which the United States had previously reigned supreme. Japanese competitive

advantage in these industries built on their advances in vertically related capital-goods industries such as steel, machine tools, and semiconductors that provided the materials, the equipment, and the components for generating high-quality, low-cost products.²⁷

The Japanese challenge was devastating in consumer electronics -- an industrial sector in which, in the decades after World War II, the United States had been the unrivaled world leader. Indeed, during the middle decades of the century, a number of U.S.-based companies -- General Electric, RCA, Motorola, and Zenith among others -- collectively created the consumer electronics industry. Critical to U.S. dominance in these industries were its pioneering efforts, first in vacuum tubes, then transistors, and finally semiconductors.

By the 1970s the market for electronics products was vast. Between 1977 and 1985, the U.S. consumer electronics market alone increased by well over 300 percent in real terms, with video recording sales increasing from only 2 percent of the total in 1977 to about 25 percent in 1985.²⁸ During the mid-1980s, the total consumer electronics market in the United States was estimated to be about \$30 billion per year. Yet, by that time, it was a market that had been lost or abandoned by most of the American companies that had previously dominated the industry. It was the Japanese who, in consumer electronics, generated such formidable, and often unbeatable, competition to the Americans. Companies such as Sony, Hitachi, and Matsushita entered the consumer electronics industries in the 1950s in products such as radios and tape recorders, and then developed their capabilities in audio equipment and video equipment. U.S. imports increased from less than 6 percent of the U.S. consumer electronics market in 1960 to over 50 percent in 1979.²⁹

The United States went from almost complete control of the radio market in 1955 to virtually no market share twenty years later. RCA, the company that had pioneered in radio in 1920s, enjoyed enormous success in televisions in the 1950s and 1960s and complete failure in video equipment in the 1970s and 1980s.³⁰ In 1985 RCA had \$2.3 billion in consumer electronic sales (about ten percent of the entire U.S. market). But two years later, when RCA was acquired by General Electric as part of its deal for NBC, GE closed down all of RCA's operations (including the company's David Sarnoff Research Laboratory) and sold the RCA brand name to the French electronics company, Thomson (a company whose own name traces back to GE's pioneering scientist, Elihu Thomson). Zenith, the lone U.S. television manufacturer in the late 1980s, ceased producing televisions in the United States in 1995.³¹

In many other consumer electronics product markets, the story was much the same. For example, in the rapidly expanding video recording markets, in which U.S. companies had been the technological pioneers, Japanese companies such as Sony and Matsushita emerged as overwhelmingly dominant in the late 1970s and early 1980s.³² Indeed, from the early 1970s, the Japanese consumer electronics companies had been busy setting up production facilities in the United States, at first using some of the plants that had been abandoned by U.S. producers.³³

So too in the automobile industry, the competitive challenge to a previously dominant U.S. industry came from the Japanese. From the first decades of the twentieth century, the United States had taken the lead in the mass-production of automobiles. In 1950, with Europe and Japan still struggling to recover from the industrial damage of World War II, the United States produced over 80 percent of the world's automobiles (cars, trucks, and buses).³⁴ Even in 1960, when Europe and Japan had substantially rebuilt their war-torn economies, the United States retained about 50 percent of world production, the Europeans about 35 percent, and the Japanese only about two percent. The Japanese increased production from less than half a million vehicles in 1960 to 5.3 million in 1970 and 11.0 million in 1980, a year in which they surpassed the Americans as the world's largest producers of automobiles with about 29 percent of world production.³⁵

Domestic sales on the Japanese market were an important part of the demand for Japanese automobiles. Motor vehicle sales within Japan increased from 440,000 vehicles in 1960 to well over 5 million in 1980. But it was the ability of the Japanese to build on this home market to compete for foreign markets that made them world leaders in automobiles. Exports as a proportion of total production increased from 8 percent in 1960 to 21 percent in 1970, and then to 54 percent in 1980. Japanese exports had been growing steadily even before the OPEC-generated oil crisis of 1973-1974; in 1971 the Japanese were exporting 1.8 million vehicles, or 31 percent of total production. In 1977, for the first time, the Japanese exported more automobiles than they sold at home.³⁶ In the early 1980s, about half of the Japanese output was produced by two companies, Toyota and Nissan, which joined General Motors and Ford as the world's leading automobile companies.³⁷

Central to the export success of the Japanese was their ability to penetrate the huge U.S. automobile market. In 1965 U.S. imports accounted for just 13 percent of Japanese automobile exports. By 1970 this figure had risen to 38 percent, and it peaked at 55 percent during the second oil crisis of 1979. In 15 years -- from 1964

to 1979 -- the number of Japanese automobiles imported into the United States increased from less than 20,000 to over 2.5 million. From the early 1980s, first in response to U.S. government political pressure and then in response to rising Japanese wages and the strengthening yen, Japanese automobile companies began to build plants in the United States to produce cars for the U.S. market, bringing their innovative production practices directly to the United States. Between 1982 and 1992, the Japanese invested almost \$9 billion to set up 9 major assembly plants in the United States, employing more than 30,000 workers and with a capacity to produce 2.4 million automobiles per year, some 20 percent of total U.S. production.³⁸

It was not only in the automobile industry that Japanese companies brought their productive capabilities, developed in Japan to produce for domestic and foreign markets, to compete for markets by producing in the United States. By 1989 Japanese industrial companies had set up 1,275 plants in the United States, employing over 300,000 people directly, in steel, computers, industrial machinery, rubber, and plastics as well automobiles and consumer electronics.³⁹ Success in these industries was not simply the result of creative vision and deft marketing -- although Japanese companies showed themselves to be adept at both. Nor were low wage rates or low interest rates the foundation of Japanese success. Rather the Japanese gained competitive advantage through a transformation of the way in which products were developed and utilized in mass-production industries. This productive transformation permitted Japanese enterprises to generate products that, in particular market segments, were both higher quality and lower cost than their competitors.

Japanese success in high-technology consumer-durables industries both depended on, and encouraged, the transformation of the nation's capital-goods industries. In particular, from the 1960s to the 1980s the Japanese transformed their machine-tool industry, trading places with the United States in shares of world production and exports (see Table 5).⁴⁰ So too, during the 1970s and 1980s, and integral to their successes in consumer electronics, computers, and telecommunications equipment, and mechatronics, Japanese companies such as NEC, Toshiba, Hitachi, Fujitsu, Mitsubishi, and Matsushita became world leaders in semiconductor production, and especially in dynamic random access memories (DRAMs).⁴¹ While the Japanese share of global semiconductor sales rose from 26 percent to 49 percent from 1980 to 1990, the U.S. share fell from 58 percent to 37

percent. In 1990 Japanese held over 70 percent of the world DRAM market, up from 22 percent a decade earlier.⁴²

What made the Japanese such formidable competitors was the extent of organizational integration that they achieved within and across business enterprises. All of the management practices -- "JIT manufacturing, total quality control, focused factories, concurrent engineering, short product development cycles, and close relationships with suppliers, customers, and laboratories", to quote one knowledgeable observer⁴³ -- that, by the 1980s, were being exported from Japan to the rest of the world entailed broader and deeper organizational integration. This organizational integration in turn enabled the Japanese to become the world leaders in the development and utilization of machine technologies and advanced materials that further transformed the ability of enterprises to generate high-quality, low-cost products -- even as these enterprises paid their employees higher and higher wages. That the Japanese transformed themselves into a high-wage economy while paying financial interests low rates of returns manifests the financial commitment that permitted investments in organization and technology. These investments in turn generated products that outcompeted the previous world leaders in terms of both quality and cost.

Occurring as it did across a broad, and interrelated, set of industries in which the United States had previously been world dominant, competition from Japan posed a formidable challenge to U.S. prosperity. On the shop floor and within managerial structures of major U.S. industrial corporations, the sustainability of the stable and remunerative employment of millions of American workers could no longer be taken for granted as product markets in what had been the most powerful industries in the United States were lost.

If the Japanese challenge had been based on low wages, as many believed in the 1970s, then the threat to the sustainability of American employment in mass-production industries should have vanished as Japanese wages climbed at a rapid pace. At the beginning of the 1970s Japanese wages per hour for production workers in manufacturing were only about one-sixth of U.S. hourly wages. By the end of the decade, however, Japanese wages were about five-sixths of the U.S. level, and during the 1980s the differential vanished. Between 1982 and 1994 hourly manufacturing compensation, measured in current U.S. dollars, increased by 55 percent in the United States, 178 percent in West Germany, and 296 percent in Japan⁴⁴ -- yet Japanese manufacturers continued to exert formidable pressure on their American and German competitors.

What needs to be explained is the ability of the Japanese to transform low wages into high wages on a sustained basis. Protection of the home market and unfair trade practices do not provide compelling explanations in view of the ultimate, and relatively rapid, success of the Japanese in transforming low wages into high wages and gaining dominant shares of world markets. For a nation engaged in global competition, sustained increases in earnings for large numbers of people require that a significant proportion of its productive enterprises be able to develop and utilize productive resources so that they can gain *sustainable competitive advantage*. To understand how the Japanese outcompeted the United States in the 1970s and 1980s (and beyond) is to understand how their major enterprises pursued innovative strategies that resulted in the superior development and utilization of productive resources on the basis of superior organizational integration and greater financial commitment than the integration and commitment that prevailed in the United States.

In an industry characterized by complex divisions of labor, the development of productive resources requires organizational learning -- that is, learning in which participants in the business organization acquire knowledge and solve problems as a collectivity that cumulates its capabilities over time. As part of an innovative strategy that seeks to develop productive resources, the utilization of productive resources requires organizational incentives that induce members of the business organization to apply their productive capabilities to the benefit of the enterprise as a whole. Put differently, in industries that entail complex divisions of labor, sustained competitive advantage is the result of a social process that is embedded in the business enterprise.

For the innovative enterprise, the technological -- or developmental -- challenge is to generate products that are higher quality than those which are currently available on the market, and the economic -- or utilization -- challenge is to generate these higher quality products at lower unit costs than competitors. The technological and economic challenges are inextricably related because the cost of developing productive resources depends on the utilization of productive resources that enter into the developmental process, while the utilization of productive resources depends on the quality of the productive resources that the enterprise has developed.

For example, the longer the product-development cycle, the higher the fixed costs inherent in the product, and the higher the level of productivity required to achieve low unit costs. For many products, developmental investments are large

relative to the investment in plant and equipment required to produce a new product. To give three examples: for the Hewlett-Packard Deskjet 500 printer, the development cost was \$50 million and the production investment \$25 million; for the Chrysler Concorde automobile, \$1 billion and \$600 million; and for the Boeing 777 airliner, \$3 billion and \$3 billion.⁴⁵ Given these developmental costs, the ability to achieve high levels of productivity depends on the development of process technologies that permit high levels of throughput and low levels of defects. Indeed, a key characteristic of all of the organizational practices for technology development that have been important to Japanese success has been the integration of product and process development

Organizational integration represents the way in which the innovative enterprise seeks to meet these two challenges -- the technological and the economic -- simultaneously. Over the past fifteen years or so -- from the time that many Americans who were knowledgeable about production began to realize that the Japanese challenge would not simply disappear -- studies have accumulated that recognize the importance of organizational integration to Japanese competitive advantage in the mechanical and electronic industries that its companies have come to dominate. There is now a large and expanding body of evidence, based on enterprise-level studies, that shows that organizational integration is key to superior product development and process development, and that a prime source of competitive advantage of Japanese companies in global competition is the organizational integration of participants in the enterprise to foster collective and cumulative learning processes.⁴⁶

The enterprise must invest substantial resources to finance the development of the capabilities of large numbers of employees through collective learning. These costs include not only the commonly measured expenditures on R&D but also the training of people to perform a wide variety of tasks and the funding of experimentation at all functional and hierarchical levels of the organization. These developmental costs derive from permitting people to engage in learning processes that eventually can result in superior products and processes, even though in many cases the use of existing practice could save on these costs and achieve higher levels of output and revenue in the short run. Resource commitments must also be made to give employees the incentives to devote their creativity to enterprise goals and to make their acquired experience available to benefit the enterprise in the future.

Although standard accounting practices do not classify investments in organization as enterprise assets, investments in collective learning processes are indeed assets, the acquisition of which entail substantial fixed costs for the enterprise. In incurring these high fixed costs, the strategy of the enterprise is to develop capabilities that will generate the high quality, lower cost products that are the products of innovation and the sources of competitive advantage. These high fixed costs make it critical, however, that the enterprise actually achieve the superior development and utilization of its productive resources if it is to gain a competitive advantage. Indeed, an enterprise that incurs the high fixed costs of investments in organizational integration without achieving a superior development and utilization of productive resources will place itself at a competitive *disadvantage* relative to what its competitive position would have been had it eschewed such an investment strategy.⁴⁷

As is well known, a characteristic organizational feature of major Japanese corporations since the 1950s has been the permanent employment of not only managerial personnel (as was effectively the case in major U.S. corporations until the 1980s) but also male shop-floor workers. In addition, major Japanese industrial corporations maintain long-term relationships with vertically related enterprises, especially component suppliers.⁴⁸ If and when this organizational integration of personnel, employed both directly and through subcontractors, does not generate higher quality, lower cost products on a sustained basis, the high fixed costs inherent in such an organizational structure place major Japanese companies at a competitive disadvantage. Prima facie evidence that this employment system instead provided a foundation for sustainable competitive advantage from the 1950s lies in the fact that the system became institutionalized in the decades that Japanese incomes rose dramatically while Japanese companies were able to continuously reinvest in more and better productive capabilities.

To develop and utilize productive resources on the basis of organizational learning requires financial commitment. Before World War II, the zaibatsu, the enterprise groups that were central to the development of Japanese industry, provided financial commitment, particularly to the heavy machinery and shipbuilding industries. The ownership of the holding companies that ran powerful zaibatsu such as Mitsui, Mitsubishi, and Sumitomo remained largely in the hands of the founding families but strategic control over the allocation of zaibatsu resources passed increasingly to salaried career managers.⁴⁹ In the aftermath of World War II the Allied occupation dissolved the *zaibatsu* by distributing shares in the holding

companies to the general public, thus transferring ownership from the *zaibatsu* families and formally severing the ownership linkages among the constituent *zaibatsu* enterprises. Most of these companies had their equities listed on the Tokyo Stock Exchange when it was reopened in May 1949.⁵⁰

In the 1950s, after the Allies departed, the Japanese business community, led by the top managers of the major industrial companies and banks, initiated a cross-shareholding movement to ensure that outside stockholders did not disrupt the accumulation of capabilities in industries such as consumer electronics and automobiles. Japanese businesses bought blocks of each other's shares with the intent of remaining stable shareholders who, for the sake of ensuring organizational control, would neither sell the shares on the open market nor demand high dividends. The concomitant rise and strengthening of enterprise unionism reinforced the forces in Japanese industry and society that supported organizational control over enterprise revenues by making the delivery of permanent employment and higher earnings to male employees major goals of the enterprise. After Japan joined the OECD in 1964, the Japanese business community increased the level of cross-shareholding to ensure that foreigners did not use the market for corporate control to take over the increasingly successful Japanese companies.

