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Corporate Governance in Germany

Productive and Financial Challenges

Mary O'Sullivan

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Preface

Despite the “large” increases in German GDP growth—from 1.3 percent in 1996 to 2.2 percent in 1997 to a projected 2.7 percent in 1998—the average German worker would likely view the nation’s economic performance as dismal. Employment has declined every year from 1992 to 1997 and is not expected to change in 1998. The unemployment rate hit a record high of 12.4 percent in the first quarter of 1998 and remained high at 10.9 percent in the second quarter. The bleak employment situation is the result in part of corporate restructuring and rationalization and in part of pressures in the financial sector.

The rise to power of a Social Democrat-led coalition in the recent German elections has raised concerns in some quarters and hopes in others for the nation’s economic prospects. However, the productive and financial challenges facing the German economy are so deep-seated that the change in political power may not be in itself sufficient to confront these challenges. In this brief, Research Associate Mary O’Sullivan analyzes the genesis and character of these challenges from the perspective of corporate governance. The postwar system of corporate governance that developed in West Germany is based mainly on a set of nonmarket institutions. Serious strains in the last two decades have created strong pressures to move toward an American-style system that emphasizes mobility of financial resources and managerial reward based on stock market performance.

The roots of the productive challenges lie in the decline of German competitiveness in international product markets. Corporations have responded by cutting employment and limiting growth in employee compensation to contain costs. However, according to the author, in focusing on costs and short-term productivity, corporations are ignoring the organizational changes—for example, encouraging cross-functional integration among employees—that are required to generate innovation and build long-run competitive advantage.

The financial problems of the system have stemmed both from the remarkable growth of wealth in the postwar German economy and from growing intergenerational dependence. Germans have been moving their accumulating financial assets out of savings deposits in banks to higher-yielding instruments such as insurance, fixed-income securities, and mutual funds, thus leading to a demand for greater financial liquidity. Intergenerational dependence and associated problems in financing the pension system can be attributed to demographic factors such as rising longevity and falling fertility rates, but other factors are also at work, such as companies' use of early retirement schemes as a low-cost means of downsizing, the extension of benefits to workers in the former East Germany, and the easing of qualifications for disability benefits to include a labor market criterion in addition to the usual health criterion.

According to O'Sullivan, attempts to improve financing within the existing pay-as-you-go framework have been ineffective. If the employment situation does not improve and the pension-financing crisis deepens, a move toward a funded pension scheme with some degree of privatization seems inevitable. While the consequences of such a move for an equitable provision of old-age benefits may not be positive, powerful financial institutions do stand to gain from it through increased profits from asset management. The vigorous efforts of these institutions to promote an "equity culture" have had limited but growing success.

O'Sullivan argues that a coalition may be formed between financial interests and high-level corporate managers to transform the corporate governance system to one emphasizing "shareholder value," similar to the American system that emerged in the 1980s. An important difference between the two countries that would act as a bulwark against such a transformation is the relative strength of the German labor movement. But, O'Sullivan points out, a strong labor movement does not ensure that the foundations for sustainable growth can be rebuilt. Both labor and financial interests may persist in their independent strategies to maintain their respective shares in the national pie without any consideration of whether these shares can be supported if fundamental organizational changes are not made.

I hope you find O'Sullivan's analysis informative and useful. As always, I welcome your comments.

Dimitri B. Papadimitriou, *President*
December 1998

Corporate Governance in Germany

Corporate governance is concerned with the institutions that influence how business corporations allocate resources and returns. Specifically, a system of corporate governance shapes *who makes investment decisions in corporations, what types of investments they make, and how returns from investments are distributed*. In addition to its importance for business enterprises, how corporations are governed has important international, national, and regional economic consequences. Retained earnings—undistributed profits and capital consumption allowances—have always provided the financial resources for investments in physical and human capabilities that can make economic development possible. How major corporations allocate their vast revenues is a matter of strategic choice, and the strategic choices of corporate decision makers have profound effects on employment opportunities and income levels.

The politics of corporate governance is perhaps most obvious with respect to how corporate returns are allocated, for example, to higher wages, dividends, and reinvestment. Even more important, however, is the politics of who is endowed with strategic control over corporate investment and what kind of investment choices they make. The investment choices determine which productive capabilities are developed and, therefore, who is included in the process that generates wealth in the economy.

Corporate governance has, in recent years, become a highly charged political issue in Germany.¹ Since 1993, when Germany entered its worst recession in postwar history, there has been an escalation of the perennial debate about *Industriestandort Deutschland*, or “Germany as an industrial location.” Employers claim that high wages, short working hours, tight

labor market regulations, and high taxes have undermined Germany's international competitive position. A wave of corporate layoffs has swept through industry; the Kiel Institute estimated that 1.3 million jobs, or 15 percent of Germany's manufacturing employment, were lost from 1991 to 1996 (*New York Times*, July 13, 1996) and the trend has continued unabated into 1998 even as corporate profits have improved. Employers warn that companies will be forced to relocate production abroad if drastic reforms of corporate structures, and of the foundations of the social market economy, are not undertaken to guard the bottom line. Prominent corporate managers have been calling for an increased focus on "shareholder value," even if it comes at the expense of social cohesion.

In emphasizing the need to "create value for shareholders," these managers are expounding a view that has dominated Anglo-American debates on corporate governance for more than a decade. According to the shareholder view, shareholders are the "owners" or "principals" in whose interests corporations should be run; when corporations are run to maximize shareholder value, the performance of the economic system as a whole, not just the interests of shareholders, will be enhanced (see, for example, Alchian and Demsetz 1972; Fama and Jensen 1983; Jensen, 1986; Hart 1995; Shleifer and Vishny 1997). From this perspective, corporate governance is about efficiency not equity; it is an economic not a political issue, and, indeed, to the extent that politics intervenes in matters of corporate governance, economic efficiency will suffer.

The shareholder view holds that free mobility of financial resources leads to superior economic performance. Nothing should inhibit the free flow of financial resources from one use to another, and any impediment to that flow is an imperfection in the market. The central implication of the shareholder argument is that the market should ultimately decide the optimal allocation of corporate resources and returns. Shareholders may have to rely on managers to perform certain functions to run the corporation, but so long as the system of corporate governance ensures that corporate managers are induced or constrained to act in accordance with the dictates of financial markets, the optimal allocation of corporate resources and returns will be ensured.

It is surprising that a perspective that stresses financial mobility is gaining ground among influential German corporate managers, bankers, and

academics. Only a short time ago the availability of “patient capital” (or, long-term commitment of financial resources) on the basis of close bank-industry relations was regarded as the critical strength of the German postwar system of governance in comparison with its U.S. and British counterparts (see Albert 1991; Porter 1992; Streeck 1995). The striking retreat from this interpretation of the German system grew out of the concerns about a decline in German industry’s ability to compete and by the apparent resurgence of U.S. industry’s competitive position in the 1990s.

How do we explain the retreat from the patient capital position? Was it wrong to begin with? Has it simply become outdated? To the contrary, the patient capital argument captures a critical dimension of economic activity—innovation, or the process through which resources are developed and utilized to generate higher-quality and lower-cost products than had previously been available. The strength of the patient capital argument is that it recognizes that innovation takes time and hence requires a long-term commitment of financial resources.

Proponents of the shareholder view, like their neoclassical cousins, ignore the process of innovation as a central phenomenon in determining the performance of corporate enterprises and the economy in which they operate.² They argue that enterprises should allocate their financial resources to investment opportunities that offer the highest expected rates of return to shareholders. This view assumes that shareholders consider alternative opportunities as somehow “given” and that they will not be engaged in creating new opportunities for generating returns.

Given the centrality of innovation to the improvement of an economy’s performance over time and relative to other economies, the neglect of innovation by the shareholder view renders it wholly unsuitable as a basis for corporate governance in dynamic economies. But the patient capital argument also has a critical weakness: it cannot explain why, in an environment where patient capital is available, investments sometimes fail to generate innovation. This failure made the patient capital argument vulnerable to allegations by shareholder value proponents that corporate managers had grown “fat and lazy.”

This weakness of the patient capital argument is rooted in its unwillingness to move beyond financial issues to take account of the organizational

requirements of innovation. Underlying the innovation process is a learning process; higher-quality and lower-cost products result from changing old ways and learning how to do some things differently. Comparative and historical studies of economic development in advanced economies support the proposition that the learning process that generates innovation is collective and cumulative, that is, it is organizational (Chandler 1977, 1990; Fruin 1992; Hounshell 1984; Kocka 1980; Best 1990; Lazonick 1990a). Financial commitment is a necessary but not sufficient condition for innovation.

Since innovation is an organizational rather than a financial process, those who exercise corporate control exercise a form of social control. Whether the mechanisms for channeling financial resources in an economy contribute to or detract from the development and utilization of productive resources depends on how they relate to the social foundations of innovation. For example, even when corporate strategists are willing and able to commit resources to innovative activities, there is no assurance that they will do so in a way that maximizes the skill base that is integrated into the process of organizational learning. Innovation may be based on an exclusive learning process—strategic development of the abilities of and incentives for a small group of employees at only a few levels of the organizational hierarchy—or on an inclusive learning process—strategic development of the abilities of and incentives for many employees throughout the organization. How corporate control is vested and exercised influences the availability and quality of employment opportunities in the corporate economy and also influences patterns of social inclusion and exclusion that go beyond the corporate enterprise.

From this developmental perspective, corporate governance must be analyzed in a way that explicitly confronts its political as well as its economic dimensions. If we are to understand why the German system of corporate governance has recently become such an important issue, we must understand the political and economic foundations of the postwar system and the external and internal challenges to those foundations.

The rest of this brief falls into four parts. In the first part I identify the key elements of the German postwar system of corporate governance and its political economy. Although the central institutional foundations of

prewar managerial control—intercompany shareholding and close bank-industry relations—persisted after the war, the system of corporate governance was transformed beyond its narrow prewar confines through the institution of codetermination. These and other social conditions, especially the apprenticeship system, supported the organizational integration of resources in German business enterprises. Collectively, these conditions enabled German companies to achieve considerable success in industrial sectors in which competitive advantage depended on high quality more than on low cost.

