

Contemporary Capitalism

THE UNIVERSITY OF CHICAGO PRESS

Edited by
J. Rogers Hollingsworth
Robert Boyer

COORDINATION OF ECONOMIC ACTORS AND SOCIAL SYSTEMS OF PRODUCTION

J. Rogers Hollingsworth and Robert Boyer

This volume addresses several distinctive but interrelated problems. First, it is very much concerned with identifying the various institutional mechanisms by which economic activity is coordinated, with understanding the circumstances under which these various mechanisms are chosen, and with comprehending the logic inherent in different coordinating mechanisms. Throughout Eastern and Western Europe as well as in North America during the 1980s, there was a dramatic shift toward a popular belief in the efficacy of self-adjusting market mechanisms. Indeed, the apparent failure of Keynesian economic policies, the strains faced by the Swedish social democratic model, and the collapse of Eastern block economies led many journalistic observers to argue that capitalism is a system of free markets that has finally triumphed. Some added that the more pervasive the market could become, the more impressively national economies would perform.

Paradoxically, during the same period, there was a rapidly accumulating theoretical literature that demonstrated that markets were not ideal mechanisms for coordinating transactions among actors when either the quality of products is uncertain, increasing returns to scale prevail, most future contingencies are uncertain, or there is a multitude of repetitive transactions within a truly decentralized monetary economy. Moreover, there has been increasing evidence that the market as a coordinating mechanism does

not lead to the best economic performances in industries whose products have technologies that are very complex and change very rapidly (Campbell, Hollingsworth, and Lindberg, 1991; Chandler, 1977; Hollingsworth, 1991a; Hollingsworth, Schmitter, and Streeck, 1994; Piore and Sabel, 1984; Sabel and Zeitlin, 1985, 1996; Williamson, 1975, 1985). In short, the basic features of most modern economic activity point to the importance of coordinating mechanisms alternative to markets. Indeed, the history of twentieth-century capitalism demonstrates that nation-states have different trajectories of capitalist development, in which there is considerable variation in the role of markets and other institutional arrangements as coordinating mechanisms (Crouch and Streeck, 1996), and this volume focuses on several of these trajectories.

Second, the volume develops the argument that markets and other coordinating mechanisms are shaped by and are shapers of social systems of production. By a social system of production, we mean the way that the following institutions or structures of a country or a region are integrated into a social configuration: the industrial relations system; the system of training of workers and managers; the internal structure of corporate firms; the structured relationships among firms in the same industry on the one hand, and on the other firms' relationships with their suppliers and customers; the financial markets of a society; the conceptions of fairness and justice held by capital and labor; the structure of the state and its policies; and a society's idiosyncratic customs and traditions as well as norms, moral principles, rules, laws, and recipes for action. All these institutions, organizations, and social values tend to cohere with each other, although they vary in the degree to which they are tightly coupled with each other into a full-fledged system. While each of these components has some autonomy and may have some goals that are contradictory to the goals of other institutions with which it is integrated, an institutional logic in each society leads institutions to coalesce into a complex social configuration. This occurs because the institutions are embedded in a culture in which their logics are symbolically grounded, organizationally structured, technically and materially constrained, and politically defended. The institutional configuration usually exhibits some degree of adaptability to new challenges, but continues to evolve within an existing style. But under new circumstances or unprecedented disturbances, these institutional configurations might be exposed to sharp historical limits as to what they may or may not do (Friedland and Alford, 1991). Why these configurations occur within a particular place and time is a complex theoretical problem which has yet to be solved. In this volume, we tend to confine most of our attention to mapping the coordinating mechanisms that are important in various types of social systems of production.

Why do all of these different institutions coalesce into a complex social configuration which we label a social system of production? The literature suggests two contrasting interpretations. Part of the answer – indeed a controversial one – is that these institutions are functionally determined by the requirements of the practice of capitalism in each time and place (Habermas, 1975; Parsons, 1951, 1967). Another part of the explanation emphasizes the genesis of the actual configuration, via a trial and error process, according to which the survival of firms, regions, or countries is the outcome of complex evolutionary mechanisms (Maynard-Smith, 1982; Nelson and Winter, 1982). However, the problem is even more complex. Markets and other mechanisms for coordinating relationships among economic actors place constraints on the means and ends of economic activity to be achieved in any society. The other coordinating mechanisms include different kinds of hierarchies, various types of networks and associations (e.g., trade unions, employers, and business artisan associations; see Campbell, Hollingsworth, and Lindberg, 1991). These various coordinating mechanisms provide actors with vocabularies and logics for pursuing their goals, for defining what is valued, and for shaping the norms and rules by which they are to abide (Friedland and Alford, 1991). In short, in contrast to the logic of the neo-classical paradigm, we argue that economic coordinating mechanisms place severe constraints on the definition of needs, preferences, and choices of economic actors. Whereas the neoclassical paradigm assumes that individuals are sovereign, we argue that individual action is influenced by the hold that institutions have on individual decision making (Campbell, Hollingsworth, and Lindberg, 1991; Erzioni, 1988; also see the essays in Streeck and Schmitter, 1985; Hollingsworth, Schmitter, and Streeck, 1994).

That is the basic and common inspiration of the various authors whose work is presented in this volume, but this does not mean that they agree on every detail concerning their conceptions about institutions. Some authors come from industrial sociology and tend to emphasize the importance of labor institutions and their impact on the organization of firms and economic specialization. Others have studied the governance mode of national economies by a close investigation of sectoral differences across nations (Hollingsworth, Schmitter, and Streeck, 1994). Still others have tried to work out an economic theory that does justice to the impact of the wage labor nexus; forms of competition, and monetary regimes on long-term growth (Boyer, 1990). There is a political science perspective which argues that the architecture of economic institutions cannot be understood independently from a given constitutional order (see the paper by Sabel in this volume). Some authors try to extend transaction cost economics to the issue of networks, and in the process they develop the concept of adaptive costs

(Hage and Jing, 1996). Some are concerned with the economic rationale behind international regimes, whereas those with a background in political science prefer to consider the issue of power in the building of supranational economic rules of the game, as well as in European institutions (see the chapters in Part III).