By the late 1980s, cross-shareholding accounted for about 68 percent of all shares listed on the Tokyo Stock Exchange and in 1995 was about 65 percent.⁵¹ Meanwhile, as Japanese companies barely increased dividends per share from their nominal levels in the 1950s, yields of corporate stocks declined to less than one percent in the late 1980s and early 1990s. Even life insurance companies, which in 1989 owned 13 percent of shares of listed companies outstanding, have been stable shareholders -- they do not normally sell the shares that they hold.⁵²

What binds the Japanese business community together in providing financial commitment is not the yields that they can receive on each other's shares, or even the property rights conventionally associated with these shares, but the business relations they have with each other and the consequent common interest in the sustained growth of the Japanese economy. Into the mid-1990s, the cross-shareholding movement has remained intact, despite the financial mania of the late 1980s that created strong short-term incentives for any individual cross-shareholding company to market the shares of other companies on the vastly inflated Tokyo stock market. At the same time, as they develop new lines of business, successful Japanese industrial enterprises often provide the knowledge

and money to spin off new enterprises with distinctive product-market orientations as distinct units of strategic control within the enterprise group.⁵³

Throughout the twentieth century, the foundation of Japanese corporate finance has been retained earnings. As was the case before World War II, these retained earnings have often been highly leveraged by loans from banks, with the main bank of the company's *keiretsu* taking the lead. Also, as before the war, the main banks could commit finance to industrial development because of not only their deposit base but also their access to funds through the "overloan" policies of the Bank of Japan.⁵⁴ By the late 1980s, the success of the industrial companies permitted them to reduce, in many cases dramatically, their bank debt.

Organizational control over the allocation of corporate revenues remains dominant in Japan, therefore, because the business community has cooperated in ensuring that shareholders cannot extract resources from industrial enterprises, while the government, through the regulation of the financial system, has ensured that debt financing for industrial development is both inexpensive and secure. Manifesting the dominance of organizational control is the remuneration of top managers of Japanese industrial corporations, which remains far below that of their counterparts in the United States and Britain, even when – as is often the case – their companies outperform their U.S. and British counterparts.⁵⁵

Indeed, the outstanding performance of Japanese companies over the past few decades derives in part from the recognition that top managers hold their positions of authority and responsibility as members of an organization and that the capabilities that permit superior economic performance are not individual but organizational. The foundations of these organizational capabilities are not only within the managerial structure but also on the shop floor and in vertically related enterprises.⁵⁶ Japan's economic success reflects a powerful mode of "collective capitalism" in which members of the business community, acting in concert, have suspended the traditional rights of private stockholding for the sake of sustained economic growth.⁵⁷

4. The Erosion of Sustainable Prosperity

Financial commitment was also central to the rise of the United States to its position of industrial leadership during the first half of the twentieth century. In the United States, even more so than in Japan, retained earnings formed the foundation of enterprise access to committed finance. In the United States, as in Japan, financial

commitment permitted investments in learning organizations that developed and utilized productive resources.

Unlike Japan, however, the organizational integration characteristic of American companies did not extend to the shop floor, but was confined to the professional, administrative, and technical employees who inhabited the managerial structure. Nevertheless, in its time, the organizational integration of managerial employees in U.S. corporations represented a powerful mode for developing and utilizing technology. The limits of this restricted U.S. mode of organizational integration for developing and utilizing productive resources became apparent, however, with the coming of the Japanese challenge. Confronted by business organizations that developed and utilized broader and deeper skill bases, the competitive advantages of organizational integration within U.S. managerial structures came up against the competitive disadvantages of organizational segmentation between management and labor.

Moreover, in contrast to Japan, the financial commitment that could be obtained from reinvesting the earnings of already successful productive investments did not give birth to new ventures affiliated with enterprise groups. Rather it created pressures for the growth of the corporate enterprise, either through internal expansion or external acquisition, so that strategic control became increasingly concentrated in the central offices of multibusiness enterprises. Confronted by business organizations that permitted the decentralization of strategic control in units affiliated to the enterprise group, the competitive advantages of financial commitment by powerful corporate enterprises were offset by the competitive disadvantages of organizational segmentation of top management with strategic control from the learning collectivities within the managerial organization that developed and utilized the productive resources of the enterprise.

Confronted by competitive challenges that required organizational transformation for innovative responses, many U.S. industrial corporations in the last few decades have instead sought to compete on the basis of adaptive responses.⁵⁸ Rather than integrate strategic managers with the learning collectivities, and rather than extend organizational integration to the shop floor, most major U.S. industrial enterprises have chosen to narrow and concentrate the skill bases in which they invest. These learning collectivities can often still maintain world leadership in industries and activities in which their enterprises had been able to cumulate productive capabilities in the past.⁵⁹ But such enterprises are not making investments in the broader and deeper collectivities that are needed to

develop and utilize new technologies in both new and existing industries. Instead of providing the financial commitment required for developmental investments, these enterprises have become obsessed with financial liquidity as manifested by high levels of dividends, unprecedented stock repurchases, and massive corporate downsizing. To the origins and implications of organizational segmentation and financial liquidity in U.S. industry, we now turn.

From Organizational Integration to Organizational Segmentation

The impact of the Japanese challenge has varied markedly across industries. The Japanese challenge has been least in industries such as pharmaceuticals and chemicals in which it is possible to innovate and gain competitive advantage through the organizational integration of relatively small groups of scientists and engineers. In industries such as automobiles and consumer electronics in which competitive advantage depends on the organizational integration of not only managerial (professional, administrative, and technical) employees but also shop-floor personnel, the United States has been most susceptible to the Japanese challenge. The challenge to high value-added industry in the United States has come not from low-wage competition but from enterprises and industries that have gained competitive advantage through the development and utilization of broader and deeper skill bases than American companies.

Even within product markets in which U.S. companies remain world leaders, there is insufficient broadening and deepening of the skill base to retain competitive advantage for producers in the United States. Take for example the case of General Electric Medical Equipment, one of GE's twelve businesses in which, in line with the competitive strategy propounded by CEO Jack Welch from the early 1980s, the company considers itself to be the "number one or number two" producer in the world.⁶⁰ Since 1982 GE's capability for developing and manufacturing medical equipment has become increasingly reliant on a joint venture with a Japanese company, Yokogawa Electric, a world leader in manufacturing industrial control systems and a prime example of Japanese manufacturing excellence.⁶¹ In 1982, GE's distribution contract with Yokogawa Electric, begun in 1976, was transformed into a joint venture, Yokogawa Medical Systems (YMS), after Yokogawa Electric, in defiance of GE, had begun manufacturing CT scanners for the Japanese market. All of the YMS's original 333 employees came from Yokogawa Electric, and the company's internal organization and productive capabilities are distinctly of Japanese origin. In 1986, it was the successful development of these indigenous

capabilities that led GE to increase its ownership of YMS from 50 percent to 75 percent, and in 1994, it was the ever-expanding range of YMS's product lines and its increasing share of global (including U.S.) markets that led GE to change the company's name to GE Yokogawa Medical Systems.

Nurturing of foreign competitors through strategic alliances that combine outsourcing with technology transfer is not new to U.S. companies. From the 1960s, in industries such as consumer electronics, leading U.S. enterprises outsourced manufacturing with attendant transfers of key technologies abroad.⁶² At some point, the subcontractors, having acquired American technology and having developed manufacturing capability, then invested in product development and marketing capability, put their own brand names on the final product, and became the new competition. Unless American companies reverse the process by investing in broader and deeper skill bases, the competitive problems will only grow as other national economies besides Japan make these investments. It would appear, however, that far from responding to foreign competition by investing in organizational integration, the prevalent tendencies in U.S. industrial corporations have been toward hierarchical, functional, and strategic segmentation.⁶³

As we have already indicated, the evolution of the American employment system creates profound biases within American corporations toward hierarchical segmentation and against investments in broader and deeper skill bases. From the early nineteenth century, the mobility of labor in the United States created a bias toward developing manufacturing technologies that would not require the complementary application of skills and exercise of initiative by shop-floor workers.⁶⁴ To develop these technologies and ensure their complete utilization required investment in managerial organization. The attempts in the late nineteenth century to increase the power of craft unions through their organization into the American Federation of Labor only increased the resolve of entrepreneurs and managers to develop and utilize manufacturing technologies in ways that segmented shop-floor workers from the learning process.

The industrial unionism that, during the 1930s, replaced craft unionism helped to institutionalize the segmentation of shop-floor workers from the organizational learning process. Industrial unions focused on getting their members a share of the competitive gains made possible by learning processes generated within the enterprises' managerial structures. In return for higher wages and benefits, shop-floor workers cooperated in supplying the labor effort that ensured high levels of utilization of expensive process technologies on the shop floor.

In those industries in which the integration of shop-floor workers into the collective learning process has become fundamental to innovation, the American mode of utilizing, but not developing, the productive capabilities of shop-floor labor can no longer generate the revenues to maintain the employment and wage levels of shop-floor workers. Hierarchical segmentation between managers and workers has become a barrier to innovation and competitive advantage in many U.S. industries. The failure of American industrial corporations, and American society, to make the necessary investments in developing the productive capability of shop-floor workers is a prime cause of the decline of good jobs and the growth of income inequality in the United States.

But the problems of collective learning in U.S. industrial corporations go beyond the hierarchical segmentation of management and labor. Within the managerial structure itself, the learning process has become increasingly subject to **functional segmentation**. Rather than engage in "concurrent engineering" in which managerial personnel in marketing, product design, and manufacturing work as teams, upstream specialists (for example, design engineers) work in isolation from downstream specialists (for example, production engineers), throwing their work -- and the problems inherent in it -- "over the wall" to the next functional activity. Functional segmentation results in longer product development cycles and inferior products than is the case with functional integration.⁶⁵ In historical perspective, functional segmentation in U.S. industry was exacerbated by the quest by highly specialized professional, administrative, and technical employees to protect their positions of authority and responsibility within the business enterprises that employ them in response to challenges to their hierarchical authority and responsibility from strategic managers above and shop-floor workers below.

In addition to functional and hierarchical segmentation, there has been a tendency in U.S. industrial corporations toward **strategic segmentation** -- the vesting of strategic decision making power within the corporation in top managers who, by their isolation at the top of the corporate hierarchy, possess little capacity for understanding and evaluating the problems and possibilities for organizational learning within their enterprises. In the face of a growing hierarchical and functional segmentation of American corporate organizations in the post-World War II decades, top managers portrayed themselves as "generalists" who, requiring no specialized knowledge, could manage anything. Indeed, specialized knowledge about particular products and processes was often portrayed as an impediment to strategic decision making, and there was a tendency for personnel with financial

rather than production expertise to rise to the top positions in many U.S. industrial corporations.⁶⁶

The segmentation of these top managers from the organizational learning process within the enterprise resulted in strategic decision making that was limited in its ability to assess or build on the enterprise's innovative capabilities.⁶⁷ As a result, strategic managers of U.S. corporations often made costly investments in plant and equipment that could be purchased on the market without complementary investments in organizational learning that could transform the combination of physical and human resources into sources of competitive advantage.⁶⁸

To argue for the centrality of organizational integration to innovation and, hence, economic development by no means implies that we do not have much to learn about the social conditions under which appropriate organizational integration is achieved and what strategic actions can be taken to transform these conditions. To what extent does organizational integration or organizational segmentation within enterprises derive from the social institutions that characterize the economy in which these enterprises evolve and compete? To what extent is a tendency from organizational integration to organizational segmentation the result of an evolutionary process of enterprise growth? To what extent is inadequate organizational integration the result of the emergence of new competitors?

A research program to answer these questions requires detailed company-level research that is both dynamic over time and comparative across social environments. What we are presenting here, based on research that has already been done, is a theoretical framework on the dynamic interactions among organization, technology, and competition that makes it possible to analyze these questions systematically. In particular, at the enterprise level such research must analyze the dynamic interactions among the different types of organizational segmentation in contributing to the erosion of sustainable prosperity. For example, hierarchical segmentation can exacerbate strategic segmentation as a narrow group of insiders concentrate strategic control to defend against the claims on corporate resources of a large group of outsiders. Or functional segmentation can lead to greater strategic segmentation by creating the need for the coordination of highly specialized activities by those who have no specialist expertise or identity. Strategic segmentation might induce functional specialists to demarcate and codify their realms of specialization in order to exercise greater control over their spheres of expertise, in the process making functional segmentation more pronounced. Strategic segmentation might also result in greater hierarchical segmentation as

strategic managers, unable and unwilling to invest in organizational learning processes, instead treat employees (such as those in professional, administrative, and technical activities) who were previously integrated into the organization like those (such as shop-floor employees) who are already segmented.

Existing research on organizational integration and segmentation reveals that the organizational integration that generates innovation occurs across, as well as within, enterprises. Elements of hierarchical, functional, and strategic integration or segmentation exist in the relation of subcontracting enterprises that supply materials, components, and machinery to dominant enterprises. A large and growing body of evidence on U.S. and Japanese supplier relations shows the importance for innovation and competitive advantage of the organizational integration of dominant enterprises with suppliers.⁶⁹ Organizational segmentation is not a problem when materials, components, and machinery have become standardized commodities and innovation is not required. Indeed, under these circumstances, strategic, functional, and hierarchical segmentation between the buyer and supplier can be expected to be the norms. But such conditions can pose fundamental problems when innovation in the supply of capital goods, whether as materials, components, or machines, is required to meet competitive challenges.

From Financial Commitment to Financial Liquidity

Organizational integration and the collective learning process for which it provides a foundation require financial commitment. Investments in organizational integration do not simply occur. Rather they are the results of strategic decisions by those who control financial resources that can be allocated to such investments. The ability of strategic managers to allocate resources to collective learning processes depends on the degree to which they themselves are integrated into that process. Their incentive to make such strategic resource allocations depends on the extent to which they see their own goals as being furthered through investment in a learning process that is both collective and cumulative.

Conversely, in the presence of strategic segmentation, top corporate managers will be more susceptible to pressures from financial interests to use their strategic control to make corporate resources a source of financial liquidity rather than financial commitment. In particular, in the allocation of corporate revenues, strategic managers who are segmented from the collective learning process are more likely to take actions such as issuing higher dividends, repurchasing stock, and reducing corporate employment that increase financial liquidity. The result of

such actions is to boost the returns on corporate stock in the short run as an alternative to committing financial resources to the investments in organization and technology that are necessary to achieve sustainable prosperity over the long run. Instead of aligning their interests with members of a collective learning process within their corporations, segmented strategic managers will tend to align their interests with public stockholders, whose only involvement with the corporation is through the security purchase that they have made on the public market and whose only interest in the corporation is financial.

Such corporate managers will come to evaluate the performance of the corporation from the perspective of financial liquidity rather than financial commitment, and will contend that the prime, if not only, goal of the business corporation is to "create value for shareholders." For their success in "maximizing shareholder wealth," these strategic managers will receive ample, and even exorbitant, personal rewards, even as most other corporate employees experience lower earnings and less employment stability and security.

This alignment of strategic managers with public stockholders at the expense of investments in organizational learning is precisely what happened to corporate strategy and corporate investment in the United States in the 1980s and 1990s. Encouraging these changes in business investment strategies was a transformation in the way in which wealthholding American households saved for the future. From the 1960s to the 1980s, fundamental changes occurred in U.S. financial institutions that encouraged and abetted American households to save for the future by living off the past. Returns from investments in publicly traded common stocks became the prime means by which wealthholding American households extracted higher returns from past accumulation. In doing so, American households have inadvertently exacerbated the problem of long-term business investment in the United States by not only reducing financial commitment but also encouraging the strategic segmentation of top corporate managers in the enterprises that these managers control.

At a time when the technological challenges of international competition have demanded investments in broader and deeper skill bases, the dynamic interaction of organizational segmentation and financial liquidity has led many U.S. industrial corporations to flee from such investments. Insofar as these corporations invest in organizational learning, they have done so through the development and utilization of narrower and more concentrated skill bases, thus limiting the range of productive activities and technologies in which U.S. companies can compete. This

interaction of organizational segmentation and financial liquidity, we argue, is a prime cause of the erosion of sustainable prosperity in the United States in the 1980s and 1990s.