In the second part I discuss the pressures now confronting the German system of governance. First, coming into the 1990s, German industrial companies faced intensified competition from their Japanese counterparts in industrial segments in which the Germans had previously been unrivaled. The Japanese competition presented a challenge to the social foundations on which German enterprise had successfully competed in the past and so demanded a political as well as an economic response from the German corporate economy. Second, in recent decades, as Germans have grown wealthier, they have been moving their wealth out of bank deposits (primarily savings deposits) and into market-based instruments. This trend, combined with concerns about the adequacy of the current system of pension funding, has increased the demand for higher returns on financial assets, especially corporate securities. As a result, there are growing pressures for financial liquidity in the German economy.

In the third part of the brief, I document some of the responses to these productive and financial challenges from key interest groups, in particular, labor, employers, and financial institutions. I conclude in the fourth part with implications of these responses for the future of German corporate governance.

The Postwar System of Corporate Governance

A system of corporate governance, if it is to support innovation, must generate the social conditions—specifically, financial commitment and organizational integration—that permit collective and cumulative learning to take place. Financial commitment is the commitment of resources

to irreversible investments with uncertain returns. It involves the social relations that are the basis for an organization's continuing access to the financial resources required for sustaining the development and utilization of productive resources. Organizational integration is the integration of an organization's human and physical resources into a process to develop and utilize technology. It involves the social relations that provide incentives to the participants in a complex division of labor to integrate their capabilities and efforts in order to generate organizational learning.

Organizational integration and financial commitment together support "organizational control" over the critical inputs in the innovation process: knowledge and money. These inputs are not commodities but reflect the social relationships to the organization of those who supply knowledge and money. Without institutions that support organizational control, business enterprises cannot generate innovation through strategic investment in collective and cumulative learning processes (Lazonick and O'Sullivan 1996).

In the late nineteenth and early twentieth centuries the competitive success of major German enterprises was built on a system of managerial control. Managers were integrated into the organizational learning process and managerial "insiders" had control over the allocation of resources and returns. During the Weimar period attempts were made to integrate the institutions of worker apprenticeship and codetermination into the system of governance. Although these institutions have roots going back to the medieval guilds and the Bismarckian era, respectively, the attempts failed (Kocka 1980; Chandler 1990; Lazonick and O'Sullivan 1997b).

Immediately after the war, in reaction to the abuse of concentrated power to which managerial control led during the Nazi period, there was considerable political support for transforming the system of corporate governance. The declared intention of the Allies, particularly the Americans, was to break up the concentration of economic power in German industry and banking and to replace it with market control. But the onset of the Cold War and the perception of the West German economy as a bulwark against the Soviets led to a decline in commitment to this path. Many of the industrial enterprises on which the

postwar German economy relied were the enterprises that had been dominant before the war, and prime aspects of prewar managerial control—namely, intercompany shareholding networks and close bank-industry relations (as practiced via ownership of company shares by banks, banks' involvement in the supervisory boards of companies, and the banks' role as the trustees for their depositors' shares)—remained strong in the postwar decades (Esser 1990; Edwards and Fischer 1994; d'Alessio and Oberbeck 1997; O'Sullivan 1998c; Lazonick and O'Sullivan 1997b).

These institutions played an important role in insulating German enterprises—large firms as well as the producing sector as a whole—from market control. But, in Germany, as in all of the advanced industrial economies, the most important source of insulation from market control was enterprises' access to internally generated funds, which rendered most of them relatively independent of external sources of finance (Dyson 1986; Esser 1990, Edwards and Fischer 1994, 228–240). If anything, German enterprises were, and continue to be, more reliant on internal funds as a source of investment finance than several of their counterparts in other advanced industrial economies (Mayer and Alexander 1990; Hall 1994; Corbett and Jenkinson 1996).

One critical difference between the German system of corporate governance before and after the war is the shift in organizational control resulting from the adoption of some degree of codetermination. Codetermination consists of two key elements: employee representation on the supervisory boards of enterprises and works councils, which operate at the plant level. The direct control that workers exercise over the allocation of corporate resources is limited. The control exercised by labor representatives on supervisory boards is constrained by the fact that these boards, in general, play only a small role in corporate decision making (Gerum, Steinmann, and Fees 1988). The power of works councils is limited by a statutory ban on strikes to enforce workplace demands and by the fact that works councils are legally bound to act in a manner that promotes the overall health of the enterprise (Müller-Jentsch 1986, 1995). Moreover, works councils' codetermination rights may be strong with respect to social and personnel matters, but they are weak with respect to financial and strategic issues. Yet, even in areas where they do not have formal

codetermination rights, works councils can delay management decisions through strategic use of their rights in other areas (Müller-Jentsch 1995; Markovits 1986). However limited the powers extended to workers and whatever difficulties the labor movement has in coordinating those powers to put them to the best use, codetermination has extended corporate governance in German industry beyond the narrow prewar confines of managerial control.

Another institution that supported the organizational integration of resources in postwar German business enterprises was the system of apprenticeship (known as the “dual system”). Apprenticeship provided the institutional support for the inclusion of workers, along with managers, in the processes of organizational learning. The German experience thus is quite different from that of the United States where, to a large extent, workers have been excluded from organizational learning in the postwar decades (Montgomery 1987; Brody 1993; Gordon, Edwards, and Reich 1982; Lazonick 1990b).

Codetermination, intercompany shareholding, and close bank-industry relations make it difficult to pinpoint exactly where control resided in major German enterprises in the postwar decades. Who exercised control in a particular enterprise depended on the articles of association that defined the responsibilities of the various organs of the corporation, the organizational structure that a holding company put in place to manage its participation, and the degree of integration with the operations of the parent company. But, whatever the variations among firms, the institutions discussed above, as well as other elements of legal and financial regulation (Franks and Mayer 1990), ensured that control over the allocation of corporate resources and returns was an organizational rather than a market phenomenon.

Organizational control played a crucial role in the strategies of companies competing on the basis of quality. It allowed them to develop a competitive advantage in markets such as luxury automobiles, precision machine tools, and electrical machinery—industries that until recently qualified as stable technology. The prevalence and success of high-quality, niche-market strategies in the German economy and, more fundamentally, the social foundations of innovation and development that supported these strategies can be readily seen in the structure of the country’s foreign trade.

In 1979 the leading German exports were electrical and nonelectrical machinery (which together amounted to DM 78.2 billion), chemicals and pharmaceuticals (DM 58.8 billion), and road vehicles (DM 50.3 billion). Combined, these industries accounted for 62.3 percent of manufacturing exports (OECD 1996, 146–147).

Where the postwar system of organizational control has been least successful is in computers, semiconductors, and telecommunications—industries that came into existence or were completely transformed after the war by the development of electronics technology. Some companies competed in the new industries, for example, Siemens and Bosch in telecommunications, but in general German enterprises failed to establish a competitive advantage in these markets (see Malerba 1985; van Tulder and Junne 1988; Sachwald 1994).

The system of governance had an important influence not only on how wealth was generated but also on how that wealth was distributed. It ensured that employees participated in the fruits of industrial success and that the accumulation of wealth was not accompanied by growing inequality in its distribution (Streeck 1995). It also facilitated spreading the social costs of industrial rationalization. Plans to protect workers in the event of mass layoffs were pioneered in the Montan (mining and basic metal) industries (in coal in 1957 and in steel in 1963), where parity representation had been established and unions were strong (Bosch 1990, 31). These plans were to form the basis for the compulsory requirement of the Works Constitution Act of 1972 that any firm with more than 20 employees must negotiate a social plan with its works council before carrying out any major restructuring.

The early social plans relied primarily on financial compensation to sustain redundant employees while they looked for new jobs (Bosch 1990, 31). From the mid 1970s, as the opportunities to find alternative jobs diminished, the plans relied heavily on early retirement schemes to ease the burden of downsizing. Employers went along with these plans because they allowed them to reduce labor forces substantially without massive labor strife and the cost was heavily subsidized by federal programs. Particularly important was the early retirement program for unemployed workers. An employee who was made redundant at age 59 could draw unemployment benefits for a year and then qualify for a

pension from the federal government at age 60. Employers made extensive use of this scheme by “firing” workers at 59 and supplementing the unemployment and pension benefits that they received from the government (Bosch 1990, 34; Abraham and Houseman 1993, 26–27).

The burden of rationalization was distributed through the use of the state’s short-time working program. If employers reduced the work hours of their employees with the works council’s approval, employers paid them only for the hours they worked and the Federal Labor Office paid them a prorated amount of the statutory unemployment benefits for the hours they did not work. The program was made increasingly generous during the 1970s. For example, between 1969 and 1975 the duration of short-time benefits was gradually extended from a maximum of 6 months to 24 months. Thus, companies engaged in long-term restructuring could minimize layoffs by using short-time work schemes while their workforce was being reduced through attrition and through early retirement (Abraham and Houseman 1993, 25).

The German system of organizational control has proven most successful in advancing the interests of skilled, male workers in industries in which their representation is strongest and the organizational integration of their skills is critical to competitive success. These workers gained most from the rising prosperity of the postwar decades. The system has been, however, much less of a boon to contingent members of the labor force—those foreign workers euphemistically called *Gastarbeiter* (guest workers)—and to women.

The importance of guest workers in the labor force grew steadily in the decades after the war to reach 8.1 percent of total employment in 1970 (Giersch 1992, 127). They have tended to be treated as a buffer stock of flexible labor to insulate the domestic workforce from layoffs, as evidenced by the relatively higher unemployment rate for foreign workers in the latter part of the 1970s and during the 1980s (Abraham and Houseman 1993, 124–125). In times of recession foreign workers have often been “persuaded” to return to their citizen countries; indeed, in 1983 the German government offered payments to foreign workers who were unemployed or on short-time work if they left Germany with their families (Abraham and Houseman 1993, 125).³ However, significant attempts have been made to give these workers the chance to improve

their employment opportunities, especially by encouraging them to participate in the apprenticeship system.