Despite the different backgrounds of these authors, they share a common set of concerns about complementary institutions that constitute a social system of production. Given their diversity of backgrounds, it is remarkable how much they share in common. Their commonality suggests that the study of institutions and how they configure in a social system of production has the potential to facilitate a great deal of integration among the social sciences. This book aims at presenting a set of common definitions in order to analyze the complementarity of institutions that may borrow their legitimacy and efficacy from quite different sources. We do not argue that a process of homogenization among authors, approaches, and theories is fully achieved within this text. Nevertheless, the issue of the coherence of social systems of production is a unifying theme, which has already been discussed in previous publications by several of the authors (Hollingsworth, 1991a, 1991b; Hollingsworth, Schmitter, and Streeck, 1994; Hollingsworth and Streeck, 1994) and is being pushed a step forward again in another study (Hollingsworth, Whitley, and Hage, 1996).

The third problem the volume confronts is whether specific forms of economic coordination are more likely to be used at some levels of society than at others. There are four levels of society at which there may be variation in the dominant forms of economic coordination:

1. The regional level within a country.
2. The level of the nation-state.
3. Transnational regions, such as the European Community.
4. The global level.

Thus far, social scientists have made little effort to specify how institutions for coordinating economic actors vary at these four levels of society. We believe we make some advance in the social science literature by confronting these issues.

Basically, the post-World War II order has been built upon a rather stable international regime, which has allowed significant differences in economic institutions across rather independent nation-states. There has been a blending of interdependence among nation-states, along with a significant

autonomy for national preferences, both of which are now being challenged by two shifts away from the national level. On the one hand, internationalization puts severe constraints upon some national economic arrangements, both through more competition among interdependent markets and through the building of supranational rules of the game. Both shifts constrain national governments, even though they participate in the development of organizations that undermine the autonomy of nation-states (World Trade Association, European Union, NAFTA, etc.). On the other hand, some sources for competitiveness exist at a lower level – e.g., the regional or even local levels where under some circumstances trust and tacit knowledge are better nurtured within communities and networks than within large firms and hierarchies.

This volume therefore surveys how each institutional arrangement for coordinating economic actors may evolve according to these two trends. Will an anonymous market mechanism replace previous coordination by the state? Or will alternative devices emerge, such as coordination by communities at the local level or various types of associations at the transnational level? Is there an ideal mix of institutional arrangements for coordinating economic actors for each broad system of production? Should we attempt to contemplate a future with the emergence of the different coordinating mechanisms that are associated with or complementary to a supranational state?

These questions are too complex and underresearched for us to reach definitive answers at this time. The reader may note a few different assumptions among the following authors, but this is not a weakness of the volume. Rather, it is a reflection of variation in knowledge at the frontiers of research on social institutions. Some of the authors think that the nation-state is bound to remain an important actor and level for the coordination of economic activity, and they argue that social systems of production will continue to have a strong national flavor (see chapters by Boyer, Hollingsworth, Streeck). Others suggest the importance of regional economies, especially for such emerging social systems of production as flexible specialization (Sabel, Zeitlin). Still others believe that the absence of any recognized polity at the international level provides a premium to market mechanisms (Schmitter). Clearly, the jury is still out, but readers will find new elements to feed their curiosity. Nevertheless, the book suggests that we are living in an epochal shift, from one mix of international-national-regional institutions to another configuration with different weights and feedbacks. At no single level are institutions able to triumph, nor will they vanish completely from any level.

A fourth issue the volume raises is whether forms of economic coordination and social systems of production are converging at the level of sector, region, nation-state, or global economy. The convergence thesis tends to assume that there is one best solution for organizing labor, raw materials, and capital in order to manufacture and distribute goods. The authors herein tend to express scepticism about such arguments of convergence.

FORMS OF ECONOMIC COORDINATION

All capitalist economies involve a matrix of interdependent exchange relationships, or transactions that occur among individual actors and organizations, either individually or collectively, in order to develop, produce, and distribute goods or services. Transactions occur among a wide range of interdependent actors, including producers and suppliers of raw materials, researchers, manufacturers, labor, and many others, who must routinely solve various problems such as raising capital, determining the quantity of output, setting wages and other conditions of employment, standardizing products, establishing prices, and communicating information about product quality to consumers. At a rather general level, economic coordination or governance is the process by which these problems are managed among various actors.

In many countries there has in recent years been a widely shared belief that the market is the most efficient institutional arrangement for coordinating economic activity, and that most alternative forms of collective activity and state intervention generally do more harm than benefit. In the eyes of many, there is considerable evidence to support such a view. Have not the various forms of Keynesian compromises led to stagflation, budget and external trade deficits, and capital flights? Have not the "socialist" regimes of Eastern Europe collapsed?

Under these circumstances, the market as an ideology has made an impressive comeback in the design of economic policies, at odds with the previous Keynesian orthodoxy. Similarly, within academic research in the social sciences, the neoclassical paradigm has become very pervasive and conquered new territories: The interactions and bargaining processes among conflicting actors have increasingly been modeled according to the concepts of economic rationality and market equilibria (Etzioni, 1988). The micro analytic neoclassical paradigm is individualistic, rationalistic, and utilitarian, and shapes not only much economic analysis but also public choice scholarship (Coleman, 1992) in political science (Ostrom, 1986), sociology (Hechter, 1987), history (North, 1981, 1990), and law (Posner, 1977).

The following essays do not deny the importance and utility of the market as a coordinating mechanism. However, the achievements of the market as a dominant mode of coordinating an economy rest less on the grounds of static efficiency, as argued by many who rely on the neoclassical paradigm, than on terms of dynamic efficiency (Leibenstein, 1966, 1976). In fact, the major achievement of the market has not been so much the invisible hand as formalized by modern equilibrium theory, but the stimulus to innovation which markets as coordinating mechanisms bring about, a neglected theme first put forward by Adam Smith.