At the center of the shift from financial commitment to financial liquidity in the investment strategies of American industrial corporations is the transformation of the role of the stock market in business investment and in household saving over the past few decades. The understanding of most Americans of the role of the stock market in the development of the American economy is based much more on myth than reality. The myth is that business enterprises have relied on the stock market to fund long-term investment, and that, therefore, the increased flow of household saving into the stock market that is now occurring is favorable to long-term economic growth. The reality is that in the United States the stock market is not, and never has been, an important source of funds for long-term business investment. The reality is that the use of publicly traded shares as a means of household savings entails living off the past rather than investing for the future.

Throughout the twentieth century, corporate retentions and corporate debt, not equity issues, have been the main sources of funds for business investment. For example, for the period 1982-1987, for the 100 largest U.S. manufacturing corporations, new equity issues were 10.1 percent of gross sources of funds and 3.1 percent of net sources of funds. The gross and net figures for retained earnings were 51.5 percent and 79.1 percent and for new debt 30.2 percent and 3.2 percent.⁷⁰ Even these figures do not tell the whole story of the limited role of equity issues in funding investment in new productive assets. New corporate equity issues have generally been used, not to finance investment in new productive assets, but to transfer ownership of existing assets or to restructure corporate balance sheets.

The ownership transfer may be an initial public offering (IPO), in which case ownership is transferred from the original owner-entrepreneurs and their venture-capital partners to a public stockholder. High levels of IPO activity, therefore, do not indicate that households and institutional investors are funding a wave of innovative investment. Rather, in absorbing the IPOs these portfolio investors are paying the entrepreneurs who built the businesses for a claim on the enterprise's future earnings, based on the investments in productive capabilities that have already been made. Whether any of the money realized from an IPO ends up committed to new innovative investment strategies, either in the issuing company or some other new venture, is at the discretion of the original owner-entrepreneurs and is not inherent in the IPO itself.

The ownership transfer may also occur for the purpose of one company acquiring another company. Typically, the acquiring company issues new stock of its corporation to exchange for the existing stock of the acquired company, whose stock is then retired.⁷¹ In the aftermath of the acquisition, the acquiring company may make substantial investments in the acquired company, but the equity issue does not provide the source of such investment financing.

Funds raised through equity issues may also be used to restructure the corporate balance sheet by using the proceeds from the sale to retire some corporate debt or add to cash reserves. Such a practice was common during the Japanese "bubble economy" of the late 1980s, as companies realized that windfalls could be obtained through the sale of equities to the public, who would buy stock at prices that were wildly out of line with the long-run earning power of the underlying corporate assets. So too, in the speculative boom of the late 1920s U.S. industrial corporations sold equity to pay off debt or increase their cash balances.⁷² As it turned out, the strengthened financial conditions of these companies helped them to withstand deep economic downturns that followed the speculative booms, in the U.S. case during the depression of the early 1930s and in the Japanese case during the recession of the early 1990s.

When companies have issued stock for the purpose of financing investment in new productive assets, it has usually been in the form of preferred shares, often with restricted voting rights. In terms of secure prospects of future returns, a preferred share is much closer to a corporate bond than a common stock. For going concerns that have the option to finance long-term investment on the basis of stocks or bonds, the use of stocks is expensive, less because of high transaction costs involved in equity financing, than because equity financing signals to potential investors that corporate management does not have the confidence that the company can meet the debt-service requirements of a bond issue. It is, therefore, self-defeating for a company that has access to bond financing to instead choose to issue equity.

If the primary role of the stock market is to transfer ownership over existing assets or to restructure the corporate balance sheet, what about retained earnings, which are the financial foundation of long-term investment? If stockholders are viewed as the principal investors in the company who, as residual claimants, bear all the risk of investment in productive assets, it might follow that they finance long-term corporate investment by leaving a portion of earnings in the company for that purpose. Such a perspective, however, ignores the fact that throughout this century

corporate governance in the United States has been characterized by the separation of stock ownership from managerial control over the allocation of corporate revenues. Public stockholders have had no direct input into the decisions to allocate corporate revenues. Nor have they hired, fired, rewarded, or punished the corporate managers who have made these decisions. Ostensibly the board of directors represents the interests of stockholders in these matters. But it is well known that, historically, the top managers of the U.S. corporation, not the stockholders, choose the board of directors, and that for stockholders to mount a proxy contest to replace top management can be very expensive.⁷³

Conversely, when, as in the 1980s and 1990s, institutional investors, who have channeled the savings of households into the stock market on an ever-increasing scale, have used the "market for corporate control" to influence managerial decision making concerning the allocation of corporate revenues, their primary interest has been to "disgorge the free cash flow".⁷⁴ Far from encouraging corporate managers to commit internal financial resources to the development and utilization of new productive capabilities, when public stockholders have had any influence on the allocation of corporate revenues they have opted for financial liquidity, not financial commitment.

In historical perspective, the lack of control of public stockholders over retained earnings of industrial corporations was not imposed on them by corporate managers or government regulators, as some have contended.⁷⁵ Rather this lack of control was a feature of public stockholding that portfolio investors not only accepted but also favored. The market in industrial securities evolved in the United States to effect the separation of stock ownership from strategic control because it offered American households liquidity but did not require commitment. Once the market in industrial securities came into existence, American households were willing to hold shares in publicly traded corporations only because their "ownership" stakes did not entail any commitments of their time, effort, or additional funds to ensure the success of the company. A general willingness to leave control over the allocation of corporate revenues with managers stemmed in part from the limited liability protection that public stockholders enjoyed. But, for any particular company, this abdication of control derived from the confidence of public stockholders that the equities they held were liquid, and hence could be sold on the stock market at any time.

In the United States in this century, the liquidity of equities traded on the stock market, and the consequent possibility for separating ownership and control,

derived from the fact that the market in industrial securities arose as a *result of* the growth of dominant enterprises during the last decades of the nineteenth century. The growth of these enterprises made possible the rise of a market in industrial securities, not vice versa. A market in industrial (as distinct from railroad and government) securities in the United States only came into existence in the late 1890s and early 1900s as a number of owner-entrepreneur companies that had grown to dominant positions in their industries in the decades after the Civil War decided to go public.⁷⁶ As Thomas Navin and Marian Sears put it in their classic article, "The Rise of a Market in Industrial Securities, 1897-1902": "the very term 'industrials,' meaning securities of industrial companies did not come into use until the end of the [1890s]."⁷⁷

Launched on the basis of "inside" capital provided by the entrepreneur, family members, friends, and business associates, the companies that became successful in the late nineteenth century did so by reinvesting earnings to build productive organizations -- as is the case today in the transition from new venture to going concern.⁷⁸ But a problem of the transfer of ownership of the company arose when the financial value of the company and the managerial organization required to run it had grown beyond the capacity of a single person or even a small group of partners. Even the owner-entrepreneur's family members would likely be ill-suited to run a company that relied on organizational learning for its competitive advantage. The transfer of ownership particularly became a problem when the original owner-entrepreneurs and their backers were ready to retire, as was the case of the post-Civil War generation of entrepreneurs in the 1890s.⁷⁹ The emergence of a market for industrial securities permitted the original owner-entrepreneurs to sell the company (often to retire from the industrial scene) while leaving intact the managerial organization that had given the company its competitive advantage as a going concern. Unless the managers themselves were to assume ownership of the enterprise -- an ownership transfer that in the most successful enterprises was generally beyond their collective means -- the continued integration of strategy and learning required that stock ownership be separated from strategic control.

The importance of Wall Street -- the major New York investment banks and the New York Stock Exchange -- to industrial investment in the twentieth century arose from the way it structured the separation of stock ownership from strategic control. It took Wall Street some three decades of marketing and trading industrial securities before any but the wealthiest households or the most speculatively minded individuals viewed industrial stocks as sufficiently liquid to be worthy of

purchase. In the 1890s and early 1900s initial "public" offerings floated by Wall Street investment bankers went to a relatively small circle of wealthy individuals (including the companies' original owner-entrepreneurs and their families) and financial institutions, particularly insurance companies and the underwriting investment banks themselves. Of the \$6.2 billion of industrial common and preferred stock issued during the peak of the merger movement between 1893 and 1902, 48.8 percent was privately placed in exchange for the assets or securities of merged companies, and another 45.4 percent was issued by companies to their own stockholders as dividends or for cash or for unknown purposes, but only 5.8 percent was sold to the general public.⁸⁰

To ensure themselves an income from industrial securities that might be difficult to market, these early portfolio investors favored preferred shares or bonds rather than common stocks. Indeed, in many initial offerings, common stocks were distributed as a bonus to the purchasers of preferred stocks or to the promoters and investment banks for their services.⁸¹ As the market for industrial securities developed, these stockholders were able to sell off some of their portfolios of preferred and common stocks to the public.

Over time, as the companies listed on the New York Stock Exchange continued to thrive and as wealthy individuals and institutional investors sold off some of their portfolios, shareholding became more dispersed and the threat of outside interference by substantial stockholders decreased. From the late 1910s through the 1920s, the dispersion of stockholding increased rapidly. The sale of Liberty bonds during World War I brought the savings of a whole new tier of American households into the securities markets. After the war, Wall Street sought to capture these savings through sales of preferred stocks that were marketed as having the security of bonds.⁸² The record \$1.5 billion in corporate stock issues (over half of which were preferreds) in 1919 was double the value issued in 1916, the previous peak year.⁸³ The average annual rate of increase in the number of book stockholders in U.S. corporations was 11.6 percent in the period from 1917 to 1920 as compared with 4.0 percent from 1900 to 1917 and 5.2 percent from 1920 to 1928.⁸⁴

During the 1920s many of the leading industrial companies made the availability of company stock for purchase by employees a part of an emerging welfare capitalism, and by 1928 there were more than 800,000 employee stockholders.⁸⁵ Companies also sold shares to customers, the result of which, according to Gardiner Means, was the addition of one million new stockholders

between 1920 and 1928.⁸⁶ During the 1920s the marketing of stock became a highly developed industry in itself, with institutional forms of stockholding such as the investment trust becoming wildly popular among small-scale investors.⁸⁷ Stock splits also became common as a way of making shares more accessible to households further down the income scale.⁸⁸ The stock market boom of the late 1920s brought crowds of new people into the market, many of them borrowing to buy stocks on margin in attempts to get rich quickly. In 1927 an unprecedented \$1.7 billion of new stock was issued, but that amount doubled the next year and again in 1929. In the process, common stocks gained wide acceptance. In 1927 common stock issued was only 65 percent of preferred stock issued; in 1929 300 percent.⁸⁹

In 1900, there were an estimated 4.4 million stockholders on the books of U.S. corporations, holding an average of 140 \$100 par value shares. By 1910 the number of book stockholders had increased to 7.5 million with their average holdings down to 87 shares. In 1920 these figures were 12 million and 57 shares respectively, and by 1928 18 million and 51 shares.⁹⁰ Insofar as in the later years, stockholders held more diversified portfolios, the actual number of stockholders may have increased somewhat less than fourfold between 1900 and 1928. But it is clear that over the first three decades of this century the distribution of stocks became increasingly dispersed.

As stocks became more widely held, the possibility diminished that any group of stockholders could challenge managerial control of corporate resources. Most corporate stock, whether preferred or common, carried voting rights, but the very dispersion of stockholding with voting rights made it all the more difficult for any small group of stockholders to use these rights to challenge managerial control. Corporate managers were more concerned about diluting the control of holders of preferred shares rather than holders of common shares because preferred stockholders, behaving more like creditors than like speculators, tended to scrutinize managerial actions and performance more closely when dividend payments were missed. As a result, there was a tendency over the first decades of the century to dilute the power of preferred stockholders by granting common stockholders more votes per dollar of stock. In the 1920s U.S. corporations found that they could dilute shareholder power even more directly through the issue of non-voting stock.⁹¹

These practices led to a public protest against the disenfranchisement of the stockholder -- fueled almost entirely by a book published in 1927 by Harvard professor, William Z. Ripley.⁹² In response, the Governors of the New York Stock Exchange, ever eager to maintain public confidence in the holding of stock,

approved a resolution (without devising a definite policy) of their Committee on Stock List that "in the future the committee in considering applications for the listing of securities will give careful thought to the matter of voting control."⁹³ When, subsequently, the New York Stock Exchange required that listed stock carry voting rights, the result was not to increase shareholder power but, by maintaining public confidence in the holding of stock, to foster the further dispersion of stockholding, thus making it all the more difficult for a small group of stockholders to challenge managerial control.

Meanwhile, from the nineteenth century, the evolution of corporation law had strengthened the ability of managers to exercise control, not because managers represented a "special interest" group but as part of a general process by which corporate law supported developmental change, often at the expense of existing individual property rights that could stifle such change.⁹⁴ As the development and utilization of productive resources became dependent on the strategic allocation of resources to organizational learning, laws that supported economic development weakened the property rights of individuals who were outsiders to the collective learning process while strengthening the rights of the insiders to the process to control corporate resources. As decision makers integral to the organizational learning process, strategic managers became the agents of developmental change, and the transformation of corporate law from the late nineteenth century supported managerial rights to allocate corporate resources to generate such change.⁹⁵

In the earlier part of the nineteenth century the courts' application to corporations of the doctrine of *ultra vires* -- actions deemed to be outside the powers of the corporation -- meant that the powers delegated to the directors and officers of the corporation had been held to strict judicial standards of accountability. It was the doctrine of *ultra vires* that was used to dissolve the trusts of the 1880s. In 1889, however, the New Jersey Corporation Law rescued these corporate consolidations by allowing one corporation to hold shares in another. In general, the incorporation statutes introduced by states in the "race to the bottom" sparked by the New Jersey statute gave corporation directors and managers *carte blanche* to do virtually whatever they wanted, and the doctrine of *ultra vires* met its gradual demise as an influence on corporate activities.⁹⁶

The states also proved willing to introduce other legal reforms when corporations began the process of explicit consolidation that snowballed into the Great Merger Movement, despite the fact that some of these reforms substantially undermined the rights exercised by shareholders, the traditional bearers of private

property in the corporation. Of particular significance as a potential obstacle to corporate consolidation was the common law rule, applied throughout the 1880s, that required the unanimous consent of the shareholders to undertake fundamental change in corporate activities. Following the lead of New York in 1890, a number of states introduced statutes that permitted corporations to merge with majoritarian rather than unanimous consent.⁹⁷ As Morton Horwitz has observed:

The shift to majority rule in fact made the merger movement legally possible. It not only made consolidations much easier to effect; it also dealt the final blow to any efforts to conceptualize the corporation as a collection of contracting individual shareholders.⁹⁸

The most important power accorded to corporate managers by statutes and through the courts was the power to declare or withhold dividends. The law was reluctant to interfere with managerial discretion in relation to dividend payments.⁹⁹ As one commentator described the legal situation:

The board of directors declare the dividends and it is for the directors, and not the stockholders, to determine whether or not a dividend shall be declared. When, therefore, the directors have exercised this discretion and refused a dividend, there will be no interference by the courts with their decision, unless they are guilty of a willful abuse of their discretionary powers, or of bad faith or of a neglect of duty. It requires a very strong case to induce a court of equity to order the directors to declare a dividend, inasmuch as equity has no jurisdiction, unless fraud or breach of trust is involved.¹⁰⁰

For companies listed on the New York Stock Exchange -- which quickly became the exchange of preference for all of the leading U.S. industrial enterprises -- stockholders' expectations concerning liquidity reflected the stages of development and the financial condition of the types of companies in which they acquired shares. These companies were going concerns that before going public had established themselves as dominant enterprises in their particular industries. By developing and utilizing productive resources under owner-entrepreneurs, these companies had already acquired the capacity to generate high levels of profit on a regular basis. Once public, these high levels of profits made possible continuous dividend payments, which further convinced stockholders of the liquidity of their stock. By refusing to cut dividends except under the most dire circumstances, corporate managers ensured that stockholders would not challenge their control over the allocation of corporate revenues.¹⁰¹

Wall Street helped to create confidence in the liquidity of corporate stock by identifying, and actively promoting, companies that had already acquired the

productive base to generate a consistent stream of profits. Ever more stringent requirements for listing on the New York Stock Exchange built public confidence in the stock market, which, in bringing in new buyers of stocks, added further to the liquidity of the market.¹⁰² From the second decade of the century, public confidence was further bolstered by the securities ratings services of Moody's and Standard and Poor's, whose own businesses were based on their reputations for impartiality and credibility.¹⁰³

Most important, however, in laying the foundation for a highly liquid market in industrial stocks in the first decades of the twentieth century was the emergence from the last decades of the nineteenth century of a large number of dynamic industrial enterprises that, through the superior development and utilization of productive resources, had gained distinct competitive advantage in an era before a market in industrial securities even existed. These companies -- many of which still maintain dominant market shares -- had by the 1920s made the United States the most powerful industrial nation in the world. Wall Street did not create these companies but built its business on the basis of their enduring success.