Women have not participated in the gains of economic development to the same extent as men. Their employment opportunities have, in general, been more limited than those available to men. The workforce participation rate of German women was around 40 percent in the 1960s and 1970s, one of the lowest rates in the advanced industrial economies. Moreover, women who did participate were disproportionately concentrated in low-skilled jobs. This pattern may be partly attributed to a shorter average length of employment than their male counterparts. Because of the emphasis on continued education as the means to promotion in the German employment system, a shorter period of employment is a particular handicap to women's career advancement (Abraham and Houseman 1993, 114–123).

Challenges to the German System of Corporate Governance

Various challenges to the postwar system of organizational control have emerged in the last two decades. Some of these challenges arise from external sources, such as the processes of European integration and German reunification. The more powerful challenges, however, are productive and financial pressures that are related to the structure of the German economy. Failure to maintain competitive advantages, especially vis-à-vis Japan, even in high-quality niches, has threatened the acceptance of the postwar system of governance. Pressures for financial liquidity have also increased, driven by those who have accumulated substantial holdings of financial assets and by those who are concerned about the system of pension provision.

Productive Challenges

Innovation takes place in a competitive context; whether products are considered higher quality or lower cost depends on the quality and cost of competitors' products. Since the competitive context varies across industries and over time, so too does the innovation process. Social institutions that in one time and place support successful investment strategies and organizational learning processes may prove unsuitable as

a basis for competitiveness as the financial and organizational requirements of the innovation process change. To understand the relationship between social institutions and innovation, we must therefore also consider the dynamics of competition.

In the late 1960s and 1970s new industrial competitors, in particular the Japanese, mounted competitive challenges to German industry as they had to the American industry. Producers whose competitive advantage rested on their ability to produce high-quality products managed to avoid direct confrontation with Japanese competitors. Some companies in more cost-competitive segments, such as high-volume car production, managed to reorganize their production processes to move to higher value-added strategies to avoid the Japanese threat (Jürgens, Malsch, and Dohse 1993, 59–62; Streeck 1989).

However, by and large, companies in cost-competitive industries failed to develop distinctive bases of competitive advantage. In these industries the root of the competitive success of the Japanese was their relative strength in process innovation. Organizational integration was prevalent in both Germany and Japan, but differences in the nature of organizational learning and the social institutions that supported it led to important differences in the innovative capabilities of enterprises. In Germany the organizational structure of the enterprise derived from an industrywide strategy to set high quality standards, whereas in Japan the structure derived from an individual enterprise strategy to engage in continuous problem-solving to cut costs.

In industries such as steel and consumer electronics, the competition from Japanese companies proved formidable and resulted in major job losses in German companies throughout the 1970s and in the early 1980s; employment in iron and steel, for example, fell from 624,000 in 1979 to 473,000 in 1991 (OECD 1996). In contrast, production and employment expanded in sectors of particular German strength. From 1979 to 1991 employment increased from 971,000 to 1,077,000 in nonelectrical machinery (excluding office and computing machinery), from 876,000 to 963,000 in transport equipment, from 923,000 to 987,000 in metal products, from 996,000 to 1,118,000 in chemical products, and from 578,000 to 677,000 in electrical machinery (excluding radio, television, and communication equipment). The export performance of these industries also was extremely strong, especially in the second half of the 1980s.

As a whole, the German economy continued to grow during the 1980s and the reunification process prompted a further upsurge in economic performance. However, although unemployment remained lower than in the United States for most of the decade and much lower than in most other European countries, it did rise substantially in the early 1980s. When the dust settled in the early 1990s, it became clear that throughout the 1980s the competition that German enterprises faced on international product markets had intensified (especially from Japan) and that reunification had created some structural problems. By 1992 the German economy had plunged into the worst recession since World War II. Among the industries hardest hit were automobiles and machine tools, the great bastions of German postwar industrial strength.

A symptom of serious underlying problems in the automobile industry was the rapid growth of automobile imports to Germany during the 1980s. Moreover, a substantial proportion of German export gains in the 1980s had been won in European markets that were still relatively protected from Japanese competition (Keck 1993, 136). Concerns about the automobile industry's competitiveness were heightened by the publication in German in 1991 of *The Machine That Changed the World*, an MIT study of the world auto industry in which the European plant held up to unfavorable scrutiny for its low productivity was Daimler-Benz's most important assembly plant (Womack, Jones, and Roos 1990).

Symptoms of emerging competitive problems in the machine tool industry were discernible in the 1980s. Japanese productivity, measured by value added per employee, was double that of German machine tool companies throughout the 1980s (Finegold et al. 1994, 37). In part, the difference can be attributed to the longer hours worked by the Japanese; in 1990, hours worked per employee in Japan was 2,197 compared with 1,604 in Germany. But the performance of the Japanese also reflected their success at integrating human and physical resources to generate continuous innovation (Finegold et al. 1994, 23). The traditional competitive advantage of German machine tool producers was their ability to produce high-quality, customized machines for which cost considerations were secondary in influencing demand. By the 1990s, however, Japanese competitors had improved their standard machines so that they could perform many functions previously possible only with highly specialized machines (Schumann et al. 1994; Herrigel 1996, 37).

Generally, in machine-based industries in which process innovation is important in driving down costs, the Japanese have been able to move into progressively higher quality market segments at lower unit costs. Industries in which the Germans were previously unrivaled (such as precision machine tools and luxury automobiles) and that have historically been considered stable technology have been transformed by the Japanese, whose flexibility at the enterprise level served as a basis for continuous innovation (Schumann et al. 1994; Herrigel 1995, 1996).

The key organizational advantage of Japanese companies that has allowed them to generate superior performance relative to their German competitors seems to be their capacity to achieve cross-functional integration on the shop floor and in management structures.⁴ German enterprises, like their Japanese counterparts and in contrast to most American companies, attained considerable hierarchical integration of technical skills in the postwar period. However, two key features of the German system that facilitated hierarchical integration—specialized skills among production workers and functional divisions within management—impeded cross-functional integration (Schumann et al. 1994, 643–664; Herrigel 1995, 1996; Jürgens and Lippert 1997). As pointed out by Herrigel, the results of this failure to facilitate cooperation across functions are readily apparent in the development of new products:

Each time a new product or a new technology is introduced—as opposed to an old one that is customized for a customer—the various roles that each of the categories of skill and management will play in the production and development of the new product must be bargained out. Each currently existing cluster of expertise and institutional power, naturally, wants to participate; each has its own ideas and solutions; each defends its turf against encroachments from the others; each takes for granted that it should have a legitimate place in the new arrangement within the firm. Electrical masters and technicians, for example, will fight with mechanical ones both on the shop-floor and in the design studios over different kinds of technical or manufacturing solutions to problems that have direct consequences for the amount and character of work that each will have to do and on the overall value that their role within the firm will contribute to the value of the product. (Herrigel 1996, 42)

To remedy this failure, German industry must move from one system of organizational integration to another and that will require a difficult, yet necessary transformation of enterprise structure and social institutions. In all of the industries in which they have previously been strong, German enterprises are still able to produce and export quite successfully. They are likely to continue to be able to do so for some time, despite intensified competition, because of their depth of organizational capabilities. Indeed, the temptation to live off existing capabilities is perhaps the major obstacle to organizational transformation. However, in the absence of a creative response from enterprises in these industries, the future does not look bright for the capacity of German industry as a whole to generate wealth for more and more people on a sustainable basis. It is unlikely that the high-technology sector of the economy, given its current condition, will be capable of making up for the loss of wealth-generating capacity in the medium-technology industries. Indeed, the deficiencies of the German system of governance with regard to cross-functional integration have arguably proven even more debilitating in industries such as computers and semiconductors.

Financial Challenges

Critical to the responses of German enterprises to competitive challenges will be the extent to which financial commitment is forthcoming. Financial commitment has been more robust in Germany than in the United States, but whether it will continue to be so is open to question. Growing pressures for financial liquidity are rooted in the rising level of savings generated by the country's postwar economic success and increasing intergenerational dependence.

The Changing Structure of Private Financial Assets

The federal government's control of interest rates after the war limited interest rate competition among banks and between banks and savings instruments provided by other financial enterprises (Francke and Hudson 1984, 81). The objective of this restriction was to stabilize the banking system and thus protect depositors; its effect was seen in the channeling of the majority of German savings into the banking sector. In 1970, as Table 1 shows, claims against banks (bank deposits plus savings and loan deposits) accounted for 60 percent of the financial assets of

German households and over three-quarters of these bank deposits were in savings deposits.

Table 1 Structure of Financial Assets of Private Households
(Percentage of Total Private Financial Assets)

	1970	1992	1993 (Unified Germany)
Bank deposits	52.4	40.7	41.7
Cash and sight deposits	10.6	8.0	8.8
Time deposits	1.8	8.0	12.6
Savings deposits	39.1	19.4	20.3
Savings certificates	0.9	5.3	—
Savings and loan deposits	7.6	3.7	3.5
Insurance (including life insurance and pensions)	13.3	18.5	19.8
Fixed-income securities (including bond fund shares)	7.7	20.9	15.9
Stocks (including stock fund shares)	11.3	5.2	5.4
Investment fund certs	—	—	6.3
Other receivables	7.7	11.0	7.4

Source: *Deutsche Bank Research Bulletin*, January 9, 1995, 7.

During the 1970s investors began to move out of bank deposits and into higher yielding savings instruments. As Table 1 shows, from 1970 to 1992 the proportion of financial assets held as savings deposits in banks almost halved and the shares of insurance and fixed-income securities showed substantial gains. In the early 1990s mutual funds (investment fund certs) increased their share of private financial assets; by the end of 1993 they accounted for 6.3 percent, up from 2 percent at the end of 1980 (*Deutsche Bank Research Bulletin*, January 9, 1995, 8).