In the following essays, we use a more restricted definition of market than that which exists in much of the contemporary literature. For us, the classic market occurs when transacting actors engage in decentralized, arm's-length bargaining, the parties are generally informally organized and remain autonomous, each actor presses his/her own interests vigorously, and contracting is relatively comprehensive. Actors then specify preferences and prices through contracts that, when completed, are self-liquidating and require no further interaction among the transacting parties. Moreover, the identities of the parties do not influence the terms of the exchange (Lindberg, Campbell, and Hollingsworth, 1991; Williamson, 1975, 1985). Basically, no durable relation is observed among economic actors, and the only purpose of the market adjustments is to make on-the-spot, coherent instantaneous transactions, without any concern about future strategies. Within this restrictive definition for markets, however, there are a lot of variants, for example, the African market for craft art, Christies' auction market for antiques, the Wall Street stock market, or the Chicago market for futures. These transactions can become embedded in, or shade off into, various types of networks (see the chapter by Hage and Alter on networks). Obviously this characterization of markets as a coordinating mechanism encompasses only a fraction of the transactions that occur in a capitalist economy.

Many scholars who operate within a neoclassical paradigm recognize that markets are not always the most efficient institutional form for economic coordination. Thus, according to Williamson (1975, 1985), economic actors often carry out their transactions within a firm or a hierarchy, in order to enhance efficiency, reduce transaction costs, and minimize the opportunism inherent in exchange relations. Alternatively, Alfred Chandler (1977, 1990) argues that it is the incentive to achieve lower production costs and greater economies of scale that encourages economic actors to do within firms – i.e., hierarchies – what might otherwise be done outside the firm – i.e., in a market. Thus, for Chandler, the modern corporation has been a functional response to the demands of large-scale markets and capital intensive but relatively stable technologies. Instead of con-

ducting transactions among actors outside firms, the modern corporation has internalized the process. And for Chandler, this process has provided firms with the capability of overcoming risk and uncertainty and of achieving lower costs and higher levels of productivity through administrative coordination. While Chandler has little to say about industrial relations, Williamson (1985) and others (Marglin, 1974, 1991) argue that capitalists adopted the modern factory system in order to restrain opportunism and to economize on costly bargaining with labor. As human asset skills become more firm-specific and idiosyncratic, firms develop elaborate internal labor markets in order to promote training, discipline, promotions, and layoffs (also see Coase, 1960, 1981).

Also using the neoclassical paradigm, a number of scholars have identified and theorized forms of coordination that are neither markets, coordination within a corporate hierarchy, nor coordination by the state. This literature clearly acknowledges the limits of what organizations can do in coordinating economic actors (Arrow, 1974; Stinchcombe and Heimer, 1985). For example, Eccles (1981) has analyzed the quasifirm, Williamson (1985), Macneil (1978), and Powell (1990) have discussed long-term contractual relations among actors who are neither in a market nor within a firm, while others have elaborated on the concepts of coordination by network (Alter and Hage, 1993; Campbell, Hollingsworth, and Lindberg, 1991; Chisholm, 1989; Scharpf, 1993). In all of this, actors are neither integrated into a formal organization nor do they act autonomously within a market. Rather, actors are loosely joined to each other in long-term relationships that ensure their capacity to cooperate and collaborate with each other through repeated exchanges.

Much of the literature on economic coordination remains fragmented and unintegrated. However, by reflecting on these various forms of coordination, we might array them in a complex two-dimensional taxonomy, as in Figure 1-1:

- Along the vertical dimension, the economists' vision of a self-interested agent is contrasted with a more sociological perspective, according to which obligation and compliance with social rules are the guiding principles shaping human actions.
- Along the horizontal dimension, we display a continuum of modes of coordination. At one extreme, horizontal coordination takes place when many and relatively equal agents interact (e.g., in a well organized spot market). At the other extreme, inequality in power results in a hierarchical form of coordination whereby either a private or public hierarchy structures the interaction between a principal and an agent or between a leader and a follower.