What was the business of Wall Street in this era of industrial expansion? The foremost activity of Wall Street during this era was investment banking, even though during the stock-market boom of the late 1920s many of the private investment firms (in Vincent Carosso's words) "easily succumbed to the speculative fever of the times and the opportunities for quick, easy profits which it promised."¹⁰⁴ The key actors on Wall Street in the first three decades of this century were a few prominent investment banks, including J. P Morgan & Co., Kuhn, Loeb & Co., and Kidder, Peabody & Co.¹⁰⁵ Besides floating bond issues for local, state, and national governments in the United States and abroad, the business of these investment banks was to support industrial enterprises in making investments in productive assets. The participation of the investment banks in the creation of liquid markets in industrial securities was a means of furthering this investment business. The investment banks underwrote the initial public offerings that permitted the separation of stock ownership from strategic control.

That separation left the allocation of corporate revenues in the hands of managers, most of whom in this era had the ability and incentive to make investments in productive capabilities relevant to their enterprises.¹⁰⁶ This strategic control over corporate revenues gave corporations the foundation on which to incur long-term debt, the floating of which was one of the two prime activities that investment bankers performed for their corporate clients on an ongoing basis. For

example, between January 1919 to May 1933, the House of Morgan was involved in the offer of \$6 billion in securities to the public, of which over \$2 billion were foreign, almost \$2 billion were railroad bonds, over \$1 billion were public utility bonds, and nearly \$600 million were industrial preferreds and bonds. Over this period, the issue of common stocks represented only 3.5 percent of J. P. Morgan & Co.'s securities' offerings.¹⁰⁷

The other key service that investment banks provided to industrial corporations was the financing of mergers and acquisitions. During the 1890s and early 1900s J. P. Morgan & Co. was at the center of the Great Merger Movement. The main purpose of the Great Merger Movement, in which about 2700 companies disappeared, was to permit, through horizontal integration, the formation of industrial enterprises that could control large market shares.¹⁰⁸ To buy out the owner-entrepreneurs of the merged companies, the investment banks underwrote securities issues. The sheer size of the Great Merger Movement and the centrality to it of a reputable investment bank such as J. P. Morgan were key factors in the concomitant rise of the market for industrial securities that we have already discussed.

In the 1920s U.S. industrial corporations undertook a wave of acquisitions for purposes of both vertical integration and diversification. During the first half of the 1920s the number of mergers and acquisitions averaged 447 per year; during the second half of the 1920s 917 per year.¹⁰⁹ Unlike the merger movement of the turn of the century which contributed to the rise of a market in industrial securities, the acquisition movement of the 1920s was able to make use of what was by then a highly liquid market in corporate stocks. The acquisitions were not financed by funds from the stock market, but the existence of the liquid stock market made the stockholders of the acquired firms willing to accept the stock of the acquiring corporations as payment for their equity holdings.

During the 1920s Wall Street also issued large amounts of corporate stock, much of which, especially in the late 1920s, was used to pay off debt or build cash reserves. Table 6 shows the relative amounts of their own securities that a sample of 84 large manufacturing corporations issued and retired, as well as the amount of affiliates' and subsidiaries' securities that these companies purchased from 1921 through 1939. For these same 84 manufacturing companies, the total amount of funds that they retained over the period 1921-1929 just equaled their total fixed capital expenditures.¹¹⁰ The data strongly suggest that throughout the 1920s companies were issuing securities to retire securities and purchase other

companies. Of the \$1.26 billion of securities sold in 1929, for example, U.S. Steel sold \$150 million of common stock to partially fund the retirement of \$394 million in debt.¹¹¹

Table 6. Security Transactions of Sample of Large Manufacturing Companies, 1921-1939

Year	millions of dollars			percent		
	Own securities sold	Own securities retired	A&S* securities purchased	Retired as % of sold	Purchased as % of sold	Retired + purchased as % of sold
1921	415	142	192	34	46	81
1922	222	170	69	77	31	108
1923	407	109	290	27	71	98
1924	146	130	61	89	42	131
1925	392	274	189	70	48	118
1926	446	163	192	37	43	80
1927	474	306	113	65	24	88
1928	273	185	224	68	82	150
1929	1256	680	586	54	47	101
1930	375	159	291	42	78	120
1931	234	169	183	72	78	150
1932	140	255	54	182	39	221
1933	46	188	98	409	213	622
1934	127	179	53	141	42	183
1935	114	278	39	244	34	278
1936	245	307	36	125	15	140
1937	601	180	47	30	8	38
1938	424	76	50	18	12	30
1939	143	105	95	73	66	140

Note: *A&S means affiliates and subsidiaries

Source: Albert Ralph Koch, The Financing of Large Corporations, 1920-1939, National Bureau of Economic Research, 1943, 97.

By the late 1920s, many large U.S. corporations took advantage of the stock market boom not only to sell their own shares at inflated prices but also to make their surplus cash available to speculators in the form of brokers' loans on the New York call market, at interest rates that reached 12 percent. As the volume of brokers' loans outstanding almost tripled from the end of 1924 to the end of 1928, the proportion of the loans made by non-bank lenders increased from 25 percent to 60 percent. As the stock market began its decline and margins could not be met, the same industrial corporations were the first to call their loans, thereby forcing the market down further. The non-bank lenders decreased their loans outstanding from \$3.9 billion at the end of 1928 to \$2.5 billion at the end of 1929 to only \$610 million at the end of 1930, whereas the brokers' loans of the New York City banks declined from \$1.6 billion at the end of 1928 to \$1.2 billion at the end of 1929, and actually rose by \$80 million over the following year.¹¹²

The very real productive success of these large manufacturing corporations had set off the stock market boom in the first half of the 1920s, and it was the provision and withdrawal of liquidity by these enterprises to the stock-market speculators that helped send stock prices up further and bring them down faster at the end of the decade. But besides the financial instability that the stock market imparted to the American economy, its emergence in the first decades of this century also had a profound effect on the development of the industrial enterprise. By separating the stock ownership from strategic control over internally generated corporate revenues, and by making it possible for enterprises to finance mergers and acquisitions by an exchange of corporate shares, the stock market encouraged the continuous growth of the enterprise, not only through the expansion of its existing productive activities but also through extension into new vertically related activities and diversification into new product markets.

The existence of a highly liquid stock market therefore facilitated the growth of the U.S. industrial corporation. It did so, however, not because households as public stockholders provided companies with new sources of funds, but because it gave strategic managers control over financial resources internal to the enterprise that could be used for purposes of market expansion, vertical integration, and product diversification. When the growth was internal, retained earnings, leveraged if necessary with bonds, provided the financial resources for growth. When the growth was external -- that is, through merger and acquisition -- the replacement of the acquired firm's equity with the stock of the acquiring corporation provided the financial resources for growth.

To be sure, the Great Depression resulted in massive declines in corporate sales, capacity utilization, and employment, especially for the large manufacturing enterprises that sold in the durables markets and that, free from debt, could cut back production without fear of bankruptcy.¹¹³ But, given the sound financial condition of the major industrial corporations coming out of the 1920s, they were able in the 1930s to keep their managerial organizations and innovative capabilities not only intact but also active. The continuity in organizational learning that these industrial corporations maintained during the 1930s positioned them to contribute their productive capabilities to the Allies during World War II -- for which these companies received huge subsidies from the U.S. government that by no means disappeared with the end of the war. These corporations were then able to dominate in international competition in the immediate postwar era.

As these corporations grew through expansion, extension, and diversification, they often reaped the cumulation advantages of building on existing capabilities to develop and utilize productive resources.¹¹⁴ But their growth also opened up possibilities for the onset of cumulation disadvantages of organizational segmentation. Such disadvantages are not inherent in, but are more likely to occur with, rapid and large-scale enterprise growth. The prime danger was that the very growth of the corporate enterprise, within markets, across vertical activities, and into new markets, would lead to strategic segmentation.

By the 1950s strategic segmentation was beginning to show itself in some of the largest, and previously most successful, U.S. corporations. General Electric is a case in point. Its expansion into consumer appliances in the interwar period had, by the 1940s and 1950s, brought to positions of strategic control managers who had acquired no understanding of the electrical engineering businesses, or of related technologies generated by GE Research Laboratories, that had been the foundations of the company's sustained competitive successes. Although in the 1950s under CEO Ralph Cordiner, GE's top managers claimed to be decentralizing authority within the company, what they actually decentralized was responsibility for divisional or departmental performance while keeping strategic authority and control in the head office. Managing by the numbers, Cordiner and the men around him propounded the ideology that, equipped with the proper informational tools, a well-trained general manager could manage anything -- an ideology that by the 1960s had become conventional wisdom in the nation's business schools.¹¹⁵

In his 1962 book, Strategy and Structure, Alfred D. Chandler, Jr. documented the emergence and diffusion of the multidivisional structure within the American corporation from the 1920s through the 1950s. By means of administrative decentralization, the multidivisional structure was supposed to permit the enterprise to diversify into many new businesses without succumbing to strategic segmentation.¹¹⁶ But Chandler's conceptualization of the corporate head office as the realm of strategic decision making and the corporate divisions as the realms of operational control already contemplated the segmentation between strategy and learning that in the 1940s and 1950s had begun to afflict companies like General Electric.¹¹⁷ Writing in 1962, Chandler thought that the organizational changes that had taken place at GE under Cordiner demonstrated "future trends in the organization of the most technologically advanced type of American enterprise."¹¹⁸ Yet problems that GE faced in the 1960s and 1970s, manifested by

its failure in a number of new businesses including semiconductors, computers, and factory automation, reflected an organization that could no longer integrate strategy and learning.¹¹⁹

What happened to GE in the post-World War II decades happened as well to many other U.S. industrial enterprises that expanded, not only through internal growth, but also through merger and acquisition. As in the 1920s, so too in the 1950s, a booming economy provided many companies with internal resources for growth, while the booming stock market made acquisition of other companies cheap and easy. What has subsequently come to be known as the conglomerate movement saw the number of announcements to merge with or acquire another company grow from an annual average of 1951 in 1963-67 to 3736 in 1968-1972, reaching a record peak of 5306 in 1969 (see Table 7).

Table 7. Merger and Acquisition Announcements and Divestitures, 1963-1994

Annual averages	1963-1967	1968-1972	1973-1977	1978-1982	1983-1987	1988-1992	1993	1994
Mergers & Acquisitions	1951	3736	1474	1384	1666	1277	1529	1863
Divestitures	207	1290	1266	789	1023	953	1134	1134
Divestitures as % of M&A	10.6%	34.5%	85.9%	57.0%	61.4%	74.6%	74.2%	60.9%

Note: In the 1960s and 1970s, about 10% of all M&A and divestiture announcements were canceled; in the 1980s about 7%; and in the 1990s about 4%.

Source: Merrill Lynch Advisory Services, *Mergerstat® Review* 1994: 2, 80, 120, 121.

Table 8. Distribution of Assets Acquired in Acquisitions of Large* Manufacturing and Mining Companies by FTC Merger Type Classification, 1948-1979

Percent				
Type of merger	1948-1955	1956-1963	1964-1971	1972-1979
Horizontal	39.0	18.7	12.0	14.9
Vertical	12.7	20.0	6.6	8.3
Product extension	36.1	36.9	38.9	28.2
Market extension	2.1	6.7	7.7	3.0
Pure conglomerate	10.1	17.7	34.8	45.5

Note: * Premerger assets of acquired companies were \$10 million or more

Source: F. M. Scherer and David Ross, *Industrial Market Structure and Economic Performance*, third edition, Houghton Mifflin, 1990: 157.

According to Federal Trade Commission data and classifications, increasingly over the course of the post-World War II period, industrial mergers and acquisitions entailed not only diversification into new lines of business but conglomeration of lines of business that had no technological or market relations to one another. As

can be seen in Table 8, in 1948-1955 only 10.1 percent of acquired assets were in the "pure conglomerate" category, whereas in the period 1964-1971 this figure was 34.8 percent and in 1972-1979 45.5 percent. By 1972-1979 horizontal or vertical acquisitions in the same line of business had fallen to 23.2 percent of all assets acquired, down from 48.8 percent in 1948-1955.

Using the Federal Trade Commission Line of Business data, David Ravenscraft and F. M. Scherer have shown that for the top 200 U.S. manufacturing companies ranked by sales, the mean number of lines of business rose from 4.76 in 1950 to 10.89 in 1975. Of the 148 companies of the 200 largest in 1950 that survived until 1975, the mean number of lines of business was 5.22 in 1950 and 9.74 in 1975. Among the most well-known conglomerates that emerged over this period were Beatrice Foods (290 acquisitions between 1950 and 1978), W. R. Grace (186), International Telephone and Telegraph (163), Gulf and Western Industries (155), Textron (115), Litton Industries (99), and LTV (58).¹²⁰

During the 1960s, when the conglomerate merger movement was in full swing, the conglomerate promoters (and their academic admirers) touted the "synergies" that were supposed to come from piling business upon business. "Two plus two equals five" was a popular refrain of the conglomerateurs. According to one explanation that accurately reflects the ideology of the conglomerate era, after World War II a new generation of managers

were generally better educated and more familiar with the new scientific tools available to management such as computerized information systems, scientific decision making, and decentralized profit-center concepts. They put to the test the theory of the universality of financial management, that many businesses, no matter how diverse, can be successfully managed by relatively few executives contributing financial and planning expertise. More innovative than the predecessor generation of managers, they acted upon a new concept that under current economic conditions there was no problem in getting capital but that the real problem was putting the capital to work to satisfy the growth demands of their stockholders.¹²¹

By relying on the prevailing business ideology that a well-trained general manager could manage anything, the conglomerate movement glorified strategic segmentation. In acquiring companies and consolidating financial decision-making in the head office, the conglomerate stripped those who had been the strategic managers of the acquired businesses of strategic control. Initially at least the

conglomerates often retained these former top managers as divisional heads, but failure to meet financial performance targets could lead to their replacement by someone at the head office who, like the head office in general, had no idea of the processes of organizational learning or the strategies to shape them that the divisional businesses required to succeed.¹²²

In their statistical study of the results of this merger and acquisition activity, Ravenscraft and Scherer concluded that "on average, profitability declines and efficiency losses resulted from mergers of the 1960s and early 1970s," while their case studies revealed "that synergies anticipated from acquisition frequently did not materialize."¹²³ "Much more important than their failure to achieve hoped-for synergies," they argued,

was the failure to manage acquired companies as well as they were managed before acquisition. We have no reason to believe this was either intentional or fully anticipated. To the contrary, merger-makers of the 1960s and 1970s suffered from massive hubris. Successful in their mainline operations and perhaps in early diversification mergers, they overestimated their ability to manage a sizable portfolio of acquisitions, large and small, related and unrelated. By the time they learned that they had erred, they had already overextended themselves and were unable to cope with the problems emerging from accumulated acquisitions. Or alternatively, they recognized their limitations but pursued a damage-limiting strategy, continuing (like Beatrice Foods) to make mergers but ruthlessly selling off acquisitions that showed signs of persistent difficulty.¹²⁴