The absolute volume of private financial assets also expanded dramatically. Between 1972 and 1988 the financial assets of German households rose 290 percent as their total income increased 150 percent. By the end of 1988 households had accumulated a massive DM 2.6 trillion (gross) in financial assets, which amounted to nearly twice their annual disposable income (*Deutsche Bank Research Bulletin*, June 1989, 10). By the end of 1993 private households in Unified Germany had financial assets amounting to nearly DM 4.2 trillion, of which 94.5 percent was held by West German households (*Deutsche Bank Research Bulletin*, January 9, 1995, 6).

The changes in the structure and level of financial assets in Germany are striking. Yet the pressures for financial liquidity, although increasing rapidly, have been much weaker than in the United States. The German savings system has generated nothing approaching the vast liquid funds under management by U.S. financial institutions; in 1995, for example, institutional investors in the United States held financial assets of US \$11,871 billion compared with US \$1,113 billion held by German institutions (OECD 1997, 20). Pension funds account for a substantial proportion of the difference. There has been a significant increase since 1960 in personal provision for pensions in Germany through contributions to life insurance enterprises and private pension funds; in 1989, 32.7 percent of households' total net acquisition of financial assets was placed with insurance companies, compared with 18.1 percent in 1960 (Edwards and Fischer 1994, 53). Nevertheless, the financial assets held by German pension funds are, at US \$65 billion in 1995, low compared with the US \$4,156 billion held by American pension funds (OECD 1997, 22). The difference is even more striking when one compares financial assets of pension funds as a percentage of GDP; in the United States in 1995 the figure was 59.8 percent, compared with 2.7 percent in Germany.

Another reason for the lesser pressure for financial liquidity in Germany is restrictions on the proportions of the assets of pension funds and insurance companies that can be held in different types of financial instruments. For example, the limit for domestic equities is 30 percent (that limit was only 5 percent until 1990) and 6 percent for foreign equities. In 1994 German pension funds put about 72 percent of their assets in domestic bonds and only 9 percent in equities (Queisser 1996, 14).

The difference between Germany and the United States in pension funds under management by financial institutions also reflects the way in which German employers fund the pensions they provide to employees. Employer pensions were originally introduced as elements in the compensation packages offered to key workers to keep them with specific companies, mainly larger companies, when labor markets became tight in the mid 1950s. In recent periods of higher unemployment, some companies have reduced these benefits. Moreover, changes in the pension law in 1974 that allowed workers to transfer their pension from one company to another reduced the effectiveness of this device for retaining workers. Nevertheless, employer pensions still represent a significant

accumulation of pension liabilities in the German economy; in 1993 the total pension obligations of companies amounted to about DM 460.6 billion (Queisser 1996, 12).

Nearly 60 percent of the funds earmarked for the payment of company pensions remains in the company as book reserves. The company builds up its pension reserves (*Pensionrückstellung*) and the increases in its pension liabilities are tax deductible. The company is permitted to invest the funds allocated to pension obligations in the normal course of its business. In effect, this system affords the company a tax-free source of finance for investment; in the period 1980 to 1989 company pension funds were used to finance almost 5 percent of the net investment of producing enterprises and thus represent a more important source of finance for industrial enterprises than equity issues (Edwards and Fischer 1994, 54). For large manufacturing corporations provisions for pensions were even more important, accounting for nearly 15 percent of their net investment in the period 1970 to 1985 (Edwards and Fischer 1994, 128). Major German corporations have enormous pension reserves on their balance sheets; as one commentator put it, "Siemens has over DM 14 bn of pension reserves and can be compared in this respect with a good medium-sized life insurance company" (Hauck 1994, 557).

The importance of book reserves has fallen from 67 percent of all occupational pension assets in 1981 to 58 percent in 1991 (Ahrend 1995). In contrast, the share of employer pension assets accounted for by direct insurance through life insurance companies has increased from under 5 percent in 1981 to 11 percent in 1991 (Queisser 1996, 14; Ahrend 1995). Nevertheless, the accumulation of book reserves remains the prevalent practice with regard to German employer pensions and thus limits pension funds under management by financial institutions compared with the United States.

The most important reason for the difference between Germany and the United States in pension funds is the importance of the public pension system in Germany. The German public pension system accounts for nearly 70 percent of the retirement income of pensioners, while the U.S. Social Security system contributes about 40 percent (Turner and Watanabe 1995, 136). As a pay-as-you-go system, the German system generates no reservoir of surplus funds to be allocated. Instead, almost 75

percent of the financing for the system comes from employee and employer contributions; the remainder is paid by the federal government out of general revenues (World Bank 1994, 361).

Crisis in the Financing of Pensions

There has been a steady increase in the contribution rate to finance the pay-as-you-go pension system; it has risen from 14 percent in 1960 to 20.3 percent in 1997 (*Deutsche Bundesbank Monthly Report*, September 1997, 42). A further increase in the contribution rate to 21 percent in 1998 was forestalled only by an emergency measure agreed to in April 1997 to raise VAT by one percentage point to 16 percent. The funds required to finance the pension system are expected to rise still further in the decades to come as growing life expectancy and a decline in fertility contribute to a double aging process. The OECD has forecast that by 2040 pension costs will amount to an enormous 18 percent of GDP (Roseveare, Leibfritz, Fore, and Wurzel 1996).

Demographic trends are not the only source of increased pressure on the financing of the German pension system. They are compounded by labor market pressures. All major OECD countries have experienced a decline in labor force participation by the elderly, but the German participation rate is now among the lowest of these countries. It is just over half the U.S. rate and much lower than the Japanese rate. Some scholars have attributed the German trend to the structure of the state pension system, which provides generous incentives to retire and, until recently, did not decrease with age in a manner that was actuarially “fair” (Börsch-Supan 1991).

The low average retirement age also reflects German companies’ use of inducements for workers to retire early as a means of downsizing. During the 1980s restrictions on the use of the early retirement scheme for unemployed workers were eased by lengthening the maximum period for receipt of unemployment benefits. By 1984, 6 percent of new retirees qualified under the early retirement scheme for unemployed workers, up from less than 2 percent in 1974 (Abraham and Houseman 1993, 27). This trend was strengthened in 1987 when, for workers aged 54 and over, the maximum period was increased from 12 to 32 months. Thus companies could take advantage of the scheme to retire workers as young as 57 years and 4 months since the customary retirement age was 60 (Abraham and Houseman 1993, 27).

In 1984 the government introduced a new scheme to permit early retirement for private sector workers who reached the age of 58 during the years 1984 to 1988 or who were already over 58. The company was required to pay the early retiree at least 65 percent of his or her previous gross income until the retiree became entitled to collect a state pension (at age 63 for men and 60 for women). The proposal was intended as a temporary measure to ease the unemployment situation (*European Industrial Relations Review*, January 1984, 9–10; June 1984, 7–9). It was tied explicitly to this objective by allowing the company to cut back more than half of its payment to the retiree if the vacated job was filled by a registered unemployed person. The new scheme did not prove popular, seemingly because it was financially more attractive to employers than to employees (Abraham and Houseman 1993, 27).

Early retirement schemes for the unemployed remained a relatively low-cost means for employers to reduce their workforces notwithstanding the government's attempts to shift some of the costs of these programs from the state pension funds to individual employers. Since 1982 a company has been obliged to reimburse the Federal Labour Office for unemployment benefits paid to older workers whom it has "fired" and who are waiting to take early retirement, unless this would be a threat to the company in light of its precarious economic situation (Bosch 1990, 36). Many companies claim an exemption on these grounds (Abraham and Houseman 1993, 27).

In recent years early retirement due to unemployment has risen sharply; 190,000 people, or 21 percent of all those making pension claims, applied for early pensions in 1994, and in 1995 the number had increased to 290,000 with an average retirement age of 59.9. In 1995 alone the total cost of early pension claims was DM 69,000 million, of which DM 37,000 million was paid by the statutory contributory pension funds, DM 27,000 million came from unemployment insurance, and DM 5,000 was paid by employers (*European Industrial Relations Review*, September 1996, 24–26). German reunification contributed to the growing burden of early retirement in the 1990s. As part of this process the welfare system, including the pension scheme, was extended to cover the whole country. The restructuring of industry in east Germany has left many older workers jobless and claims for pensions in the east increased from 373 in 1992 to more than 180,000 in 1995 because of rising unemployment (*European Industrial Relations Review*, September 1996, 24–26).

Disability pensions have also grown in importance since the definition of disability was broadened in 1969 by the German courts. In 1995 those in receipt of disability pensions accounted for about 26 percent of all pensioners (Queisser 1996, 8). The system now makes provision for occupational and general disability. Occupational disability pension benefits can be claimed when a person's earning ability falls by more than 50 percent and are equivalent to two-thirds of the benefits under a normal pension. General disability pension benefits, paid to those who are considered to be permanently incapable of earning a basic income, are equivalent to normal pension benefits (Queisser 1996, 8).

Early retirement and disability pensions increase the pressures on the pension system beyond those created by the growing old age dependency ratio. In 1994 only 29 percent of new pension benefits awarded were paid to people retiring at "normal" retirement age (Queisser 1996, p. 18). How Germany deals with the problem of supporting more and more people in old age will have critical implications for financial commitment in corporate governance. Growing concern about the funding of pensions and the desire to change the pension system may well provide an impetus towards financial liquidity.

When corporations are successful in their innovative investment strategies, they can generate returns that can help fund not only an expanding number of well-paid and stable employment opportunities but also, directly or indirectly, the retirement system. But conflicts about the allocation of corporate returns to employment and retirement can arise when corporate decision makers face a new competitive environment in which investments in productive resources do not generate the returns they did in the past and when retirees (both present and future) demand higher incomes. How pensions are financed (in particular, whether they are pay-as-you-go or funded) affects present and future retirees' interest in maintaining the employment base. The method of financing pensions also has an important influence on the resolution of conflicts between the allocation of returns to employment and to retirement.