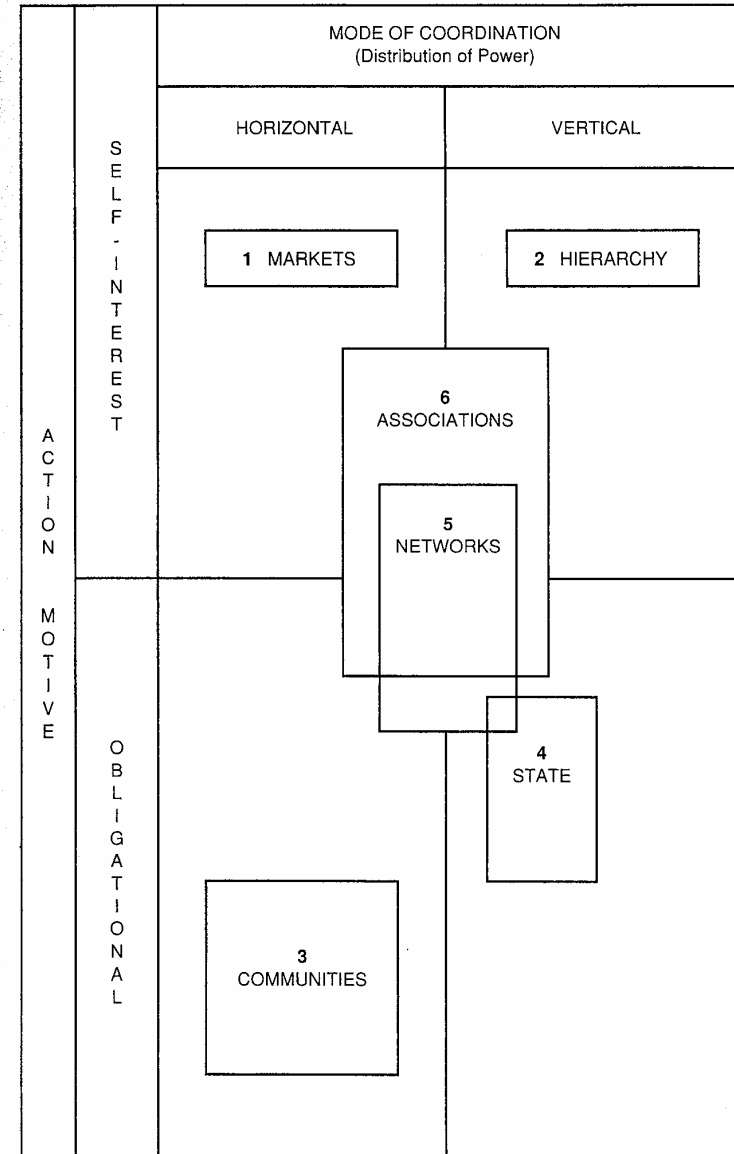


Figure 1-1. A General Taxonomy of Institutional Arrangements

Thus, institutional arrangements can be disentangled from this combination of the two dimensions: the nature of action motive on the one hand, and the distribution of power on the other. Markets (cell 1) combine self-interest with horizontal coordination transactors, and they reflect sensitivity to concerns about supply and demand, thus providing *ex post* an unintended equilibrium. Paradoxically, the more pure and perfect the market competition, the greater the need for codified rules of the games for coordinating economic transactions. Thus, collective associations (cell 6) and various forms of state intervention (cell 4) are required to enforce rules for transacting partners (Schneiberg and Hollingsworth, 1990; Schmitter and Streeck, 1981; Garcia, 1986). There are also networks (cell 5) which exhibit various mixes of self-interest and social obligation, with actors being formally independent and equal, even if some networks (the large firms and their subcontractors) partially rely upon unequal power and initiative. Networks may constitute all kinds of actors, ranging from those consisting only of firms to those that also include associations and the state.

Along the horizontal axis, actors are linked together in a high degree of integration, being joined within an organization or a firm: "hierarchy" is the generic term for this institutional arrangement (cell 2). Along the horizontal line, one recognizes the choice between market transactions and their integration within the firm. The work of Coase (1960, 1981) and Williamson (1975, 1985) uses the role of transaction costs in explaining the emergence of corporate hierarchies. But we must also turn to the vertical axis. The vertical axis deals with action motives. Toward the upper part of Figure 1.1, actors are engaged in individualistically oriented behavior, whereas toward the lower part, actors are more engaged in collective behavior and strive to cope with problems of common interest. Cell 3 – communities – consists of institutional arrangements that are based on trust, reciprocity, or obligation, and thus are not derived from the pure selfish computation of pleasures and pains. This is an unconventional perspective for most economists (however, see Arrow, 1974), but not for many anthropologists, political scientists, and sociologists (Streeck and Schmitter, 1985; Polanyi, 1946; Gambetta, 1988; Fukuyama, 1995; Sabel, 1992; Putnam, 1993). In the neoclassical paradigm, theorists argue that actors engage in those forms of exchanges that best promote their individual interest. If some structural conditions are fulfilled (absence of increasing returns to scale, the reversibility of transactions, absence of uncertainty, and complete contingent markets, with no collusion between actors), then the invisible hand theorem applies, and markets function quite well and also provide the optimum for society, therefore combining efficiency, harmony, and order. However, our view is that transacting exchanges may well lead to ruinous competition and excessive conflict. In-

deed, there is variation in the extent to which ruinous competition occurs, depending on the social context within which individual transactions take place. Thus, it is important that we be sensitive to the social context in which transactions are embedded and that we understand the degree to which social bonds exist among transacting actors. Strong social bonds sustain relationships of trust and limit conflict. As Etzioni (1988) reminds us, social bonds exist at both the micro and macro levels of analysis. Micro bonds facilitate exchanges in a society, but at the societal level social bonds exist at the level of the collective – in the community or region, and among members of racial, religious, and ethnic groups. All other things being equal, the more powerful the social bonds among transacting partners, the more economic competition is likely to be restrained. Thus, most transactions occur not simply in an impersonal, calculative system of autonomous actors unrestrained by social ties – as implied by the neoclassical paradigm – but in the context of social bonds, variation in the strength of which leads to variation in levels of trust and transaction costs (Elam, 1992; Etzioni, 1988: 211; Granovetter, 1985; Streeck and Schmitter, 1985).

In short, the choices of coordinating mechanisms in Figure 1-1 are constrained by the social context within which they are embedded. And depending on the nature of that embeddedness, there is variation in the collective forms of governance, some of which are specified in the lower part of the figure. Because some obligational forms of coordination tend to exist simultaneously with those on the upper side of the typology, the forms of behavior in which actors are involved invariably influence the degree to which actors engage in market, networks, or hierarchy. Figure 1-2 provides many more varieties of coordination than does Figure 1-1. For example, Figure 1-2 accounts for the existence of various kinds of regimes at the global level. And at the subnational level, it includes such institutional arrangements as clans and clubs as well as communities. Moreover, it suggests that many forms of networks coordinate economic activity. There are forms of coordination by which actors collectively monitor one another. Examples are extensive corporate interlocks for information sharing, dominant firm pricing systems, and the *zaibatsu* and *keiretsu* systems in Japan. There are also collective forms of networks, sometimes called promotional networks (Campbell, Hollingsworth, and Lindberg, 1991, Chapter 1). These usually involve long-term relational contracting among various parties. Examples of promotional networks are the United States government's bringing together during the 1950s and 1960s a number of commercial firms and university-based scientists to work collectively to develop certain technologies and/or products in advance of commercial markets – e.g., semiconductors, integrated circuits, and computers (Hollingsworth, 1991a).