If, writing in 1962, Alfred Chandler had been optimistic about "future trends in the organization of the most technologically advanced type of American enterprise", in his 1990 book, Scale and Scope: The Dynamics of Industrial Enterprise, he emphasized "an overload for the decision-makers in top management" that arose during the 1960s. Citing the Ravenscraft and Scherer study, Chandler argued that such unprecedented diversification

often led to a separation, that is, a breakdown of communications, between top management at the corporate office -- the executives responsible for coordinating, managing, and planning and allocating resources for the enterprise as a whole -- and the middle managers who were responsible for maintaining the competitive capabilities of the operating divisions in the battle for market share and profits. . . . These top managers in the corporate office no longer had, unlike their predecessors, the time to make and maintain personal contacts with the heads of the operating divisions. Nor did the senior executives have the product-specific experience needed to evaluate the proposals and to monitor the performance of the operating managers. Instead, in carrying out these critical tasks they had to rely on impersonal

statistical data that had become far less relevant than the information systems devised and used in the 1920s and 1930s by corporate officers of diversified firms to carry out comparable functions. The overload resulted, not from any lack of information but from its lack of quality and from the senior decision-makers' lack of ability to evaluate it. Top managers were beginning to lose the capabilities needed to maintain a unified enterprise whose whole was more than the sum of its parts.¹²⁵

Besides absorbing companies that they could not manage -- many of which were sold off in the 1970s and 1980s (see Table 7) -- the conglomerate movement of the 1960s contributed to a process that, in the 1970s, encouraged Wall Street to shift its focus from investment banking to securities trading.¹²⁶ The shift would take time to unfold and was not readily apparent to close observers even in the merger mania of the late 1960s. For example, in 1970, when Vincent Carosso published Investment Banking in America: A History, he was still able to see Wall Street in its traditional investment banker role. In the preface to the book, he argued:

the overall thesis of the study is that despite the many profound economic and political changes of the last sixty years, the basic function of the investment banker has remained essentially unchanged. Today, as it was at the turn of the century, the investment banker's most important role is to channel savings into long-term investments. The services and merchandising functions involved in planning and distributing new security issues, with the possible exception of those sold at competitive bids, have remained largely what they were in the days of the elder J. Pierpoint Morgan, when many of the industry's present-day practices and traditions became firmly established.¹²⁷

The conglomerate movement of the 1960s, and the large-scale divestiture of businesses to which -- in large part because of its failure at organizational integration -- it gave rise in the 1970s, challenged the practices and traditions of Wall Street investment banking. For the first time, as Chandler has put it, "the buying and selling of corporations was an established business, and a most lucrative one at that."¹²⁸ As Chandler continued:

Before the 1960s it was rare for financial institutions, including investment banks, to have specialized merger and acquisitions departments. The primary function of investment bankers in the United States and abroad was to provide their clients with long-established services. The most important of these was the underwriting of securities used to supplement retained earnings in funding long-term growth. The new and highly profitable business that began with the financing of acquisitions in the late 1960s and the continuing flow of divestitures in the 1970s warranted the creation of the specialized departments. Soon, too, specialists in "deconglomeration" appeared.¹²⁹

As Wall Street turned M&A activity into an end in itself, companies with low price-earnings (p-e) ratios became targets for takeover. The conglomerateurs found that, through a "pooling of interests" (the consolidation of the financial accounts of the acquired company into those of the conglomerate), the acquisition of companies with low p-e produced a one-shot increase in the earnings per share of the conglomerate. These increases in earnings not only profited the holders of stocks but also provided the conglomerate with more financial resources, in the form of its own higher-priced stocks, to make more acquisitions. In 1965 pooling of interests accounted for 30 percent of all mergers; in 1968 for more than 60 percent.¹³⁰

In early 1969, the editors of Fortune magazine wrote that "practically every sizable U.S. corporation, whether it realizes it or not, is under scrutiny by some other corporation as a prospective acquisition."¹³¹ To avoid takeover, target companies had a number of alternatives, none of which had anything to do with a developmental investment strategy. They could raise dividends to try to convince the stock market to place higher values on their equities. Or they could take on fixed-interest obligations to reduce their cash reserves and lower earnings.¹³² In its successful defense against being taken over by Northwest Industries in 1969, B.F. Goodrich, which had sales of \$1.1 billion in the previous year, increased its line of credit with 21 banks to \$250 million with an agreement that this loan would be in default if a takeover of the company should occur. An antitrust judge characterized this amendment as a "Herman Goering cyanide pill" because B. F. Goodrich "threatened to commit financial suicide in the event that this transaction is consummated."¹³³ As an alternative to taking on debt, the Fortune editors counselled that one way for a frightened target to get a quick boost to its stock price was itself to become an acquirer of low p-e companies.¹³⁴

By the late 1960s, the financing of the conglomerate movement had graduated from cash to stock to debt. As a result, the debt-equity ratio in U.S. manufacturing rose from 0.40 in 1960 to 0.48 in 1965 to 0.72 in 1970.¹³⁵ In February 1969, as the conglomerate movement was reaching its peak, the editors of Fortune debated the pros and cons of the increasing proportions of debt in corporate capitalizations. They pointed to the tax advantages of debt financing, the security of debt in an economy committed to full employment, and the cheapness of debt financing in an inflationary age. They recognized, however, that debt has its hazards "particularly for a conglomerate whose year-to-year increases in reported earnings are in part dependent on the chain-letter effect of new acquisitions." They went on:

Times might not have to get very tough or competitive for such a company to find itself looking desperately for hard cash or the equivalent thereof to satisfy its bondholders and keep its creditors at bay. Hard-pressed conglomerates might, for example, be forced to spin off some of their divisions. Given plenty of competition, the great conglomeration movement of the 1960s might conceivably be the great deconglomeration movement of the 1970s.¹³⁶

The prediction was prescient. Looking at what subsequently transpired in the "deconglomeration movement" of the 1970s and early 1980s, Ravenscraft and Scherer estimated that roughly one-third of the acquisitions made in the 1960s and early 1970s were sold off, typically under conditions of financial duress.¹³⁷ In 1975 and 1976, the divestitures in the United States were actually greater than announced mergers and acquisitions.¹³⁸

For Wall Street, as well as for many corporate managers, therefore, the conglomerate movement transformed the corporate decision to merge with or acquire a business activity from an investment in productive resources to an investment in financial assets. The financial business of merger and acquisition entailed not only putting industrial enterprises together but also pulling them apart. From the perspective of productive performance, the divestitures that followed conglomeration had the potential for rectifying the problems of strategic segmentation that the conglomerate movement had exacerbated. But the failure of the conglomerate movement also lay the foundations for the rise of a new financial market -- the high-yield, or junk, bond market -- that during the 1970s created both the incentive and ability for Wall Street to treat productive enterprises like financial assets. Far more than even the debt-financed conglomeration of the late 1960s, the use of junk bonds for buyouts and takeovers enforced financial liquidity on U.S. industrial corporations.

A significant proportion of the debt taken on in the conglomerate movement of the 1960s, either to acquire other companies or to fend off acquisition, emerged in the early 1970s as "fallen angels": bonds that had been investment grade when issued but whose ratings had been subsequently lowered to below investment grade.¹³⁹ In 1973, when the value of these low-grade bonds of U.S. corporations stood at \$8.2 billion, Michael Milken, an employee of the Wall Street firm of Drexel Burnham, began to convince institutional investors that they should hold these higher risk securities to get higher yields. Over the next few years he convinced enough of them to do so that he created a liquid market in junk bonds.¹⁴⁰

In the recession of 1974, the value of junk bonds outstanding jumped to \$7.5 billion. By 1980 this figure had reached \$15.1 billion, up from \$9.4 billion in each of the previous two years. In 1983 the value of junk bonds outstanding was \$28.2 billion and in 1985 \$59.1 billion.¹⁴¹ In 1977, junk bonds represented only 2.5 percent of corporate bonds outstanding, and in 1982 3.8 percent. But by 1985 9.0 percent of all corporate bonds were junk.¹⁴²

Underlying the increase in junk bonds from the late 1970s were new issues, a practice that only began in 1977 (Lehman Brothers did the first new junk bond issue). It was a business that Milken's Los Angeles office of Drexel Burnham Lambert quickly turned into his own.¹⁴³ Newly issued junk bonds totaled \$8 billion for the six years, 1977-1982, with issues in the last year at \$2.7 billion. The next year, in 1983, the value of junk bond issues leaped to \$8 billion, and then climbed to a peak of \$34.3 billion in 1986. For the six years, 1983-1988, newly issued junk bonds equaled \$120.3 billion.¹⁴⁴ On the basis of this business, in 1986 alone Milken's high-yield department of Drexel Burnham Lambert reaped \$700 million in bonuses, of which he handed over \$150 million to his departmental associates and kept \$550 million for himself.¹⁴⁵

The newly issued junk bonds financed divisional managers of a conglomerate enterprise to separate their division from the conglomerate structure. In 1980 there were 47 divisional buyouts at a real average value (in 1988 US dollars) of \$34.5 million; in 1983 139 for \$58.2 million, and in 1986 144 (the peak annual number for the 1980s) for \$180.7 million.¹⁴⁶ By placing in positions of strategic control "middle managers" who understood their lines of business far better than the top conglomerate executives, these divisional buyouts created the possibility for the reintegration of strategy and learning -- a type of organizational integration that conglomeration had typically destroyed.

How much irreparable damage had been done to these divisional businesses while they were under the strategic control of the conglomerates is an area that requires detailed case study research.¹⁴⁷ But, in a period of intense global competition based on organizational integration and financial commitment, the disruptions to the processes of organizational learning that conglomeration typically entailed must have severely diminished the innovative potential of the divisional buyouts notwithstanding their new-found strategic independence. Moreover, the financial liquidity that was imposed on these divested enterprises limited their ability to invest in new learning processes and catch up to the competition.

There is evidence that the debt-service requirements of these divisional buyouts resulted in significant cost-cutting.¹⁴⁸ In trimming the fat of day-to-day operations, however, many companies that had been taken private found that they also had to cut out the bone of developmental investment. The debt that financed the buyouts did not fund investment in new productive assets but only transferred claims over the returns to existing assets, with the difference that the junk-bond-financed buyout made it imperative for the enterprise to pay out earnings rather than retain them for new productive investment.

Cost-cutting, therefore, might permit an enterprise to stay ahead of its high-yield obligations to its creditors, but might be antithetical to the financial commitment needed for innovative investment strategies. From the perspective of the innovative enterprise, moreover, the issue of the relevant investment strategies goes beyond the impacts of pressures for financial liquidity on corporate R&D, which has been the usual focus of empirical study.¹⁴⁹ In many industries, R&D activities are critical learning processes -- and generally the easiest to identify statistically -- but they are not the only learning processes in which the innovative enterprise must invest. Indeed, if learning derived from R&D activities is not integrated with learning derived from production and marketing activities, investments in R&D are typically investments that do not pay off.

During the 1980s those who ran the Wall Street firms that made money from financing buyouts were well aware of the advantages of debt service in enforcing liquidity on corporate management, and were also eager to portray the imposition of financial discipline on corporate managers as the solution to the poor performance of American industry. Frederick Joseph, the CEO of Drexel Burnham Lambert during the Milken era, summed up the view from the Street:

Increased debt has important consequences for management. It reduces discretion in spending free cash flow. Instead of pouring free cash flow into perks or unproductive investments, management is forced to direct cash flow to debt service, effectively returning it to the investing public. "Debt creation without retention of the proceeds of the issue enables managers to effectively bond their promise to pay our (sic) future cash flows," notes Harvard economist Michael C. Jensen. "Thus debt can be an effective substitute for dividends."¹⁵⁰

By 1990, when these words were published, the use of junk bonds had long since been transformed from financing divisional buyouts to financing hostile takeovers of entire corporations. In the typical hostile takeover of a multibillion-dollar company in the late 1980s, corporate raiders, often hand-picked by Michael Milken to launch a takeover, relied on Milken's network of institutional investors (including

savings and loan companies) to make commitments to buy the junk bonds that the acquired company would issue when it was taken over as the means to buy up the stock that allowed it be taken over! In 1986 there were 76 public company buyouts - 20 percent of all public takeovers -- at a real average value (in 1988 dollars) of \$303.3 million. In that year, the ratio of the average value of company to division buyouts was 1.7:1 -- its lowest such ratio in the decade. The average real value for 47 company buyouts in 1987 and 125 in 1988 was around \$480 million, about three times the average value of the divisional buyouts in those years.¹⁵¹

The purpose a high-value public-company leveraged buyout, such as the much-publicized KKR takeover of RJR Nabisco, was, to use Jensen's phrase, "to disgorge the free cash flow" from companies that had allegedly "matured".¹⁵² The often explicit goal of transforming committed finance into liquid finance by means of the takeover sent stock prices up when the target was "put in play," as did the speculative bidding that occurred as the possibility of takeover loomed near. To pay for the high cost of the takeover, including the high rates of interest that had to be paid on the junk bonds that had been exchanged for stock, divisions were sold off and the cash flow of the company was made as "free" as possible from other claims -- such as those of long-time employees, suppliers, or customers.¹⁵³

For the most part, the hostile takeovers of the 1980s were directed at corporations that operated in industries, such as processed foods, oil and timber products, and airlines, that possessed productive assets, such as brand-name recognition or natural resources, that required large investments over sustained periods of time to put in place, but which, under prevailing conditions of competition, did not require continuous investment in organizational learning to maintain the market value of the products that these assets generate. These industries were ripe for hostile takeover by value extractors if only they could mobilize the financial resources to make these productive assets their own.¹⁵⁴ In contrast, in industries in which productive assets not only are expensive to develop and utilize, but also require continuous investments in organizational learning to maintain their value on competitive markets, takeovers for the purpose of extracting value will very quickly lead to the disappearance of the expected rents as, for example, key teams of scientists and engineers head for the door.

In the 1980s, and beyond, proponents of the market for corporate control like Joseph and Jensen used the problems of top management "perks" and "unproductive investment" decisions to justify the claims of industrial securities' holders to "disgorge the free cash flow" from corporations.¹⁵⁵ These problems of

managerial abuse and ill-informed allocations of resources were, and remain, real within American industrial corporations. As is well known, the top executives of U.S. corporations are grossly overpaid relative to other employees in their organizations and to their top management counterparts in other advanced economies.¹⁵⁶ With top management's pay tied to stock options, a rise in share price means a rise in pay. In 1995, the average compensation of CEOs of large U.S. corporations went up 23 percent, to \$4.37 million. For a sample of CEOs surveyed, base salaries rose only 4 percent, but stock-based, or "performance", compensation, which made up 77 percent of total pay, shot up 45 percent.¹⁵⁷ And over the past few decades, under a system in which strategic decision making has increasingly been concentrated at the top of large enterprises, American corporations have, in many industries in which they used to be world leaders, lost substantial market shares.

Viewing financial liquidity rather than financial commitment as the means for the allocation of resources "to their best alternative uses," from the perspective of the innovative enterprise that we have put forward what the proponents of the market for corporate control regard as a solution to the dissipation of resources by management we see as part of the problem. They define the problem as "agency costs" that, in the corporate enterprise in which stock ownership is separated from managerial control, derive from the exercise of "managerial discretion". They then assume that managerial discretion can only take the forms of managerial perks and unproductive investments – uses to which managers allocate resources instead of "creating value for shareholders" by "disgorging the free cash flow." The alleged solution is the "market for corporate control" that pressures incumbent managers to "create value for shareholders" or else lose their positions of allocative control.