Many economists contend that a system funded through investment in financial assets is preferable to a pay-as-you-go system because funneling pension money through financial markets increases the pool of funds currently available for productive investment. From what we know about

patterns of corporate financing, however, there is little empirical support for this contention. Notwithstanding the prevalence of the assumption that portfolio investors, especially public shareholders, finance corporate investment in productive capabilities, examination of patterns of corporate financing consistently reveals the minor importance of the stock market as a source of finance. Internal sources—undistributed profits and capital consumption allowances—have always provided, and continue to provide, the financial resources that are the foundations of investment in productive capabilities.⁵

Indeed, rather than increasing the availability of finance for investments in productive capabilities, a pension system funded through investments in financial assets may undermine the financial commitment for investments in productive capabilities. When pensions are financed through a pay-as-you-go system, retirees have a direct interest in a system of corporate governance that maintains the employment base today and in the future. Funding pensions by investing in publicly traded securities breaks the direct link between employment and retirement and gives those with accumulated financial assets substantial incentive to support policies that enhance financial returns even at the expense of employment. It may be that pension payments, however they are financed, can be sustained only if investments are made in the present that enhance productivity in the future. However, once the explicit link between employment and retirement is broken, there is nothing in the short term to restrain the demands of individual retirees for financial liquidity.

Responses to the Challenges

The productive and financial challenges outlined above interact with one another through the effect on pension obligations of the use of early retirement as an instrument of industrial rationalization and through the effect on indirect labor costs of the growing strains in financing pensions. In combination, these pressures may well challenge the foundations of the entire postwar system of corporate governance. By analyzing how those with substantial interests in the allocation of German corporate revenues have responded to the productive and financial challenges, we can gain some insight into the possible implications for governance

Responses to the Productive Challenges

From the early 1980s there were growing concerns within the German labor movement about the continued reliance on early retirement schemes as a means of reducing the workforce. The early retirement schemes were becoming more difficult to implement in industries in which employment had been falling for some time (such as steel, shipbuilding, coal mining, and consumer electronics) because the pool of workers eligible for early retirement schemes had diminished. The labor movement was also concerned that the government was going to tighten the eligibility requirements for these schemes and make them more expensive for individual companies. Employers also seemed less and less willing to use temporary measures such as short-time work because they increasingly regarded the challenges that German enterprises confronted as structural problems (Bosch 1990, 35–36). Moreover, with unemployment on the rise from the early 1980s, it was clear that, to generate broad-based prosperity, much more was required than a preservation of existing jobs; new jobs had to be created.

Led by IG Metall (Germany's largest trade union, representing workers in metal and engineering industries), the unions responded to this situation by launching a major campaign in 1984 for a shorter workweek; they demanded a 35-hour week without any reduction in pay. When negotiations between the employers' organization and the unions broke down, IG Metall struck. The strike was the worst in the history of Germany. It lasted nine weeks and involved about 455,000 workers: 58,000 officially on strike, 147,000 locked out, and 250,000 out of work due to a lack of supplies (Baethge and Wolf 1995, 240). The strike ended when the employers agreed to reduce average working hours to 38.5 a week on the condition that they were allowed to meet the 38.5 hour target only for the average worker in an enterprise.

From labor's perspective, an important unintended consequence of the 1984 agreement was the decentralization of negotiations over the allocation of working time from the industry level to the plant level.⁶ Since working time was to be set at the plant level, works councils assumed greater importance in negotiations. Decentralization, therefore, added more importance to the role the works councils played in the bargaining process regarding the introduction of new technologies (Katz 1993).

The Works Constitution Act of 1972 gave works councils access to information but not codetermination rights with respect to rationalization measures undertaken by employers. The councils could, however, use their codetermination rights in other areas to exert an indirect influence on the process of technological change (Müller-Jentsch 1995; Thelen 1991, 184). In practice, works councils, especially in small- and medium-sized enterprises, often found themselves overwhelmed by the increasing demands placed on their capacities and resources. In many cases, worker involvement was limited to negotiating with management about already developed plans for the organization of work (Altmann 1992, 368–370, 377–378). Not only did the councils lack the means to resist employers' demands, they also lacked strong incentives because of concerns that resistance would lead to job loss for members of councils and the workers they represented (Müller-Jentsch 1995).

In the 1980s the German unions began to take a much more critical stance toward technological initiatives put forward by managers.⁷ Initially, they tried to influence the interaction between technological change and organization in an indirect way through support of increased training and retraining for workers and an overhaul of the traditional apprenticeship programs (Baethge and Wolf 1995, 247). The unions hoped that the availability of trained workers would convince employers to reorganize work in a way that would allow them to use their skills (Streeck 1989). The federal and state governments also increased their support for apprenticeship training during this period. In response to government appeals to take on apprentices—and an implied threat to mandate such training positions otherwise—employers made more training positions available (Winkelmann 1996, 663); whereas the number of apprenticeships available had been 5 percent below the demand for them in 1984, by 1990 there was a surplus of 11 percent (Casey 1991, 206).

The effectiveness of these union- and government-supported programs was undermined, however, by the ongoing changes in production technologies. The difficulty in keeping abreast of them was evidenced by the shortage of production workers with requisite computer skills. As a result, investments in further training became increasingly important for enterprises to regain or maintain competitiveness (Mahnkopf 1991, 68). In contrast to initial vocational training provided by the employer,

which was heavily regulated and relied on extensive mediation by the union and the works council, further training became almost entirely at the discretion of employers. The trend toward increased further training meant that:

the *public* control of initial training is losing its formative function for the occupational biography of the participants. In the future, further training measures organized at plant level, i.e., by *private* economic interest, will decide the distribution of social status, incomes, social privileges and social recognition. Thus, private firms can determine, on the basis of profitability considerations, which groups of employees will receive additional qualifications and who must obtain them during or outside working hours by way of a “voluntary” commitment. (Mahnkopf 1991, 77)

To be able to do more than merely ratify managerial decisions about investments in skill formation, the unions had to go beyond their traditional channels of representation. In 1984 the DGB union federation launched a “codetermination initiative” that had as its goal the direct participation of employees in the design of their work in a humane manner (Altmann 1992, 378; Fricke 1986). IG Metall formulated a program for labor participation in decisions about the development and utilization of technology. Its strategy emphasized the importance of local involvement and relied heavily on the cooperation of works councils. The role of the union was to encourage works councils to take a more proactive stance on technology issues with employers by providing the councillors with training and information on real-world experiences in selected model plants and by educating them about economically viable forms of work organization. By the late 1980s IG Metall had developed a coherent and practicable vision of work organization called *Gruppenarbeit* or “group work” (Thelen 1991, 180–200; Turner 1991).

The DGB and IG Metall initiatives met with limited success in the late 1980s. The majority of employers displayed little interest in group work and were resistant to extending workers’ codetermination rights over the development and utilization of technology. When the Works Constitution Act was amended in 1989 to specify more clearly the consultation and information rights of workers with respect to the introduction of new technology, the main employers’ organization (BDA) complained that works councils already had more rights than anywhere

else in the world and to extend those rights would interfere unduly with managerial decision making. The unions had their own objections to the amendment since it did not provide workers with codetermination rights over the introduction of new technology.

One can find examples of companies that took an “anthropocentric” approach to technological change during the 1980s, but the predominant approach was “technocentric” (Altmann 1992, 367; Altmann, Köhler, and Meil 1992). The main objective of restructuring efforts in companies was the development of factory automation. By the end of the decade components of computer-integrated manufacturing systems had spread throughout German enterprises, although they had not been integrated into anything approaching a technocratic dream of a “factory of the future” (Köhler and Schmierl 1992; Jürgens, Malsch, and Dohse 1993).

In addition to adopting new technology to maintain competitiveness, employers also displayed increasing concerns about the costs of production, especially, the labor costs in Germany. Unions had traditionally responded to employers’ concerns by pointing to the highly skilled German workforce and the export market success of German industry. As the country’s competitive position showed signs of deteriorating in the 1990s, however, employers rejected this argument and warned that they would be forced to relocate production abroad if drastic action was not taken. In the words of Hans-Peter Stihl, president of the Association of German Chambers of Industry and Commerce and owner of Andreas Stihl, a chainsaw manufacturer near Stuttgart, “We have a cost crisis that has caused something of a structural crisis. Either German unions will accept substantial reductions in incomes and wages or we will lose more jobs. We also have the possibility of moving more jobs abroad” (*New York Times*, February 13, 1996).

Employers claimed that they could not afford to keep high-cost German workers employed given the intense competition in international product markets. According to a survey by the IW Research Institute (a policy think tank supported by industrial associations and private companies), unit labor costs, calculated on the basis of exchange rates against the deutsche mark, rose by 30.2 percent in Germany from 1985 to 1992, the fastest rate among almost all the major trading partners

included in the survey. The IW Research Institute did acknowledge that the relative increase had more to do with the growing strength of the deutsche mark than with an increase in domestic costs, but whatever the reason, they argued, the fact was that Germany had the highest unit labor costs of any major industrial nation (*European Industrial Relations Review*, February 1994, 13–17).

Employers rallied against collectively bargained wage increases and called instead for plant-level agreements. There had been a strong trend in that direction before the early 1990s (Katz 1993), but it rapidly gained momentum when the economy went into recession in 1993. In general, the recession prompted concession bargaining (Sadowski, Schneider, and Wagner 1994, 534), and *Standortsicherungs* (“location guaranteeing”) agreements became widespread at the plant and enterprise levels. The common feature of these agreements is an acceptance of a reduction in labor costs by the works council or union in exchange for a guarantee of employment security. They differ substantially with respect to their details, with some focusing primarily on cost cutting and others including more proactive measures to improve competitiveness (Jürgens 1997).