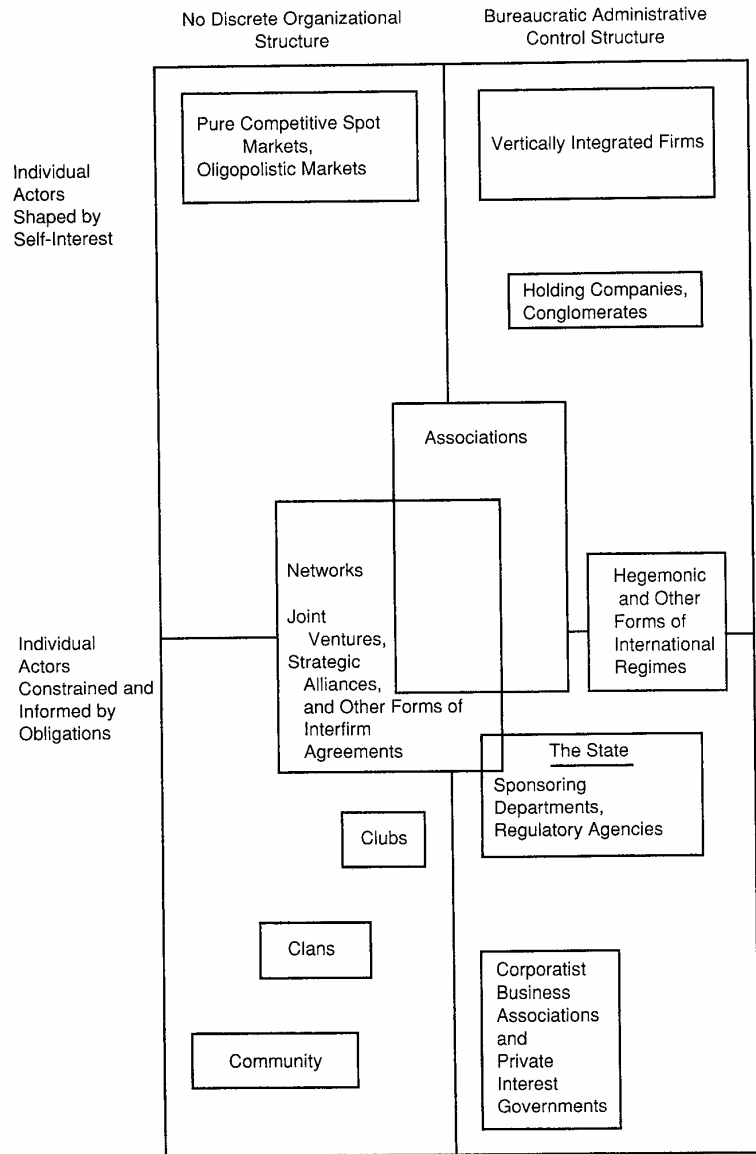


Figure 1-2. Modes of Coordination or Governance

Without the multilateral relations involving university research facilities, various agencies and departments of the United States government, and numerous business firms, it is unlikely that these technologies and products could have emerged in the United States at the time they did (Landau and Rosenberg, 1986; Nelson, 1982, 1991a). Other forms of promotional networking are the German system of apprenticeship training – a collective form of training in which unions, business associations, schools, the state, and students are all collectively involved (Streeck, 1989; Streeck et al., 1987); or the cooperative activities in which various firms engage in the Jutland region of Denmark, or in the central and northeastern regions of Italy – the so-called *terza Italia* (Brusco, 1982, 1986; Pyke, Becattini, and Sengenberger, 1990; Pyke and Sengenberger, 1992; Sabel, 1992).

While the Lindberg, Campbell, and Hollingsworth (1991) typology was a useful beginning for thinking about types of networks, it was somewhat oversimplified. Hence, in this volume Jerald Hage and Catherine Alter – drawing on a vast literature that has emerged about many kinds of networks in Europe, Asia, and North America – develop a more extensive typology of networks. However, they make a distinction between dyadic and multilateral relations among actors.

Another form of multilateral coordination consists of various types of associations. Unlike networks, clans, and communities, associations are formal organizations. Whereas markets, corporate hierarchies, and obligational networks tend to coordinate economic activity among different types of actors (e.g., producers with suppliers, capital with labor, producers with customers), associations typically coordinate actors engaged in the same or similar kinds of activities. Business associations and labor unions are some of the most common forms of associations for coordinating economic activity in capitalist economies (Schneiberg and Hollingsworth, 1990; Schmitter and Streeck, 1981).

Finally, there is the state, which is a coordinating mechanism quite unlike any of the others. It is the state that sanctions and regulates the various nonstate coordinating mechanisms, that is the ultimate enforcer of rules of the various mechanisms, that defines and enforces property rights, and that manipulates fiscal and monetary policy. At the same time, the state may also be an economic actor by engaging directly in production and exchange relations.

On both sides of the Atlantic, confidence is at an all-time low in the ability of states to enhance the performance of advanced capitalist economies. Neoliberal theorists believe that nonstate institutional arrangements are supposed to govern a capitalist economy. For them, the proper role of the state in economic affairs should be limited to securing the prerequi-

sites of conducting contracts (specifying property rights, using civil authority to enforce contracts, and providing national defense). One may argue that the voluntaristic assumptions of neoliberal thinking are misplaced and that, without much more substantial exercise of public authority by the state, advanced industrial societies will be unable to develop their potential for economic prosperity. The new growth theory has pointed out that, when one considers the spillover effects of innovations, educations, and various types of infrastructure, some supply-oriented interventions by the state may promote efficiency and long run growth (Romer, 1986, 1990, 1994).

A perspective that emerges in several of the papers in this volume is that neocorporatist theories of organized interest intermediation between state and civil society offer the possibility for the assertion of public authority, but under limited state sovereignty. In short, neocorporatist state-society interfaces enable economic actors to cooperate in developing long-term obligations for themselves and others, thus preventing excessively rational individuals from pursuing goals that are in conflict with their own longer-term interests. And it is the state, interacting with the organized interests, that permits neocorporatist institutional regimes to outperform liberal ones in a variety of areas.