Strategic managers of industrial corporations, however, need to have discretion if investments in developing and utilizing productive resources are to be made that result in sustained competitive advantage for their enterprises and sustainable prosperity for the economy. But who these decision makers are, what types of investment decisions they make, and whom they seek to benefit can have profound impacts on whether these companies invest for the future or live off the past. The real problem for innovation and industrial development is not that strategic managers have discretion, but that they have become too segmented from the organizations that need to develop and utilize productive resources if these investments are to generate returns. And a big part of the problem of generating returns from productive investments is that the market for corporate control does not demand that such integration of strategy and learning take place. In the

presence of a powerful market for corporate control, the use of stock-based rewards aligns the interests of top managers with stockholders, thus encouraging top managers to become even more segmented from the productive organization, thereby making it all the more certain that the integration of strategy and learning will not occur.¹⁵⁸

Under these conditions, from the perspective of the innovative enterprise, existing corporate managers should not be in positions of strategic control over enterprise resources. But the proponents of the market for corporate control accept such strategic segmentation as long as top managers "create value for shareholders by disgorging the free cash flow." Only by ignoring the process of innovation, and its need for organizational integration and financial commitment can the proponents of the market for corporate control argue that the good manager is one who ensures financial liquidity.

Hence, in support of the hostile takeovers of the 1980s, Michael Jensen argued that "for a company to operate efficiently and maximize value, free cash flow must be distributed to shareholders rather than retained." As a "vivid example" of the failure of a company to distribute free cash flow to stockholders, Jensen, in 1989, targeted

the senior management of Ford Motor Company, which sits on nearly \$15 billion in cash and marketable securities in an industry with excess capacity. Ford's management has been deliberating about acquiring financial service companies, aerospace companies, or making some other multibillion-dollar diversification move - - rather than deliberating about effectively distributing Ford's excess cash to its owners so they can decide how to reinvest it.¹⁵⁹

Jensen was right to caution against such diversification. One would not like to have seen Ford Motor Company repeat the mistakes of the conglomeration movement of the 1960s. But Jensen failed to recognize how the market for corporate control, on which he would rely to determine corporate investment strategies, itself emerged out of the failures of diversification in the 1960s, and how, by the late 1980s, the very threat of stockholder power exercised through the market for corporate control may well have pressured Ford's strategic managers into undertaking imprudent diversification rather than commit financial resources to doing what the company can do best -- make and sell cars.

What Michael Jensen argued in theory in 1989, Kirk Kerkorian sought to accomplish in practice in April 1995, with Chrysler, rather than Ford, as his target. On April 1, 1995, Kerkorian, the largest stockholder of the Chrysler Corporation with

some 15 percent of Chrysler's outstanding stock, announced that, with the support of ex-Chrysler chairman Lee Iacocca, he was seeking financing to take over the company. For several months prior to the announcement, Kerkorian had been complaining to Chrysler top management that not enough was being done to raise the price of his stock. Not even increases in dividends on the order of 175 percent since the end of 1993 had made him happy. After losing half a billion dollars in 1991, Chrysler had greatly improved its products and processes – so much so that now Kerkorian wanted more of the \$4 billion in net earnings that the company had recorded in 1994. By the end of the year Chrysler was holding a cash balance of \$8 billion, a good part of which, as far as Kerkorian was concerned, belonged to him by virtue of his ownership of a large block of Chrysler stock. Chrysler, meanwhile, was one of the few very large U. S. industrial corporations with 100,000 or more employees in 1990 that actually increased its employment – from 124,000 to 126,000 people – between 1990 and 1995 (see Table 2).

While trying to appease the company's largest stockholder through dividend payments and stock repurchases, Chrysler's top management, headed by CEO Robert J. Eaton, was not eager to undermine the company's ability to produce and sell cars. The \$8 billion, Eaton argued, would be needed in the next cyclical downturn of the automobile industry, and once the company had let go of its cash hoard it would not easily get it back. After all, in the late 1970s Chrysler had been compelled to appeal to the U.S. government for loan guarantees that saved the company from bankruptcy.

Ironically, the very man who in 1979 had been brought from Ford to Chrysler to lead it back from the brink of bankruptcy, was now, in 1995, supporting Kerkorian's attempt to disgorge the company's cash flow. While seeking loan guarantees from the U.S. Congress back in 1979, Iacocca, as Chrysler's CEO, had told the Senate Banking Committee: "My problems are the problems of the country."¹⁶⁰ Now, in the mid-1990s, his problems were the problems of the individual stockholder. Over the intervening period, in the face of intense industrial competition and free-wheeling financial deregulation, Americans apparently had become decidedly less sympathetic to the view that what is good for Chrysler is good for the United States. Instead the belief had spread and flourished that the prime, and perhaps only purpose of the business enterprise is "to create value for shareholders," of which Iacocca, like his friend Kerkorian, was one. To the proponents of "shareholder value," to sit on a hoard of cash, as Chrysler's top

management was trying to do, was yet another case of entrenched management serving its own interests rather than the interests of stockholders.

It should be noted that, in seeking to fend off the raid on the corporate treasury, Eaton claimed only that the company needed the cash to make it through the next cyclical downturn; the need to invest in the next round of innovation was absent from Eaton's rhetoric. Meanwhile, Chrysler raised its dividend another 25 percent to try to placate Kerkorian. He was not mollified. By October 1995 Kerkorian was still threatening a takeover of Chrysler. But he failed to secure the financing. In the end, in February 1996, Chrysler cut a deal with Kerkorian. He got a representative on the Chrysler board, and Chrysler said that it would try to double the size of its stock repurchase in 1996 to \$2 billion, and would repurchase another billion dollars in 1997. A New York mutual fund manager with a holding of more than 3 million shares of Chrysler stock remarked that he was "elated". In return for the disgorged cash flow, Kerkorian agreed not to increase his stake in Chrysler in the next five years. The current Chrysler managers kept their jobs - and saw the value of their stock-related "incentive" pay increase once again.¹⁶¹

The case of Chrysler illustrates the mounting pressure for financial liquidity in the U.S. economy in the mid-1990s, and the extent to which major industrial corporations can be sources of such liquidity. The trends to higher dividends, stock repurchases and downsizing are not new to the 1990s. From the data we have presented, it is clear that around the beginning of the 1980s the pressures of international competition combined with the incentives of the financial revolution to change, perhaps fundamentally, the way in which corporate managers conceived of strategy. When, in February 1996, Patrick Buchanan got the attention of the press by lashing out at corporate America, he certainly had not discovered something new. So why has there been such meager popular response to these changes? Why do the American people seem to favor financial liquidity over financial commitment.

In part the answer is ideology. Even those Americans who are losing out by the erosion of sustainable prosperity believe that the governance of "private enterprise" is none of their business. But ideology is not the whole answer. The fact is that a substantial proportion of Americans - including the 45 percent of Americans who have pension coverage¹⁶² and even many employees whose jobs are becoming more insecure -- are sharing in a process that "creates value for shareholders", even if it does not create sustainable prosperity for society as a whole. They share in the process of extracting value from the economy through a

system of household finance that has come to rely increasingly on the prices and yields of corporate stock. By relying increasingly on the stock market to augment their incomes and savings, these relatively privileged Americans have developed a major stake in maintaining high returns on corporate stock.

Unlike the days when stockholding in any one company was fragmented among hundreds of thousands of household investors, the collective power of institutional investing now permits wealthholding households to reap these high returns. Over the past three decades institutional investors have become increasingly central to the American saving system, and, with ever-increasing holdings of corporate stocks, constitute the backbone of the market for corporate control. As Table 9 shows, the importance of institutional investors as holders of corporate stock has grown dramatically since the 1950s. Households held 90 percent of all corporate equity in 1952 but only 48 percent in 1994. In the first half of 1996 record amounts of household savings -- \$50 billion dollars in January and February of this year alone¹⁶³ -- flowed into mutual funds to reap the returns of the current stock market boom. In place of direct stockholding by households, corporate stocks have increasingly been held by pension funds (a 25 percent increase from 1952 to 1994) and mutual funds (10 percent increase from 1952 to 1994).

Table 9. U. S. Corporate Stock Held by Households and Institutions, 1952-1994
percent, except for total value (billions of dollars)

Year	Total value	Household	Foreign	Insurers	Private pension	Public pension	Mutual funds	All financials*
1952	170.1	89.7	2.2	3.4	1.1	0.1	1.9	8.2
1955	294.2	88.6	2.2	3.2	2.1	0.1	2.6	9.2
1960	424.9	85.8	2.2	3.0	3.9	0.1	3.5	12.3
1965	734.9	83.8	2.0	2.9	5.6	0.3	4.2	14.2
1970	841.4	68.0	3.2	3.3	8.0	1.2	4.7	28.7
1975	800.2	56.7	4.2	5.2	13.5	3.0	4.2	39.2
1980	1534.7	60.9	4.2	5.1	14.6	2.9	2.8	34.9
1985	2360.0	51.3	5.3	5.6	19.7	5.1	4.8	43.4
1990	3520.2	48.6	6.3	5.0	13.5	8.4	6.6	45.1
1991	4863.6	50.8	5.6	4.4	18.3	8.0	7.2	43.7
1992	5462.9	51.4	5.5	4.0	17.6	8.2	8.3	43.1
1993	6186.5	50.0	5.5	3.9	17.5	8.2	10.8	44.5
1994	5877.7	47.9	5.8	3.3	17.5	8.4	11.9	46.2

Source: Board of Governors, Federal Reserve, Flow of Funds Accounts, Flows and Outstandings, various years.

Using the collective power of institutional savings, households have been able to extract higher yields on stock out of the corporate economy. Table 10 shows dividend/profit payout ratios of U.S. nonfinancial corporations, as well U.S. corporate stock and corporate bond yields from 1950 to 1995. During the 1950s,

1960s, and 1970s, payout ratios -- the ratio of dividends to after-tax adjusted corporate profits -- varied from a low of 39.7 percent in 1966 (when increases in dividends lagged increased profits) to a high of 58.6 percent in 1974 (when profits fell by 21 percent by dividends went up by 8 percent). But averaged over any five-year period during these three decades, the payout ratio stayed remarkably stable, never going above 49.6 percent (1970-1974) and never falling below 44.1 percent (1960-1964). The stability is even greater over ten-year periods -- 47.9 percent for the 1950s, 45.8 percent for the 1960s and 46.9 percent for the 1970s. These payout ratios were high by international standards, manifesting the extent to which U.S. corporations returned value to stockholders even before the rise of the institutional investor.

But a marked shift in payout ratios occurred in the 1980 and 1990s. In 1980, when profits went down by 22 percent (the largest profits decline since the 1930s), dividends rose by 13 percent, and the payout ratio shot up to 72 percent. Thereafter, from 1980 through 1995, the payout ratio only descended to the pre-1980s levels in 1984, when it declined to 47.8 percent from 59.8 percent in 1983, not because dividends fell but because profits went up by 29 percent. There was no five-year period from 1980 to 1995 over which the payout ratio did not average at least 55 percent, and over the 16 years it averaged over 62 percent. In 1989, when profits fell by 2.3 percent dividends went up a near record 18.9 percent (the previous post-war high had been 19.3 percent in 1974 when inflation was running at twice the rate of 1989). Since 1989, the payout ratio has never fallen below 62.3 percent in any one year.

This marked change in payout ratios combined with corporate stock repurchases and the corporate shift from employment expansion through the 1970s to employment contraction in the 1980s and 1990s all supported the high yields on corporate stock. In addition, with inflation defeated -- largely because of the much diminished power of the American labor movement as well as the persistent pressures of foreign competition -- real bond yields became markedly higher in the 1980s and 1990s than they had been in previous decades. Also pushing up bond yields were the deregulation of financial markets that occurred from the late 1970s, as well as the integration of the bond and stock markets through the investment portfolio strategies of the institutional investors, especially the pension funds that will readily change the mix of their holdings of bonds and stocks in search of higher yields.

Table 10. U.S. Corporate Payout Ratios, Stock Yields, and Bond Yields, 1950-1995

Percent, annual averages

	1950-1959	1960-1969	1970-1979	1980-1989	1990-1995	1980-1995
Payout ratio	47.9	45.8	46.9	61.1	63.5	62.1
Total stock yield	19.7	10.7	5.4	17.2	12.1	15.3
Stock price yield	14.8	7.5	1.4	12.9	9.1	11.5
Dividend yield	4.9	3.2	4.1	4.3	3.0	3.8
Bond yield	1.29	2.65	1.14	5.79	4.67	5.37

Notes: Payout ratio is corporate dividends as a percentage of corporate profits after tax with inventory valuation and capital consumption adjustments. Total stock yield is stock price yield plus dividend yield. Stock price yield is the annual percent increase in Standard & Poor's composite index of 500 stocks. Dividend yield is the dividend-price ratio for the 500 stocks in the Standard & Poor's composite index, based on annual averages of monthly data.

Sources: Economic Report of the President, 1992, U.S. Government Printing Office, 1992: 366, 378, 397, 403; Economic Report of the President, 1996, U.S. Government Printing Office, 1996: 343, 360, 379, 384.

The search for higher yields is the *raison d'être* of U.S. institutional investors. As we have seen, contrary to the folklore of the stock market, business enterprises have never relied to any significant extent on public stockholders to invest in the development and utilization of productive resources. Despite the "ownership" rights attached to stockholding, since the beginning of the twentieth century, when the market in industrial securities emerged, public stockholders have bought equities precisely because, in the presence of liquid stock markets, they do not have to commit their time, energy, or, with limited liability, additional money to the business enterprise in, which they hold a security. Liquid stock markets enable public stockholders to avail themselves of the "Wall Street Rule" -- if they do not want to hold equities in any particular company, they should not try to exercise their "ownership" rights, but should simply call their broker, or click the mouse on their computer, and be rid of their "ownership" stake.¹⁶⁴

What the shift of stockholding to institutional investors has done for American households is to give them an alternative to the "Wall Street Rule". Through the collective power of institutional investing, American households can now put pressure on companies to get their stock prices up. As we have seen, the top managers of American companies have been increasingly open to these demands. During the 1960s the mutual funds, which had about 85 percent of their assets in stocks, increased their control over outstanding shares to more than four percent, and played an important "arbitrage" role in the conglomeration movement by buying up large blocks of stock that were rumored to be in play and selling them to the corporate raiders at higher prices.¹⁶⁵ In 1975 the institutional investors, now

faced by inflation and low securities yields, pressured Wall Street, to end fixed commissions on trading, setting the stage for a major increase in the volume of trading through the churning of investment portfolios.¹⁶⁶ The participation of a network of institutional investors made it possible for Michael Milken to create the junk-bond market in the 1970s and to use it to launch hostile takeovers in the 1980s.

By the mid-1980s institutional investors could have a direct effect on corporations. In the aftermath of the October 1987 stock market crash, major institutional investors, led by California State Public Employees Retirement System and its head, John Hanson, began to engage in "relational investing" to get companies to take actions that would increase the value of their stockholdings.¹⁶⁷ As a result, the S&P index only declined by 7 percent in 1988, and bounced back by well over 21 percent in 1989.

In 1976 Peter Drucker, a prominent management guru, wrote a book The Unseen Revolution in which he proclaimed the unnoticed arrival of "pension fund socialism".¹⁶⁸ Drucker missed the mark. During the 1970s another, much more profound, "unseen revolution" was taking place -- a revolution in the organization of production. This productive revolution was invisible to Americans largely because it was taking place abroad, especially in Japan, and not in the United States. At the same time, in the United States, a much more visible financial revolution was occurring that, in seeking to extract high returns from existing investments, would exploit the vulnerability of American industrial enterprises as they faced new competitive challenges. By the 1980s these transformations of production and finance would create a sharp division among American workers between those who could save for the future by living off the past and those who had to face the future with little on which to build. What has occurred has not simply been a redistribution of income. Rather, the revolutions in production and finance that were taking place in the 1970s have in the 1980s and 1990s drastically undermined the social conditions for sustainable prosperity in the United States.