Industry-level studies generally support the view that the key challenge to German competitiveness lies in productivity rather than in cost differences. In the automobile industry, for example, average gross value added per employee during 1981 to 1990 was DM 92,000 per year in Germany and DM 131,000 in Japan (Roth 1997, 123). However, productivity differences do not explain competitive problems; they are symptoms of them. Moreover, productivity is a useful concept in understanding competitiveness only when it is studied over the long term. Once companies move away from traditional ways of doing business, once they start transforming technologies and organizations, productivity measures become muddy, and sometimes quite inaccurate, measures of potential competitive strength. If companies are pursuing developmental strategies, short-term productivity generally has to be sacrificed in the expectation of achieving long-term gains. Indeed, productivity measures that look good in the short term could even be symptomatic of a failure to undertake innovative strategies.

The key to the competitive challenge lies neither in short-term productivity nor in cost differences but in organization. Although wage

restraint and increased working hours may well be elements of a creative response by enterprises to this challenge, they will not be enough to lay the foundations for sustainable prosperity in the German economy. In recent years, there seems to have been growing recognition among employers of the need for organizational transformation. In the automobile industry in particular, “the lean production revolution” that got underway in 1991 forced a recognition of the importance of organizational issues for enterprise performance. Yet, the obstacles to bringing about a transformation of industrial enterprises’ organizational and institutional environment are formidable. Herrigel describes what he calls “self-blockage,” the obstacles to transformation set up by stakeholders, be they workers or managers, who have entrenched interests to protect.

[F]ew producers, large or small, have had success up until now in being able to overcome the opposition of entrenched groupings of skilled workers threatened with the loss of status through incorporation into teams that deny the boundaries of former jurisdictional specializations or of independent departments, reluctant to have their functional areas of power within the firms redefined and diluted through recomposition with other areas. It is difficult, after all, to tell workers and managers who with considerable legitimacy understand themselves as having contributed significantly to the traditional success of high quality manufacturing in Germany that their roles have become obstacles to adjustment. (Herrigel 1996, 43)

It is an open question whether those with powerful interests in the existing system of governance have the requisite abilities and incentives to bring about organizational transformation. Certainly there is no consensus on how organized labor should proceed. The stronger unions, such as IG Metall, have always been concerned that works councils, left to their own devices, would contribute to a segmentation of the workforce by consolidating the interests of insiders. But the unions face a similar dilemma themselves. Mahnkopf casts the current situation facing the unions in pessimistic terms. On the one hand, they run the risk of being denounced as barriers to progress if they obstruct employer strategies. On the other hand, a “skill-oriented modernization strategy” risks strengthening social inequalities by creating “an ideological alliance between the ‘hard-working’ and ‘successful’ against the ‘indolent’ and ‘incapable’” (Mahnkopf 1991, 77). As unemployment grows and cuts into union

membership, however, even the most powerful unions are displaying a defensive pragmatism in response to employer strategies.

Employers have certainly shown that they are willing to tackle what they consider to be excessive wages and insufficient working hours even when it involves confrontation with the unions, as happened, for example, in 1996 over the issue of sick pay. Nor have wage restraint and productivity gains stopped the wave of corporate layoffs that began in 1991. What is not clear, however, is whether employers have the abilities and incentives to tackle organizational transformation. To focus on technology and labor costs, as many managers have done, is to obscure the nature of the problem. Progress in dealing with organizational issues has been patchy, as is evident from Jürgens's recent evaluation of the development of teamwork in the automobile industry:

In the more than five years since the adoption of lean production by German companies, major differences in the degree of emphasis on teamwork have become evident. Some manufacturers have achieved almost full integration of their workforces into teams, while others are . . . in a pilot stage. The differences cannot be explained by blockades and controversies in the industrial relations arena, however. Rather, operations managers often hesitate to introduce far-reaching changes, while top-level managers have other priorities. (Jürgens 1997, 111)

If the German system of governance faced only productive challenges, serious as they might be, one could have some confidence that a consensus between labor and employers could be achieved to permit the reallocation of resources necessary to develop the organizations required to rebuild an innovative dynamic in the German economy. The confluence of productive and financial challenges, however, makes the achievement of this outcome much less likely. It provides scope for those with interests in financial liquidity to use their growing power to live off what has been accumulated in the productive economy in the past.

Responses to the Financial Challenges

The initiatives undertaken by the government so far to improve the funding situation in the state pension system have focused on adjustments within the pay-as-you-go framework. The most important

legislation to date is the Pension Reform Act of 1989, which took effect in 1992. It was motivated by the expectation, based primarily on projections of demographic aging, that contribution rates would have to rise to unsustainable levels in the early decades of the next century to support the existing pension system. The act raised the statutory retirement age to 65 by 2001, making early retirement more difficult in the future. If workers wish to retire before age 65, they have to take a 3.5 percent reduction in their annual pension benefits (compared with a 6.6 percent reduction in the United States), and beginning in 2001 the earliest age at which they can retire will be 62 (Schmähl 1993).

The effectiveness of the 1992 reform of the pension system depended on the enterprises' employment strategies and general conditions in the labor market. However, the major workforce reductions in West German industry during the first half of the 1990s and the ongoing process of restructuring in East Germany increased the demands for benefits as claims for early retirement due to unemployment continued to rise. Rising unemployment also reduced the number of contributors to the system. Notwithstanding the reform, therefore, the contribution rate had to be increased to make up the shortfall after 1993.

It was in this context that new legislation was introduced in August 1996. The law aimed to raise the minimum early retirement age for men in steps from 60 to 63 over the period from 1997 to 1999. Employees who want to retire before age 63 will have to accept a 6.3 percent cut in their annual pension benefits before they reach 63. Men aged 55 and older by February 1996 were exempted, as were women, employees with disabilities, and employees in the iron and steel industry under certain circumstances. The law also included measures to encourage employees over age 55 to work part-time prior to retirement. Workers can halve their working hours and receive 70 percent of their incomes. Employers are required to pay only for the hours worked; the unemployment insurance fund makes up the difference if the employer hires another employee to work the half job made available (*European Industrial Relations Review*, September 1996, 24–26).

The contribution rate was increased again in 1997. In 1998 the government introduced a draft of a new pension reform bill, which was originally slated for 1999. The draft proposed eliminating the early

retirement pension for unemployed workers and for women in 2012. Additionally, the right to early retirement would be granted only to those who had paid contributions for at least 35 years, age 62 would be the earliest a worker could retire with benefits, and early retirees would take a 3.6 percent reduction in annual pension benefits. The draft also proposed a reduction in the contribution rate by increasing the federal grant and tightening substantially the eligibility requirements for disability pensions (*Deutsche Bundesbank Monthly Report*, December 1996, 42–46). The SPD (Social Democrats Party), however, refused to support the government's pension reform and called on the ruling coalition to instead raise VAT rates to finance the shortfall in the pay-as-you-go pension system.

The trend of pension reform in Germany is clearly toward harsher measures, but as yet the changes do not constitute a major rethinking of the pension system. Proposals for a fundamental overhaul of the system (for example, replacement of existing statutory pensions by a flat-rate minimum pension and a change from the pay-as-you go system to a funded pension scheme) were mooted around the time of the 1989 legislative reform, but they were put forward primarily by academics and were not taken seriously by mainstream parties in the political debate. All of the political parties, except the Green Party, supported the 1992 reform, as did the trade union and employer organizations (Schmähl 1993, 42).

The pressures are, however, increasing. The financing problems are serious and worsening. They are, moreover, directly linked to the *Standort* debate. The government is certainly concerned about the viability of Germany as an industrial location; in September 1993 it published a report called "Securing Germany's Future as an Economic Base" in which Chancellor Helmut Kohl warned of the consequences for Germany's international competitiveness of rising labor costs, falling working hours, and longer holiday entitlement (*European Industrial Relations Review*, February 1994, 13–17). After 1982 Kohl's government undertook various legislative initiatives, such as the Employment Promotion Act of 1985, in an attempt to deregulate the labor market.

On issues of labor market policy in general, the government has lined up with employers. However, the politics of pensions and the welfare state as a whole are more complex for the German government than labor

market reforms have been. Employers have already clashed publicly with the government on the pensions issue. For example, Hans-Olaf Henkel, president of the Federation of German Industry, dismissed the VAT increase as another attempt by the government to put off an overhaul of the pension system. But if unemployment continues to rise and if the financing situation in the pension system continues to deteriorate, the government may be forced to introduce more radical measures.

Whatever their source, significant changes in the German pension system would undoubtedly entail some move to funding or increased private pension provision, whatever the merits of these strategies for equitable retirement provision. Already there is a project to establish a legislative framework for a new personal pension vehicle. There is also the possibility, as shown by the case of Deutsche Shell in late 1997, that some employer pensions will be moved out of company financing into market-based instruments. The implications of any move to market financing of pensions for the financial system and, in particular, for pressures for financial liquidity would be substantial. According to Josef Wertschulte, a director of Bayerische Hypotheken- und Wechsel-Bank, “[P]ension funds could total between DM 1,600 bn and DM 2,000 bn in 10 years if the right legal and tax conditions were created. This would double the size of the present equity market” (*Financial Times*, February 17, 1997, 20). The evidence on the relationship of the stock market to the process of economic development in the advanced industrial economies does not suggest that such a deepening of the German equity market would lead to an increased allocation of funds to productive investment. To the contrary, it is more likely to promote escalating demands for financial liquidity among those with accumulated financial assets and thus undermine the financial commitment necessary to support the development and utilization of productive resources (Lazonick and O’Sullivan 1997a, 1997b).

Key players in the German economy have significant incentives to support pressures for greater financial liquidity. Germany has one of the most extensive banking networks in the world and in recent decades competition for savings among banks has rapidly intensified. All three sectors of the banking industry—savings banks, cooperative banks, and private banks (including some of the biggest banks in the world)—have been active participants in “the battle over the piggy bank” (Oberbeck and

Baethge 1989, 287). By the end of the 1970s the major insurance companies had also become formidable competitors for the savings of German people. Competition for savings has provided these financial enterprises with strong incentives to promote liquidity in the German economy.