Each of these various coordinating mechanisms has its own logic – its own rules, its own procedures for enforcing compliance, its own norms and ideologies which help to reduce the costs of enforcement. These are summarized in Table 1-1. Tables 1-1 and 1-2 provide further elaboration about the various coordinating mechanisms one finds in almost every capitalist society. Table 1-1 lists the organizational structures, the rules of exchange, and means of enforcing compliance associated with each type of coordinating mechanism. While each type of coordinating mechanism has various positive features – or else it would be strongly opposed by various economic actors – nevertheless each mechanism does have particular failures, and these are featured in Table 1-2. It is the contest between those who support and those who oppose these various coordinating mechanisms that tends to lead to transformations in coordinating mechanisms over time (Campbell, Hollingsworth, and Lindberg, 1991).

The reader is urged to reflect on these two figures, which encapsulate a number of arguments presented in this volume. The limitation of space prohibits a full elaboration here about how these coordinating mechanisms relate to each other, but we do wish to summarize a few key findings of the following chapters.

Let us consider the conventional and overdone polarization between markets and state. It is striking that they cannot really compete since one is built upon voluntary exchange and the other upon coercion and power. The

Table 1-1. Governance Modes: Rules of Exchange and Compliance

Governance mechanisms	Organizational structure	Rules of exchange	Individual means of compliance	Collective means of compliance
Markets	Free entry and exit Bilateral exchange or market place (Wall Street)	Voluntary spot exchange	Legal enforcement of control Regulations to maintain a public market	Norm of private property Legitimacy of free market
Communities	Informal membership evolves over long period of time	Voluntary exchange based on social solidarity and high degree of trust	Social norms and moral principles impose obligations Knowledge of others and reciprocity over time	Highly institutionalized norms and rules require members to accept "corporate" obligations
Networks	Semiformal membership Bilateral or multilateral exchange	Voluntary exchange over a time period	Contractual bonds Resource dependence	Personal relations Trust built outside the economic arena
Associations	Formal membership Multilateral exchange	Restricted to members Opposition insider/outsider	Self-interest Reputation effect	Some degree of compulsion Partially private administration

Table 1-1. (cont.)

Governance mechanisms	Organizational structure	Rules of exchange	Individual means of compliance	Collective means of compliance
Private hierarchies	Complex organizations which tend to become bureaucratic	Restricted to members, exchange based on asymmetric power, bureaucratic rules	Rewards to individuals Asymmetric power, threat of sanctions	Highly institutionalized rules Members socialized into corporate culture, use of sanctions
State	Public hierarchy De jure and imposed membership	Unilateral action Indirect and global political and economic exchange	Exit (tax evasion, migration) Voice (vote, lobbying)	Coercion Social rules or norms

Table 1-2. Each Coordinating Mechanism Has Its Own Specific Failures

Type of failure	Coordinating mechanisms		
	Market	Communities	Networks
Enforcement	Needs an internal enforcement authority Facilitates collusion and imperfect competition	Needs trust and loyalty, often coming from outside (family, religion, ethnicity) Compatible with various types of competition	Need an external enforcement authority May facilitate cartelization and monopoly
Public good and externality	Cannot provide collective goods or deal with externalities Inadequate monitoring of technical change and innovation	Can internalize some collective goods (quality, training) but not others (welfare, general public goods) Members tightly integrated into community, have limited capacity for innovations	Useful for enhancing quality and training but not very good in providing for societal general welfare Weak in the provision of collective goods
Efficiency	Some basic social relations cannot be provided by pure market mechanisms	Some goods cannot be delivered at sufficiently low costs	Slow to enhance efficiency and speed of adaptiveness, except in industries where technology is complex and rapidly changing
Equity	Facilitates inequality in income and wealth	Might lead to retarded development	When widely developed into industrial districts, networks may facilitate greater equality and income distribution. When weakly developed, networks tend to increase societal inequality

Table 1-2. (cont.)

Coordinating mechanisms		
Type of failure	Associations	State
Enforcement	Usually relies on the state as an enforcer	Needs controls external to state bureaucracy (judges, parliament, market) to correct state abuses
	Resembles enforcement mechanism of cartels	Lobbies can capture public interest goals
Public good and externality	Useful for establishing standards and quality, for setting rules of competition in the industry	Can provide public goods but has difficulties in providing them in precise amounts
	Useful for providing many goods collectively that individual members cannot provide for themselves	Might fail in inducing technical change
Efficiency	Facilitates cooperation and X-efficiency but not allocative efficiency	Can be highly bureaucratic and cannot easily deliver goods at low cost
Equity	Narrow encompassing associational structures lead to income inequality	Might enhance inequality (power and privilege)

market needs a minimal legal enforcement (implemented by the state) whereas taxation by the state assumes a sufficient level of wealth derived from the incentives brought by a market economy. The efficiency of markets is strong for private and divisible goods, but quite weak for the supply of major public goods (education, research and innovation, transport, infrastructures, etc.). The issue is not to select *one* coordinating mechanism but to combine *both* according to the nature of the objectives, the resource, and the characteristics of the goods.

The same conclusion can be derived for the relative merits of markets and firms (here private hierarchies). Again, it is difficult to conceive of pure forms – either exclusively markets or exclusively hierarchies – since it has been well known since Adam Smith's *Wealth of Nations* that the division of labor within the firm cannot be disentangled from the existence and extent of the market. Both forms have their efficiency (good static efficiency for the market, dynamic efficiency for firms) and inefficiency, often leading to considerable inequality. Neither networks nor communities are panaceas for economic coordination, without being configured with other forms of coordination. Networks and communities may solve certain issues, but they raise other, no less severe problems. It is extremely important to recognize the imperfection of any single coordinating mechanism if one is to comprehend the origin of the evolution and transformation of any institutional arrangement.