5. Restoring Sustainable Prosperity?

In the late 1990s sustainable prosperity in the United States requires that U.S. industrial corporations invest in broader and deeper skill bases those in which they have invested historically. Investment in such skill bases can generate the higher quality, lower cost products that can give U.S. industrial enterprises sustained advantage in international competition. Such investments require strategic decision

making by corporate managers who have both the abilities and incentives to commit financial resources to learning processes that are collective and cumulative. These abilities and incentives derive from the integration of strategic managers into the processes of organizational learning in which they invest.

Yet over the past few decades, as we have documented, with the overextension of the U.S. industrial corporation and the rise of innovative industrial competitors, strategic managers of U.S. industrial corporations have become increasingly segmented from the organizations over which they exercise control. The increased power of financial interests over the past two decades has exacerbated strategic segmentation within U.S. industrial corporations by creating powerful incentives for top corporate managers to cooperate in securing high yields on corporate securities on the basis of productive capabilities accumulated in the past rather than invest in organizational learning that can form the foundations for sustainable prosperity in the future.

To reestablish the organizational foundations for sustainable prosperity requires a transformation of the institutions of corporate governance that influence the investment process in most American industrial corporations. In shaping economic performance, corporate governance is a social process that affects how the resources and returns of industrial corporations are allocated. One's perspective on the adequacy of the prevailing corporate governance system for influencing economic performance will be reflected in one's answers to the following three questions:

- 1) *Who should control strategic investment decisions in the corporation?*
- 2) *What types of investments should they make?*
- 3) *How should the returns on these investments be distributed?*¹⁶⁹

To reform the system of corporate governance to achieve sustainable prosperity, one must compare the prevailing locus and exercise of strategic control with that which should be put in place. The debate over corporate governance and economic performance is therefore a debate over who should exercise strategic control and toward what ends.

Stockholder Control

Thus far, in the United States, the debate over corporate governance has been dominated by proponents of stockholder control.¹⁷⁰ They view stockholders as the "principals" in whose interest the corporation should be run. They recognize, however, that in the actual running of the corporation, stockholders must rely on

managers to perform certain functions (although they are typically vague as to what these functions are and hence why stockholders need to employ managers). In a well-governed enterprise, managers should function as the agents of the stockholders in allocating corporate resources and returns. For the proponents of stockholder control, the problem of corporate governance is to ensure that the actions of managers as agents are aligned with the interests of stockholders as principals.

The proponents of stockholder control have argued, often with justification, that strategic managers of industrial corporations are ill-informed and self-serving in the ways in which they allocate corporate resources and returns. As a result, such managers do not adequately "create value for shareholders". To increase the returns to stockholders, the proponents of stockholder control advocate, first, realigning managerial incentives through the use of stock-based rewards; second, using the market for corporate control to enable stockholders to take over companies and replace managers who misallocate corporate resources; and, third, distributing more returns to stockholders so that they can directly reallocate resources in ways that "maximize shareholder value".

But why are stockholders the "principals" in whose interests the corporation should be run? The proponents of stockholder control assert that, as equity investors, stockholders are the only participants in the corporation who make investments in the corporation without any contractual guarantee of a return. Insofar as they secure a return on their investments, it is as "residual claimants", and hence they alone have an interest in the size of the corporation's profit or loss. The corporation has a contractual obligation to pay fixed-income claimants a specified remuneration (the market price of their factor input) irrespective of the performance of the enterprise as a whole. In contrast to fixed-income claimants, stockholders as "residual claimants" to corporate returns have an interest in allocating corporate resources to their "best alternative uses" to make the residual as large as possible. Since all other "stakeholders" in the corporation will be receiving the returns for which they have contracted, the "maximization of shareholder value" will result in superior economic performance for not only the particular corporation but also the economy as a whole.

In response to the three corporate governance questions, therefore, the proponents of stockholder control would reply that, for superior economic performance, 1) stockholders should have strategic control, that 2) permits them (directly or through their managers acting as agents) to allocate their corporate

resources to those existing alternative investment opportunities that offer the highest expected rates of return and that, 3) as an integral element in that allocation process, enables stockholders to determine the proportion of corporate returns that should be reinvested in the particular corporation and the proportion that should be distributed to them for reallocation elsewhere in the economy.

The stockholder-control perspective reflects deep-seated beliefs in the centrality of private property rights and market relations to the corporate economy. Yet, since the 1920s, if not before, the very existence of the corporation as a central and enduring entity in the U.S. economy has prompted a number of American economists to question the relevance of these beliefs.¹⁷¹ As they should, for the realities of successful industrial development in the United States as well as abroad during this century flatly contradict the basic assumptions of the stockholder-control perspective.

Let us consider the problems with the stockholder-control perspective in terms of each of the three critical corporate governance questions.

◆ *Who should control strategic investment decisions in the corporation?*

Stockholders have not exercised strategic control in the U.S. industrial corporation during this century. The very evolution of the corporate form in the United States entailed the separation of stock ownership from strategic control. Yet, for reasons that we have outlined, it was in the presence of the separation of stock ownership from strategic control that U.S. industrial corporations made the investments in organization and technology that, by the middle decades of this century, enabled the United States to dominate the world economy.

If, as the proponents of stockholder control argue, the problem of corporate governance is that managers have acquired too much independent power over the allocation of corporate resources and returns, the advocates of stockholder control do not explain how and why corporate managers, as so-called agents, who presumably could be hired, rewarded, and fired by stockholders, acquired such power. We have shown that, historically, U.S. corporate managers acquired power because they were the strategic decision makers who allocated corporate resources to organizational learning processes that enabled these corporations to generate innovation and attain sustained competitive advantage in the industries in which they competed. We have also argued that, in general, the separation of stock ownership from strategic control was a precondition for placing such strategic decision making power in the hands of managers who were integrated into the collective and cumulative learning processes that made their enterprises innovative.

Indeed, even in the initial public offerings that separated stock ownership from strategic control, the investments in securities that public stockholders made were not used to finance investments in new productive capabilities but to transfer ownership rights to revenues that might be forthcoming from productive capabilities that had already been put in place. Hence, even with the rise of the publicly held corporation at the turn of the century, the new public stockholders did not make strategic decisions concerning investments in productive resources.

On the contrary, American households and some financial institutions were enticed to hold stock because of the demonstrated revenue-generating capabilities of the going concerns for which the stock was issued. As the revenue-generating capabilities of these industrial corporations were sustained over the first three decades of this century, a highly liquid market in industrial stocks emerged, thus making stockholders all the more willing to make financial investments in corporate stock without having any knowledge of, or interest in, the strategic decision making processes that were determining corporate investments in productive resources. That is, the investment decisions of public stockholders have always been based on financial considerations, not productive considerations.

To recognize that, at some point in the evolution of a particular industrial corporation, the corporate managers who occupy positions of strategic decision making may become ill-suited to allocate resources to innovative investment strategies in no way implies that stockholders, who have not been the strategic decision makers in U.S. industrial corporations during this century, have either the incentives or abilities to perform that function. Rather the problem for corporate governance is to understand why the corporate managers who currently occupy positions of strategic control in major U.S. industrial corporations lack the incentives and abilities to allocate resources to innovative investment strategies.

◆ *What types of investments should they make?*

The proponents of stockholder control argue that stockholders allocate their financial resources to those alternative investment opportunities that offer the highest expected rates of return. In doing so, they assume that stockholders take the alternative opportunities in which they can invest as given. There is no expectation that stockholders are engaged in making innovative investments that create new opportunities for generating returns, either directly in selecting their investment portfolios or indirectly through the activities of managers who are supposed to serve as their agents. Such a constrained view of the corporate investment process is not problematic for the proponents of stockholder control

because, like the neoclassical theory of the market economy in which they root their arguments, the stockholder-control perspective ignores the process of innovation as a central phenomenon in determining the performance of the industrial enterprise or the economy in which it operates.¹⁷²

How far the stockholder-control perspective is from recognizing the centrality of innovative investment to the performance of the economy is demonstrated in a recent presidential address to the American Finance Association by the perspective's foremost proponent, Michael Jensen. In his address, entitled "The Modern Industrial Revolution, Exit, and the Failure of Internal Control Systems," Jensen highlights Joseph Schumpeter's concept of creative destruction as a seminal insight into the importance of "efficient exit" from an industry.¹⁷³ Yet, of all the economists of the twentieth century, Schumpeter demonstrated the centrality of innovative investments to the process of economic development. When, in Capitalism, Socialism, and Democracy, Schumpeter argued (in a famous passage that Jensen quotes), "the problem that is usually being visualized [by the economist] is how capitalism administers existing structures, whereas the relevant problem is how it creates and destroys them," his concern was with the role of corporate enterprises in generating the innovation process, not with how (as Jensen would, quite incredibly, have his followers believe) corporate managers withdraw resources from the corporate enterprise.¹⁷⁴ Schumpeter would have included "efficient exit" as a way in "capitalism administers existing structures." In fact, public stockholders have nothing to do with strategic allocation of resources to innovation, so it is not surprising that the proponents of stockholder control have nothing to say about Schumpeter's "relevant problem": how, through innovation, the economy engages in "creative destruction."

◆ *How should the returns on these investments be distributed?*

Indeed, in his subsequent writings, Schumpeter went on to stress the critical distinction between innovation that generates economic development and adaptation that simply takes existing investment opportunities as given.¹⁷⁵ With its focus on extracting resources from corporations through "efficient exit" – of which "disgorging the free cash flow" (as Jensen has so evocatively put it) is the mechanism that particularly enhances stockholder control – the stockholder control perspective is concerned only with adaptation. The perspective has no conception, let alone a theory, of innovation.

Yet the proponents of stockholder control favor distributing returns to stockholders so that they can reallocate them to their best alternative uses. The

economic rationale for the distribution of returns to stockholders, as we have seen, is that they have placed their assets at risk in the enterprise on the understanding that they can lay claim to the residual – what we shall call “the gains of innovation” – that the enterprise generates. Deny the residual to stockholders, so the proponents of stockholder control argue, and finance for industrial investment will disappear.

But the notion that public stockholders invest in productive assets has no basis in the history of successful industrial development in the United States. Public stockholders have never, as a general rule, put their financial assets at risk by investing in the productive assets of the industrial enterprise. Rather they have invested their money in the securities issued by successful enterprises on the basis of investments in productive assets that have already been made. They have been willing to place their money in these securities, not because they are “residual claimants” to the gains from innovative enterprise but because of the liquidity of these securities on financial markets.

By the same token, in the decades prior to the 1970s, when U.S. industrial corporations were most successful in international competition, the dividend policy of industrial corporations was to maintain the money level of dividends but not to share the gains of innovation with stockholders.¹⁷⁶ Successful enterprises tended to use the gains of innovation for reinvestment in productive assets, including human resources, and to increase the earnings of employees. Moreover, industrial enterprises rarely sought to boost stock prices by repurchasing stock. Yet during this period there was no shortage of capital for investment in productive resources, either in going concerns or new ventures. Since the 1980s, however, as we have seen, through the transformation of Wall Street combined with the financial power of institutional investors, stockholders have been able to lay claim to a larger share of the returns of U.S. industrial enterprises, even as these enterprises have lost market share in the product markets in which they have competed internationally.

The stockholder-control perspective has nothing to say about the rise of the United States to a position of international industrial leadership during the first six or seven decades of the twentieth century. If it has anything to say about the role of stockholder control in the U.S. industrial corporation over the last two or three decades, it is about how the enhanced power of stockholders to lay claim to corporate returns has exploited the vulnerability and contributed to the relative decline of American industrial enterprises in international competition. The stockholder-control perspective provides a rationale for Americans who hold corporate stock to live off the accumulations of the past; it does not provide a

framework for understanding how the reform of corporate governance can help reestablish the social conditions for innovative enterprise and sustainable prosperity in the future. It is about destruction, not creation.

Managerial Control

What, then, is the alternative to the stockholder-control perspective? One alternative that has been put forth recently in proposals to improve the competitive capabilities of American industry can be termed the “managerial control” perspective.¹⁷⁷ On each of the three questions of corporate governance, the managerial control perspective differs significantly from the stockholder-control perspective. But even then, as we shall see, the managerial control perspective falls short of providing an adequate framework for reforming corporate governance to generate sustainable prosperity.

♦ *Who should control strategic investment decisions in the corporation?*

Unlike the proponents of stockholder control, the proponents of managerial control recognize that the competitive success of the industrial corporation depends on investments in innovation that entail specialized in-house knowledge and that require time, and hence financial commitment, to achieve their developmental potential. The importance of innovative investment strategies for the success of the corporation and the economy creates a central role for corporate managers in determining the allocation of corporate resources and returns.

The fundamental difference between the stockholder-control and managerial-control perspectives is captured by two quotes that appeared, one after the other, in a Business Week report on Kerkorian’s takeover attempt of Chrysler. Michael Jensen, a leading proponent of stockholder control, stated: “What is the purpose of [Chrysler’s] cash? It’s to allow them [Chrysler’s managers] to stay fat and lazy.” Michael Porter, a leading proponent of managerial control, asked, “Who’s going to make the investments, if the presumption is that any management team will waste resources?”¹⁷⁸

The proponents of managerial control argue that, with appropriate advice from business academics and management consultants on such matters as “competitive strategy” and “core competence,” current managers should be allowed to allocate corporate resources. The proponents of managerial control provide no response to arguments that the current top managers of U.S. industrial corporations have grown “fat and lazy”, or that they have lost the incentive to invest for the future. Besides appropriate advice from consultants, all current managers need is “patient

capital” that will enable them to see their investments in productive resources through to competitive success.

♦ *What types of investments should they make?*

The managerial-control perspective is full of words such as “capabilities,” “knowledge,” “skills”, “learning,” “factor creation”, and “innovation” as sources of “sustained competitive advantage” for the enterprise. This orientation alone sets it apart from the stockholder-control perspective, and brings the proponents of managerial control in much closer contact with the real world of industrial development. In expressing a need for “patient capital”, moreover, they recognize (however implicitly) that the value-creating capabilities of productive assets, including human assets, result from a developmental process in which the enterprise must invest.

But, focused as it is on what existing managers think and do rather than how they are integrated into, or segmented from, the productive organizations in which they invest, the managerial-control perspective provides no analysis of the social foundations of innovation and industrial development. From the perspective of managerial control, what determines whether or not an enterprise invests in innovation is the “mind set” of the strategic manager. But the managerial-control perspective does not see the strategic manager as an actor in a social environment that includes organizations and institutions. What determines the mind set of the manager is rarely addressed.

In particular, little, if any attention, is paid to the relation of the strategic manager to the organization that he is supposed to be managing. For example, in his influential management book, Competitive Strategy, published in 1980, Michael Porter devoted only seven out of some 400 pages to what he calls “organization”, and these seven pages are bereft of any discussion that pertains to the social interaction of people within or across business enterprises.¹⁷⁹ In a subsequent, and similarly influential, management book, Competitive Advantage, Porter included a chapter entitled, “Achieving Interrelationships.” But he narrowly confined the discussion to strategic relationships between business unit managers, and even then felt compelled to explain, by way of a footnote, why “this book on strategy must contain an unexpected chapter on organization.”¹⁸⁰ The reason that Porter gave is that “organizational impediments” can sometimes get in the way of good strategy, and therefore warrant study.

◆ *How should the returns on these investments be distributed?*

While the managerial-control perspective ignores the relationships of strategic managers to other participants in the process of industrial innovation, it focuses on the relation of the strategic managers to the firm's stockholders. Like the proponents of stockholder control, the advocates of managerial control view strategic managers as agents of stockholders. But the managerial-control perspective recognizes the need for strategic managers to make developmental investments if the enterprise is to achieve sustained competitive advantage. The managerial-control perspective argues, therefore, for managerial autonomy in setting and implementing investment strategy, and looks to large stockholders such as wealthy individuals and pension funds to become "patient capitalists" – that is, to provide managers with the control over financial resources that innovative investment strategies require. Hence the managerial-control perspective would profoundly disagree with the penchant of the proponents of stockholder control for "disgorging the free cash flow", mainly because the proponents of managerial control understand the importance of what we have called financial commitment for innovative investment strategies.