Arguably, the large private banks—Deutsche Bank, Dresdner Bank, and Commerzbank (the alleged “patient capitalists” of the German economy)—have particularly strong incentives to support higher returns on financial assets. They have less to lose than the savings and cooperative banks (with a combined total of 80 percent of savings deposits) through the disintermediation that has already and will continue to result from the widespread introduction of market-based savings instruments. Moreover, with their access to high-income Germans through their retail networks and their experience in securities markets at home and abroad, they are well positioned to exploit the profit potential of these new savings instruments. They have already been active in introducing these instruments and in promoting an “equity culture.”

German insurance giants, such as Allianz, have also been eyeing the business opportunities in asset management that would be available to them if there is a greater trend toward financial liquidity. Because Allianz has substantial holdings in other financial enterprises (for example, it owns 22 percent of Dresdner Bank and 26 percent of Munich Re), its increased interest in asset management will be highly significant for the future of the German financial sector (*Euromoney*, January 1997, 41–48).

The overhaul in recent years of the regulatory framework of the German financial markets has facilitated the intensification of competition in the financial sector (Story 1997). These legal changes have been largely supported by the major financial enterprises and actively promoted by them in certain spheres. To characterize these companies as “patient capitalists” seems particularly misguided in the 1990s. Arguably, it has long been a misnomer. The big banks acquiesced to a system that provided German enterprise with financial commitment—largely through restrictions on competition among savings instruments and in the securities markets—because that system advanced their profit interests. As Germans have grown wealthier and competition for their savings has intensified, however, the banks increasingly see their interests as being better achieved by replacing financial commitment with financial liquidity.

To date, efforts by financial enterprises to promote demands for higher yields among broad sections of the German population have yielded limited but growing success. The stock market is already highly liquid but largely because of the influential role played by foreign investors (some of these foreign investors are Germans recycling their money through international financial markets to avoid domestic taxes). The market is not, as yet, very deep. Notwithstanding changes in the structure of German savings in recent decades, equity holdings as a percentage of private financial assets remain low in international comparison. The appetite of households for equities has, however, been rapidly increasing in recent years. The proportion of Germans owning shares increased from 5.4 percent in the early 1990s to 7.6 percent in 1995 and then again to 8.8 percent in 1997 (*Deutsche Bank Research Bulletin*, January 9, 1995; *Economist*, December 6, 1997).

The Future of German Corporate Governance

If the trend toward financial liquidity continues, and particularly if it gains a major boost from reforms of the pension system, it is plausible that German financial enterprises may find willing allies in the country's corporate managers attracted by the possibilities to enrich themselves. The new managerial rhetoric of shareholder value at leading companies such as Daimler-Benz, Hoechst, and Siemens is certainly striking in historical context, but at this point it is difficult to assess its likely implications for the German system of corporate governance as a whole. Many Germans, and continental Europeans in general, are sanguine about the possibility that this type of behavior will take hold among German managers. Nevertheless, it is dangerous to dismiss the rhetoric of shareholder value as grandstanding or faddish. The analysis I have presented here suggests that the confluence of structural changes in the productive and financial spheres poses a formidable challenge to the existing system of corporate governance.

The U.S. experience in recent decades is instructive. Today the United States is regarded as a bastion of liquid financial markets, but market control over the allocation of corporate resources is a relatively new phenomenon in U.S. history. Until the 1980s organizational control dominated and ensured financial commitment. One of the most important

lessons that the history of American corporate governance teaches us is that, in the face of unprecedented productive and financial challenges to a system of corporate governance, “organization men” can be induced to be, at least with appropriate incentives for self-enrichment such as stock options, ardent proponents of shareholder value (Lazonick and O’Sullivan 1997a).

An important difference between Germany and the United States, however, is that if German managers try to follow their American counterparts down the path to shareholder value, they will have to contend with a politically powerful labor movement. Already the German advocates of shareholder value have been attacked by workers and their representatives, at least for their more blatant attempts to introduce “casino capitalism.” A strong labor movement does not, however, ensure that the foundations of sustainable prosperity will be regenerated in Germany. Perhaps the biggest risk that the German system of corporate governance now faces is that German labor and finance will insist on pursuing their own independent strategies to extract returns from industrial enterprises and the system will dissipate into a “stakeholder economy” in which different interest groups fight for their claims to corporate returns without any concern for whether these returns are sustainable. In many ways this is what happened in Britain in the 1960s and 1970s, with serious repercussions for the long-run competitiveness of British industry.

The institutional differences between Germany and Britain may allow German corporate governance to tread a different path. In Germany, in contrast to Britain, the foundations for organizational control were put in place long ago and they persist despite enormous pressures. These foundations provide the possibility for the coordination of financial, labor, and managerial interests to institute a new system of organizational control that allows a regeneration of the basis for sustainable prosperity in the German economy.

Notes

1. Unless otherwise indicated, “Germany” is used herein to refer to the former Federal Republic of Germany.
2. The neglect of innovation by neoclassical economists was long ago pointed out by Joseph Schumpeter (1911). For a critique of the shareholder perspective for its neglect of innovation, see O’Sullivan 1998a, 1998b.
3. These “foreigners” may well have been born on German soil but denied German citizenship because they are not ethnic Germans.
4. For a discussion of cross-functional integration in Japan, see Lazonick 1997.
5. The contribution of internal funds to net sources of finance of nonfinancial enterprises during 1970 to 1989 has recently been estimated as 80.6 percent for Germany, 69.3 percent for Japan, 97.3 percent for the UK, and 91.3 percent for the United States (Corbett and Jenkinson 1996).
6. Another unintended consequence was the change in regulations on social insurance payments made during strikes that made it much more costly for a union to take industrial action.
7. For a history of IG Metall’s technology policy, see Thelen 1991, 180–200.

References

- Abraham, K., and S. Houseman. 1993. *Job Security in America: Lessons from Germany*. Washington, D.C.: Brookings Institution.
- Ahrend, P. 1995. “Pension Financial Security in Germany.” In Z. Bodie, O. Mitchell, and J. Turner, eds., *Securing Employer-Based Pensions: An International Perspective*. Philadelphia: University of Pennsylvania Press.
- Albert, M. 1991. *Capitalisme contre Capitalisme*. Paris: Seuil.
- Alchian, A., and H. Demsetz. 1972. “Production, Information Costs and Economic Organization.” *American Economic Review* 69: 777–795.
- Altmann, N. 1992. “Unions’ Policies towards New Technologies in the 1980s—An Example from the Metal Industry.” In N. Altmann, C. Köhler, and P. Meil, eds., *Technology and Work in German Industry*. London: Routledge.
- Altmann, N., C. Köhler, and P. Meil, eds. 1992. *Technology and Work in German Industry*. London: Routledge.
- Baethge, M., and H. Wolf. 1995. “Continuity and Change in the ‘German Model’ of Industrial Relations.” In R. Locke, T. Kochan, and M. Piore, eds., *Employment Relations in a Changing World Economy*. Cambridge, Mass.: MIT Press.
- Best, M. 1990. *The New Competition: Institutions of Industrial Restructuring*. Cambridge, Mass.: Harvard University Press.
- Blair, M. 1995. *Ownership and Control: Rethinking Corporate Governance for the Twenty-first Century*. Washington, D.C.: Brookings Institution.

- Börsch-Supan, A. 1991. "Aging Populations: Problems and Policy Options in the US and Germany." *Economic Policy* 12: 103–139.
- Bosch, G. 1990. *Retraining—Not Redundancy: Innovative Approaches to Industrial Restructuring in Germany and France*. Geneva: International Institute for Labour Studies.
- Brody, D. 1993. *Workers in Industrial America: Essays on the Twentieth Century Struggle*, 2d ed. New York: Oxford University Press.
- Casey, B. 1991. "Recent Developments in the German Apprenticeship System." *British Journal of Industrial Relations* 29, no. 2: 205–222.
- Chandler, A. 1977. *The Visible Hand: The Managerial Revolution in American Business*. Cambridge, Mass.: Harvard University Press.
- . 1990. *Scale and Scope: The Dynamics of Industrial Capitalism*. Cambridge, Mass.: Harvard University Press.
- Corbett, J., and T. Jenkinson. 1996. "The Financing of Industry, 1970–1989: An International Comparison." *Journal of the Japanese and International Economies* 10: 71–96.
- d'Alessio, N., and H. Oberbeck. 1997. "Le pouvoir contesté des grandes banques allemandes." *Enterprises et Histoires* 16: 23–34.
- Dyson, K. 1986. "The State, Banks and Industry: The West German Case." In A. Cox, ed., *State, Finance and Industry*. New York: St. Martin's Press.
- Edwards, J., and K. Fischer. 1994. *Banks, Finance, and Investment in Germany*. Cambridge: Cambridge University Press.
- Esser, J. 1990. "Bank Power in West Germany Revised." *West European Politics* 13, no. 4: 17–32.
- Fama, E., and M. Jensen. 1983. "Separation of Ownership and Control." *Journal of Law and Economics* 26: 301–325.
- Finegold, D., et al. 1994. *The Decline of the U.S. Machine Tool Industry and Prospects for Its Recovery*. Santa Monica, Calif.: Rand Corporation.
- Francke, H-H., and M. Hudson. 1984. *Banking and Finance in West Germany*. London: Croom Helm.
- Franks, J., and C. Mayer. 1990. "Capital Markets and Corporate Control: A Study of France, Germany and the UK." *Economic Policy*, April, 191–231.
- Fricke, W. 1986. "New Technologies and German Co-Determination." *Economic and Industrial Democracy* 7, no. 4: 541–552.
- Fruin, M. 1992. *The Japanese Enterprise System: Competitive Strategies and Cooperative Structures*. Oxford: Clarendon Press.
- Gerum, E., H. Steinmann, and W. Fees. 1988. *Der Mitbestimmte Aufsichtsrat: Eine Empirische Untersuchung*. Stuttgart: C. E. Poeschel.
- Giersch, H., K-H. Paqué, and H. Schmieding. 1992. *The Fading Miracle: Four Decades of Market Economy in Germany*. New York: Cambridge University Press.
- Gordon, D., R. Edwards, and M. Reich. 1982. *Segmented Work, Divided Workers: The Historical Transformation of Labor in the United States*. Cambridge: Cambridge University Press.