SOCIAL SYSTEMS OF PRODUCTION

Standard neoclassical economic theory tends to downplay the role of production and consequently of firms. Even the transaction cost theorists (Coase, 1960, 1981; Williamson, 1975, 1985), who tend to be concerned with analyzing the firm as a coordinating mechanism, are relatively unconcerned with the various components of a social system of production. Indeed, as long as there was widespread optimism about the efficacy of Keynesian economics, there was relatively little concern among neoclassical economists with the supply side of the economy. Even in the opinion of most Keynesians, a group of experts ideally should be able to shape the size of aggregate demand while the supply side of the economy would be left to the two minimalist institutions of neoclassical economics – the markets and managerial hierarchies. In recent years, however, it has become increasingly obvious that some of the most competitive and successful patterns of industrial output and industrial production in capitalist economies do not derive from the neoclassical prescription of unregulated markets and corporate hierarchies complemented by a neoliberal democratic state. Indeed, empirical

evidence has been growing for some years that certain highly successful production patterns require for their emergence and survival institutional arrangements the very opposite of the prescriptions found in the neoclassical paradigm (see especially Streeck, 1991, but also Aoki, 1988; Boyer, 1991; Hollingsworth and Streeck, 1994; Katzenstein, 1989; Piore and Sabel, 1984; Zeitlin, 1992). Thus, if we are to understand the behavior and performance of contemporary economies, concerns about production must be brought into the picture. But production involves more than technology. It is for this reason that a major concern of this volume is the social systems of production. The same equipment is frequently operated quite differently in the same sectors in different countries, even when firms are competing in the same market (Hollingsworth, Schmitter, and Streeck, 1994; Maurice, Sorge, and Warner, 1980; Sorge, 1989; Sorge and Streeck, 1988). Variations in production and process technologies are influenced, partly, by variations in the social environments in which they are embedded. In other words, firms are embedded into complex environments, which, among other things, place constraints on their behavior. Thus, a social system of production is of major importance in understanding the behavior and performance of an economy. How the state and the various coordinating mechanisms (see Figures 1-1 and 1-2) are related to particular social systems of production is an important concern of this volume.

During the past sixty or seventy years there have been several broad types of production systems in the histories of Western Europe, North America, and Japan. One system, labeled in the literature as a Fordist pattern of production, tended to produce highly standardized goods on a large scale with highly specialized equipment, operated by semiskilled workers. In contrast to Fordist production systems, there have been various types of flexible systems of production, each tending to produce a wide array of products in response to different consumer demands, supported by a skilled workforce with the capability of shifting from one job to another within a firm (Boyer, 1991; Piore and Sabel, 1984; Hage, 1980; Pollert, 1991; Sabel and Zeitlin, 1985, 1996; Streeck, 1991; Zeitlin, 1992, 1994).

Because both standardized and flexible systems of production are ideal types, it is important to emphasize that, for analytical purposes, each is subject to the usual strengths and weaknesses of ideal types. They are not meant to be descriptive statements about specific firms, industrial sectors, or individual firms at specific periods of time. Rather, they are heuristic devices to sensitize us to possible interrelationships that might exist among a broad set of variables or social categories. Neither type ever existed alone in space or time. Even where standardized mass production was the dominant technological paradigm, there were always firms – or even entire in-

dustries – that were organized on opposite principles. The two organizing principles were complementary one with another: Mass production tended to respond to the stable component of demand, while batch or medium-size production systems tended to cope with the variable part of the same demand. So the coexisting forms of production broadly shared the same short-run flexibility and long-run performance (Boyer and Durand, 1993). It is not uncommon for different components of varying social systems of production to exist simultaneously in a particular country (Herrigel, 1989, 1995; Pyke, Becattini, and Sengenberger, 1990). For example, standardized systems of production have always required customized machines or some form of flexible production. And flexible production processes have required standardized equipment and therefore some standardized production processes. In other words, the customization of products has long been based on the standardized production of component parts and equipment. Hirst and Zeitlin in this volume and others (see the special issue of *Economy and Society*, 1989, XVIII; Hirst and Zeitlin, 1990; Pollert, 1991; Sabel, 1991; Zeitlin, 1996) have made the important point that firms frequently engage in hybrid forms of production – producing both long and short runs of particular products, sometimes engaging in both flexible and standardized production – but that these hybrid type firms are usually embedded in a dominant type of social system of production.

Of course, flexible systems of production predate Fordist systems of production. Sabel and Zeitlin (1985), as well as others (Hounshell, 1984; Zeitlin, 1996), have demonstrated that flexible social systems of production existed in a number of nineteenth-century industrial districts of Europe and Great Britain, from Lyon to Sheffield, as well as in parts of the United States. Though flexible systems of production both pre- and postdate Fordist systems of production, we must recognize that in recent years flexible systems of production have become further differentiated into various subtypes. One system we label as flexible specialization production (FSP) and another we label diversified quality mass production (DQMP) (Aoki, 1988; Boyer and Coriat, 1986; Streeck, 1991). Originally, these models emerged from an analysis of local structural conditions; they mainly concerned coordination among actors and were less concerned with technology or innovation. For example, industrial districts with flexible systems of production existed long before the development of recent information technologies (Sabel and Zeitlin, 1985, 1996). On the other hand, the adoption of new, microelectronic production technology has increased the number of areas of the world that have social systems of flexible production (e.g., either flexible specialization or diversified quality mass production). Therefore, the existing institutions are filtering the emergence and diffusion of