In looking to public stockholders to provide financial commitment to U.S. industrial corporations, however, the proponents of managerial control are looking to a group of people who have claims on corporations but who have never had the abilities or incentives to support innovative investment strategies. Public stockholders are, and have always been, financial investors, not industrial capitalists. In the history of successful U.S. industrial development, some wealthy individuals have performed the role of "patient capitalists", but they have done so as venture capitalists with a view to reaping returns by taking the new venture public once the enterprise has become a going concern.¹⁸¹ The most successful venture capitalists, moreover, have had a deep knowledge of the technologies being developed and close relationships with the key developmental personnel. Once, through an initial public offering, a company that has made the transition from new venture to going concern has become publicly held, the key to continued financial commitment has been, as we have shown, the dispersion of stockholder power so that, in the quest for financial liquidity, these outsiders to the innovation process cannot reduce the corporate retentions that have been the financial basis for innovative investment.

In the immediate post-World War II decades, when stock ownership was separated from strategic control and when the promise of sustainable prosperity prevailed, institutional investors such as pension funds and insurance companies did provide a degree of financial commitment to industrial corporations by absorbing long-term corporate bond issues at interest rates that financial regulation kept low. This bonded debt was in addition to, rather than a substitute for, retained earnings. But as pension funds became increasingly important to the savings strategies of American households, they were influential in overthrowing financial regulation that constrained their ability to extract higher yields on their investment portfolios (the most important piece of legislation being the Employee Retirement Income Security Act of 1974), and they shifted their portfolios from bonds to stocks in their quest for higher yields. More recently, pension-fund managers have been under even more pressure to secure higher yields on their portfolios as American households have increasingly turned to mutual funds to manage their retirement savings.

But even if U.S. institutional investors were inclined to be "patient capitalists", the funds that they would supply to U.S. industrial corporations would not generate sustainable prosperity without a dramatic transformation of the ways in which investments in corporate assets are made. To invest in innovation on a scale that can generate sustainable prosperity, strategic decision makers in industrial corporations must invest in broader, deeper, organizationally integrated, skill bases. To have the incentives and abilities to make such investments, these strategic decision makers must themselves be integrated into the organizational learning processes for which the broad and deep skill bases form foundations. In the absence of such investments, even those corporate employees who could potentially benefit from investments in organizational learning are apt, through their pension funds, to demand high returns today rather than support financial commitment. In the absence of investments in organizational integration that can enable business enterprises to gain sustained competitive advantage, employees do not, with good reason, have any reason to believe that they will share in the gains of innovation in the future.

Organizational Control

Notwithstanding all the rhetoric about stockholders as "residual claimants", once one recognizes the importance of organizational learning to the development and utilization of productive resources, one cannot avoid the fact that, in generating innovation and industrial development, the most important investments that an

enterprise makes are in human resources, not physical resources. In line with the conventional concept of property, corporate accounting principles count as *expenses* both the *investments* in human resources that take the forms of knowledge and skills and the *returns* to human resources that take the forms of higher incomes, better benefits, and more stable employment. Although, in common parlance, business executives will say that their human assets are their companies' most valuable assets, in corporate law and in accounting practice human capabilities are not treated as corporate assets because people cannot be owned. The conventional concept of property on which this law and practice is based, however, ignores the collective assets and collective returns that are the essential realities of the innovative enterprise. From our perspective – which one might call the “organizational-control” perspective – sustainable prosperity, be it in the United States or elsewhere, requires not only that these investments in collective assets be made but also that those whose knowledge, skills, and learning are central to the development and utilization of these collective assets have the expectation of sharing in the so-called “residual” – that is, the gains of innovation.

With the increased power of stockholders to extract returns from corporations, a small but growing number of economists and politicians have argued that there are other corporate “stakeholders”, besides stockholders, who have a claim to corporate returns.¹⁸² The stakeholder perspective does not challenge the claims of the stockholder-control perspective that stockholders are “principals”; it accepts that stockholders have “residual claimant” status because they invest in the productive assets of the enterprise. Rather the stakeholder perspective argues that the physical assets in which stockholders allegedly invest are not the only assets that create value in the corporation. Human assets create value as well. Individuals invest in their own human assets, and to some extent these human assets in which they invest are “firm-specific”. Hence employees make value-creating investments in a particular firm, and therefore, alongside stockholders, should be accorded “residual claimant” status. In allocating corporate returns, the governance of U.S. corporations should recognize the central importance of these investments in human assets to the success of the enterprise and the prosperity of the economy.

In its critique of the proponents of stockholder control and in its emphasis on investment in “firm-specific” human assets for the success of the economy, the stakeholder perspective has a political affinity to the organizational-control perspective on corporate governance that we emerges from our own analysis of the social foundations of industrial development. Political affinity should not, however,

be confused with analytical similarity. Like the stockholder-control perspective, the stakeholder perspective clings to the neoclassical theory of the market economy as its analytical framework, and makes *ad hoc* assumptions within this framework to stress the importance of firm-specific human assets to the economy. Specifically, the stakeholder perspective fails to analyze the process of innovation, and as a result fails to address the organizational and institutional foundations of sustainable prosperity. In response to each of the three critical corporate governance questions concerning strategic control, types of investments, and distribution of returns, let us summarize the main propositions of the organizational-control perspective, and indicate how the stakeholder perspective on corporate governance falls short of understanding the foundations of sustainable prosperity.

◆ *Who should control strategic investment decisions in the corporation?*

The organizational-control perspective argues that strategic investment decisions should be made by participants in the corporation who are integrated into the organizational learning processes that can generate products that are higher quality and lower cost products than those previously produced. Such strategic integration provides the only basis for making investment decisions in the face of inherent uncertainty with any prospect, other than pure luck, of success. Whatever the hierarchical structure of authority and responsibility within the corporation for committing financial resources to innovative investment strategies, those who wield this authority and responsibility must be integrated into the relevant learning collectivities if they are to have the abilities and incentives to transform inherent uncertainty into sustained competitive advantage.

The stakeholder perspective has no conception of strategic control (hence we have deliberately refrained from using the term “stakeholder-control” in referring to this perspective), primarily because it has no theory of the firm other than as a combination of physical and human assets that for some reason – labeled “firm-specificity” -- happen to be gathered together in a particular company. As in neoclassical economic theory, actual investment decisions are made by individual actors. The role of corporate governance is to get factor returns “right”, so that these individual actors are induced to make the “firm-specific” investments that the enterprise requires. Such a perspective focuses only on the relation between types of investment (physical or human, general or specific) and returns, and hence cannot address how strategic control over the allocation of resources may or may not result in innovative investments.

◆ *What types of investments should they make?*

For the enterprise to remain innovative, investments must be made in organizational learning processes that can generate higher quality, lower cost products than currently exist. It is inherent in the innovation process that the breadth and depth of the skills that must be integrated to produce a particular product will change over time as technology develops. The most dramatic changes in the breadth and depth of organizational learning processes occur when, as has been the case of the Japanese challenge to American industry, business enterprises make productive investments in social environments that favor investments in broader and deeper skills bases. To make innovative responses to such challenges the business enterprise must transform its social organization. To promote sustainable prosperity, corporate governance must be concerned with investments in social organization that can generate innovation and competitive advantage.

The stakeholder perspective refers to "firm-specific" assets but makes no attempt to understand the investments in organizational learning that make assets specific to a particular collectivity. In Ownership and Control: Rethinking Corporate Governance for the Twenty-First Century, Margaret Blair recognizes the need for an analysis of what she calls "wealth creation"¹⁸³ in order to make the case for a corporate governance process that allocates returns to "firm-specific" human assets. But she provides no analysis of the process that generates higher quality, lower cost products. She merely asserts that investment in "firm-specific" assets can generate "quasi-rents" for the investor, but does not specify under what conditions (technological, organizational, and competitive) such increased returns are generated, or why they should be specific to a particular company.

◆ *How should the returns on these investments be distributed?*

The organizational-control perspective argues that, to promote sustainable prosperity, returns must be reinvested in learning collectivities that can generate sustained competitive advantage. Investments in human assets take the form of remuneration for those engaged in the organizational learning processes. The need for financial commitment means that returns under the control of the organization are foundations for ensuring investment in learning processes that are collective and cumulative. But the changing character of the organizational learning processes that can generate competitive advantage means that cumulation disadvantages will eventually arise if the units of strategic control do not change accordingly. To promote sustainable prosperity, corporate governance must be

concerned not only with allocating returns to those participants in the enterprise who are engaged in cumulative learning but also with ensuring that, in the form of committed finance, control over returns devolves to strategic decision makers who are and remain integrated into the processes of organizational learning. At the same time, to promote sustainable prosperity, corporate governance must be concerned with limiting the allocation of returns to those interests – such as public stockholders – who can exercise claims on corporate returns but who make no contribution to the processes of collective and cumulative learning.

Lacking a concept of strategic decision making and an analysis of the innovation process, the stakeholder perspective sees returns as attaching to specific human and physical assets, and views the claims to these assets as being based on the investments that individual stockholders and employees make. The assumptions that both investment in and returns from productive investments attach to individuals, even when these factors of production are combined in firms, preclude an analysis of the collective character of corporate investment and corporate returns. Hence the stakeholder perspective has no analytical basis for understanding a system of corporate governance that can allocate returns from existing productive investments to new productive investments that are collective. To promote sustainable prosperity, a system of corporate governance must facilitate collective decision making concerning the allocation of resources and returns.

Moreover, the stakeholder perspective has no theoretical basis for explaining the historical fact that public stockholders are not and have not been participants in this process of collective investment. Unlike those who receive returns for engaging in the learning processes that, with appropriate organizational integration and adequate financial commitment, can generate new sources of value, stockholders collect rents on past accumulation. Moreover, the size of these rents – the yields on their stocks – is not dependent on the scarcity value of the financial resources that they control but on their political power to lay claim to corporate returns. The stakeholder perspective does not address the changes in governance of U.S. corporations, and the governance of the U.S. economy more generally, that have enabled stockholders to increase their political power to extract higher returns. Nor does the stakeholder perspective address the implications of this historic change for the prospects for sustainable prosperity in the U.S. economy.

The problem of corporate governance and industrial development is not resolved by simply advocating that industrial corporations be run for other “stakeholders” – especially employees – besides stockholders. The danger is that

different groups who can lay claim to shares of corporate revenues will, as has increasingly been the case with stockholders, extract corporate revenues whether or not their contributions to the generation of these revenues make these returns possible on a sustainable basis. The result of the creation of a "stakeholder society" might be to increase the propensity for major industrial enterprises and the economy in which they operate to live off the past rather than invest for the future.

If sustainable prosperity is the objective, proposals to reform the corporate governance system must be based on a theory of the innovative enterprise. Without such a theory, stakeholder arguments run the risk of encouraging other groups, besides stockholders, to become claimants to a given, and even diminishing pool of returns. To avoid such a political and economic stalemate requires a conception of how investments in people working together in organizations can generate the returns in international competition that make sustainable prosperity possible. To make constructive contributions to the corporate governance debate, economists must shed the shackles – both methodological and ideological -- of an economic theory that was never designed to understand how an economy develops, and build their own capabilities for analyzing the processes of industrial innovation, international competition, and the social foundations of sustainable prosperity.¹⁸⁴

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- ¹⁷⁰ The most vigorous proponent of the stockholder control perspective in the United States has been Michael C. Jensen, an economist by training and a professor of finance at Harvard Business School. See, for example, Jensen "Agency Costs, of Free Cash Flow"; "Eclipse of the Public Corporation," and "The Modern Industrial Revolution. Exit, and the Failure of Internal Control Systems," Journal of Finance, 48, July 1993.
- ¹⁷¹ See Thorstein Veblen, Absentee Ownership and the Business Enterprise in Recent Times: The Case of America, B. W. Huebsch, 1923; Berle and Means, Private Property and the Modern Corporation; Joseph A. Schumpeter, Capitalism, Socialism, and Democracy, Harper and Row 1942, John Kenneth Galbraith, The New Industrial State, Houghton Mifflin 1967. See also Lazonick, Business Organization and the Myth of the Market Economy.
- ¹⁷² For a broad critique of the myth of the market economy as propounded by neoclassical economists, see Lazonick, Business Organization and the Myth of the Market Economy.
- ¹⁷³ Jensen, "The Modern Industrial Revolution," 833. For a critique of the stockholder control perspective, including Jensen's arguments, see O'Sullivan, Innovation, Industrial development, and Corporate Governance, ch. 7.
- ¹⁷⁴ For Schumpeter's perspective on innovation and the corporate enterprise, see Lazonick, Business Organization and the Myth of the Market Economy, ch. 4.
- ¹⁷⁵ Joseph A. Schumpeter, "The Creative Response in Economic History," Journal of Economic History, 7, November 1947.
- ¹⁷⁶ See, for example John Lintner, "The Distribution of Incomes of Corporations among Dividends, Retained Earnings, and Taxes," American Economic Review, 46, May 1956.
- ¹⁷⁷ The most vigorous proponent of the managerial control perspective in the United States has been Michael E. Porter, an economist by training and a professor of strategy at Harvard Business School. See Michael E. Porter, The Competitive Advantage of Nations, Free Press, 1990; and Capital Choices: Changing the Way America Invests in Industry, Council on Competitiveness, 1992..
- ¹⁷⁸ "An Old Fashioned Feeding Frenzy," Business Week, May 1, 1995, 34-36.
- ¹⁷⁹ Michael E. Porter, Competitive Strategy: Techniques for Analyzing Industries and Competitors, Free Press, 1980.
- ¹⁸⁰ Porter, Competitive Advantage, 384. For a critique of Porter's failure to recognize the importance of organization for innovation and competitive advantage in his subsequent book, The Competitive Advantage of Nations, even as he presents material that describes organizational learning processes, see William Lazonick, "Industry Clusters and Global

Webs: Organizational Capabilities in the U.S. Economy, Industrial and Corporate Change, 2, 1, 1993.

¹⁸¹ John W. Wilson, The New Venturers: Inside the High-Stake World of Venture Capital, Addison-Wesley, 1986; see also Lazonick, "Controlling the Market for Corporate Control," 476-482.

¹⁸² In the academic arena, the most articulate proponent of the stakeholder perspective has been Margaret Blair, an economist by training and a former journalist who is a research fellow at the Brookings Institution. See Blair, Ownership and Control. In the U.S. political arena, the most vigorous proponent of the stakeholder perspective has been Robert B. Reich, a lawyer by training and currently United States Secretary of Labor. See Robert B. Reich, "How to Avoid These Layoffs?", New York Times, January 4, 1996. In his academic work, written in the years prior to his appointment to a position in the Clinton Administration, Reich adopted the position that upgrading the skills of the American labor force could proceed without intervening in the governance of U.S. industrial corporations. See Robert B. Reich, "Who is Us?" Harvard Business Review, 68, January-February 1990; Robert B. Reich, The Work of Nations: Preparing Ourselves for Twenty-First Century Capitalism, A. A. Knopf, 1991. For a critique of Reich's views in this work, see Lazonick, "Industry Clusters versus Global Webs."

¹⁸³ Blair, Ownership and Control, 232-234, 240ff, 327-328.

¹⁸⁴ See William Lazonick, "What Happened to the Theory of Economic Development?" in Patrice Higgonet, David S. Landes, and Henry Rosovsky, eds., Favorites of Fortune: Technology, Growth, and Economic Development since the Industrial Revolution, Harvard University Press, 1991.