- Hall, B. 1994. "Corporate Restructuring and Investment Horizons in the United States, 1976–1987." *Business History Review* 68, no. 1 (Spring): 110–143.
- Hart, O. 1995. "Corporate Governance: Some Theory and Implications." *Economic Journal* 105: 678–698.
- Hauck, M. 1994. "The Equity Market in Germany and Its Dependency on the System of Old Age Provisions." In T. Baums, R. Buxbaum, and K. Hopt, eds., *Institutional Investors and Corporate Governance*. Berlin: de Gruyter.
- Herrigel, G. 1995. *Industrial Constructions: The Sources of German Industrial Power*. New York: Cambridge University Press.
- . 1996. "Crisis in German Decentralised Production." *European Urban and Regional Studies* 3, no. 1: 33–52.
- Hounshell, D. 1984. *From the American System to Mass Production, 1800–1932*. Baltimore: Johns Hopkins University Press.
- Jensen, M. 1986. "Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers." *American Economic Review* 76: 323–329.
- Jürgens, U. 1997. "Germany: Implementing Lean Production." In T. Kochan, R. Lansbury, and J. P. MacDuffie, eds., *After Lean Production: Evolving Employment Practices in the World Auto Industry*. Ithaca, N.Y.: Cornell University Press.
- Jürgens, U., and I. Lippert. 1997. "Schnittstellen des deutschen Produktionsregimes—Innovationshemmnisse im Produktentstehungsprozeß." In WZB-Jahrbuch. Berlin: Sigma.
- Jürgens, U., T. Malsch, and K. Dohse. 1993. *Breaking from Taylorism: Changing Forms of Work in the Automobile Industry*. New York: Cambridge University Press.
- Katz, H. 1993. "The Decentralization of Collective Bargaining: A Literature Review and Comparative Analysis." *Industrial and Labor Relations Review* 47: 3–22.
- Kay, J., and A. Silberston. 1995. "Corporate Governance." *National Institute Economic Review*, August.
- Keck, O. 1993. "The National System for Technical Innovation in Germany." In R. Nelson, ed., *National Innovation Systems: A Comparative Analysis*. Oxford: Oxford University Press.
- Kelly, G., D. Kelly, and A. Gamble, eds. 1997. *Stakeholder Capitalism*. Houndmills, Basingstoke: Macmillan.
- Kocka, J. 1980. "The Rise of the Modern Industrial Enterprise in Germany." In A. Chandler and H. Daems, eds., *Managerial Hierarchies: Comparative Perspectives on the Rise of the Modern Industrial Enterprise*. Cambridge, Mass.: Harvard University Press.
- Köhler, C., and K. Schmierl. 1992. "Technological Innovation—Organizational Conservatism." In N. Altmann, C. Köhler, and P. Meil, eds., *Technology and Work in German Industry*. London: Routledge.
- Lazonick, W. 1990a. *Business Organization and the Myth of the Market Economy*. New York: Cambridge University Press.

- . 1990b. *Competitive Advantage on the Shop Floor*. Cambridge, Mass.: Harvard University Press.
- . 1997. "Organizational Learning and International Competition: The Skill-Base Hypothesis." Working Paper no. 201. Annandale-on-Hudson, N.Y.: The Jerome Levy Economics Institute.
- Lazonick, W., and M. O'Sullivan. 1996. "Organization, Finance, and International Competition." *Industrial and Corporate Change* 5, no. 1: 1–49.
- . 1997a. "Finance and Industrial Development: The United States and the United Kingdom." *Financial History Review* 4, no. 1: 7–29.
- . 1997b. "Finance and Industrial Development: Japan and Germany." *Financial History Review* 4, no. 2: 113–134.
- Mahnkopf, B. 1991. "The 'Skill-Oriented' Strategies of German Trade Unions: Their Impact on Efficiency and Equality Objectives." *British Journal of Industrial Relations* 30, no. 1: 61–81.
- Malerba, F. 1985. *The Semiconductor Business: The Economics of Rapid Growth and Decline*. Madison: University of Wisconsin Press.
- Markovits, A. 1986. *The Politics of the West German Trade Unions: Strategies of Class and Interest Representation in Growth and Crisis*. Cambridge: Cambridge University Press.
- Mayer, C., and I. Alexander. 1990. "Banks and Securities Markets: Corporate Financing in Germany and the United Kingdom." *Journal of the Japanese and International Economies* 4: 450–475
- Montgomery, D. 1987. *The Fall of the House of Labor*. Cambridge: Cambridge University Press.
- Müller-Jentsch, W. 1986. *Soziologie der Industriellen Beziehungen: Eine Einführung*. Frankfurt: Campus-Verlag.
- . 1995. "Germany: From Collective Voice to Co-Management." In J. Rogers and W. Streeck, eds., *Works Councils: Consultation, Representation, and Cooperation in Industrial Relations*. Chicago: Chicago University Press.
- O'Sullivan, M. 1998a. "Sustainable Prosperity, Corporate Governance and Innovation in Europe." In J. Michie and J. Grieve Smith, eds., *Innovation, Employment, and Growth*. Oxford: Oxford University Press.
- . 1998b. "The Innovative Enterprise and Corporate Governance." Working Paper. Fontainebleau: INSEAD.
- . 1998c. "The Political Economy of Corporate Governance in Germany." Working Paper no. 226. Annandale-on-Hudson, N.Y.: The Jerome Levy Economics Institute.
- Oberbeck, H., and M. Baethge. 1989. "Computer and Pinstripes: Financial Institutions." In P. Katzenstein, ed., *Industry and Politics in West Germany*. Ithaca, N.Y.: Cornell University Press.
- OECD. 1996. *The OECD STAN Database for Industrial Analysis, 1975–1994*. Paris: Organization for Economic Cooperation and Development.
- . 1997. *Institutional Investors, Statistical Yearbook*. Paris: Organization for Economic Cooperation and Development.

- Porter, M. 1992. *Capital Choices: Changing the Way America Invests in Industry*. Washington, D.C.: Council on Competitiveness.
- Queisser, M. 1996. *Pensions in Germany*. Washington, D.C.: World Bank.
- Roseveare, D., W. Leibfritz, D. Fore, and E. Wurzel. 1996. "Ageing Populations, Pension Systems, and Government Budgets: Simulation for 20 OECD Countries." OECD Working Paper no. 168. Paris: Organization for Economic Cooperation and Development.
- Roth, S. 1997. "Germany: Labor's Perspective on Lean Production." In T. Kochan, R. Lansbury, and J. P. MacDuffie, eds., *After Lean Production: Evolving Employment Practices in the World Auto Industry*. Ithaca, N.Y.: Cornell University Press.
- Sachwald, F. 1994. *European Integration and Competitiveness: Acquisitions and Alliances in Industry*. Aldershot, Hants.: Edward Elgar.
- Sadowski, D., M. Schneider, and K. Wagner. 1994. "The Impact of European Integration and German Unification on Industrial Relations in Germany." *British Journal of Industrial Relations* 32, no. 4: 523–537.
- Schmähl, W. 1993. "The '1992 Reform' of Public Pensions in Germany: Main Elements and Some Effects." *Journal of European Social Policy* 3, no. 1: 39–51.
- Schumann, M., V. Baethge-Kinsky, M. Kuhlmann, Constanze Kurz, and U. Neumann. 1994. *Trendreport Rationalisierung: Automobile Industrie, Werkzeugmaschinenbau, Chemische Industrie*. Berlin: Sigma.
- Schumpeter, J. 1911. *The Theory of Economic Development*. Reprinted: New Brunswick, N.J.: Transaction Publishers, 1996.
- Shleifer, A., and R. Vishny. 1997. "A Survey of Corporate Governance." *Journal of Finance* 52, no. 2: 737–783.
- Story, J. 1997. "Finanzplatz Deutschland: National or European Response to Internationalisation?" *German Politics* 5, no. 3: 371–394.
- Streeck, W. 1989. "Successful Adjustment to Turbulent Markets: The Automobile Industry." In P. Katzenstein, ed., *Industry and Politics in West Germany*. Ithaca, N.Y.: Cornell University Press.
- . 1995. "German Capitalism: Does It Exist? Can It Survive?" Working Paper no. 95. Max-Planck Institut-fur-Gesellschaftsforschung.
- Teague, P. 1997. "Lean Production and the German Model." *German Politics* 6, no. 2: 76–94.
- Thelen, K. 1991. *Union of Parts: Labour Politics in Postwar West Germany*. Ithaca, N.Y.: Cornell University Press.
- Turner, J., and N. Watanabe. 1995. *Private Pension Policies in Industrialised Countries: A Comparative Analysis*. Kalamazoo, Mich.: Upjohn Institute.
- Turner, L. 1991. *Democracy at Work: Changing World Markets and the Future of Labor Unions*. Ithaca, N.Y.: Cornell University Press.
- van Tulder, R., and G. Junne. 1988. *European Multinationals in Core Technologies*. Chichester, N.Y.: Wiley.

- Winkelmann, R. 1996. "Employment Prospects and Skill Acquisition of Apprenticeship-Trained Workers in Germany." *Industrial and Labor Relations Review* 49, no. 4: 658–672.
- Womack, J., D. Jones, and D. Roos. 1990. *The Machine That Changed the World*. New York: Rawson.
- World Bank. 1994. *Averting the Old Age Crisis: Policies to Protect the Old and Promote Growth*. Oxford: Oxford University Press.

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