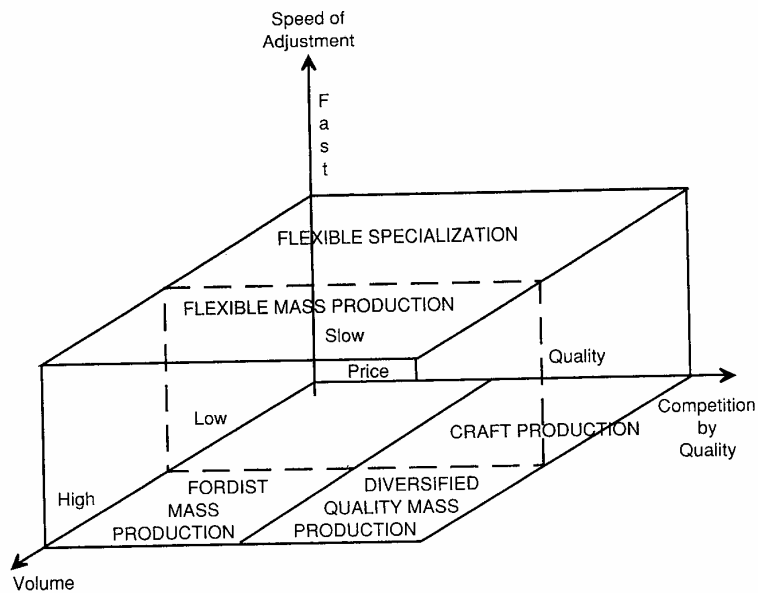


Figure 1-3. A Typology of Social Systems of Production

new technologies, and conversely, over the long run, some radical technological innovations seem to call for epochal changes in institutions, but the success of those changes is not always guaranteed (Freeman, 1986).

In any case, the high flexibility of microelectronic equipment and the speed with which it can be shifted to a variety of products have permitted previous mass producers to engage in customized quality production and producers with only small batches of specific items to shift to larger batches of production. Thus, there has been a restructuring of two different trajectories of production: Craft producers have been able to extend their production volume without sacrificing their high quality standards and customization, and many mass producers have had the capacity to upgrade their product design and quality and thus to reduce the pressures of price competition and shrinking mass markets (Sorge and Streeck, 1988). The multidimensional classification portrayed in Figure 1-3 is a useful starting point for understanding these distinctions. Note in the figure that there has been some blending of the characteristics from the standardized mass production with the flexible specialization system to produce the system of diversified quality mass production. Forms of flexible specialization existed during the nine-

teenth century, for example in the American textile industry (Scranton, 1984). As dominant forms of production, however, they were defeated by standardized mass production, at least in the United States but not everywhere else, especially in Germany and Italy (Herrigel, 1995; Piore and Sabel, 1984; Sabel and Zeitlin, 1985, 1996). There was no single and unique pattern of industrialization. Rather, it was possible in various countries for contrasting social systems of production to coexist and this remains true today.

There are certain similarities between the systems of flexible specialization (FSP) and diversified quality mass production (DQMP). Rather than viewing these two perspectives as competing or conflictual, it is best to see them as complementary (Elam, 1992; Sorge, 1989; Sorge and Streeck, 1988). In contrast with social systems of standardized mass production, both FSP and DQMP require workforces with broad levels of skills, i.e., employees who have "learned to learn" about new technologies and who can work closely and cooperatively with other employees and management. Moreover, these systems tend to require that firms develop long-term stable relations with their suppliers and customers.

Social systems of mass production have performed best when firms serve large and stable product markets, and have products and process technologies that are relatively stable or have a low level of technological innovation (Chandler, 1962, 1977, 1990). However, technological complexity and the speed of technical change are not to be confused. For example, the car industry used to implement rather simple components but nevertheless exhibited complex coordination problems (Tolliday and Zeitlin, 1992). Markets, corporate hierarchies, and inegalitarian and short-lived networks are the dominant forms of coordination in social systems of mass production. On the other hand, social systems of flexible specialization and diversified quality mass production tend to function more effectively when firms are responding to small market niches with product markets that are unstable and volatile (the Italian garment industry) or whose product and process technologies change rapidly (microelectronics, biotechnologies) and are quite complex (aircraft industry, luxury cars). For firms to perform well under these circumstances, they require different forms of coordination from those that are most effective for social systems of mass standardized production.

Markets and hierarchies as coordinating mechanisms can work effectively in mass standardized systems of production even if the transacting actors are embedded in an impoverished institutional environment – one in which such collective forms of coordination as associations and promotional networks (cells 5 and 6 in Figure 1-1) are poorly developed (Hollingsworth, 1991a, 1991b). But social systems of flexible specialization and diversified quality mass production work best when transacting actors are embedded in

an institutional environment in which collective forms of coordination are highly developed. Broadly speaking, both of these social systems of production are basically incompatible with neoliberal regimes of unregulated economies (Pyke and Sengenberger, 1992; Streeck, 1991). Nevertheless, the relative success of the Japanese transplants in the United States and the United Kingdom does challenge the view that these alternatives to typical Fordism cannot be implemented in countries with weakly developed collective forms of coordination (Boyer, 1991; Florida and Kenney, 1991; Kenney and Florida, 1993; Oliver and Wilkinson, 1988). The long-term success of flexible specialization and diversified quality mass social systems of production requires a high degree of trust and cooperation among economic actors – between workers and managers within firms and between firms on the one hand and their suppliers and customers on the other (Boyer and Orlean 1991; Hollingsworth, 1991a, 1991b). This can be organized in some localities with a strong tradition of providing the collective goods of trust and cooperation (examples are the German cooperative partnership between labor and management and the Italian industrial districts). Firms operating in isolation from such collective goods may provide local examples of flexible production or diversified quality mass production, at least in the short run (e.g., Japanese transplants in the United States and the United Kingdom). But in the long run, successful firms that are involved in flexible social systems of production must engage in cooperative behavior with suppliers, competitors, and employees far in excess of what is needed for markets and hierarchies to function effectively and in excess of what single firms can develop for themselves (Streeck, 1991; Hollingsworth and Streeck, 1994).

Sabel's essay in this volume and his writings elsewhere (1991, 1992) are insightful discussions of the relationship between collective behavior and trust. Trust is an important lubricant in a capitalist economy, and it enhances efficiency in transactions (Arrow, 1973; Etzioni, 1988; Fukuyama, 1995). As consumer demand becomes more diversified, technology more complex, and the economy more decentralized, there is potentially more uncertainty among actors and therefore trust may erode. Yet only with high degrees of trust among actors can flexible systems of production be sustained (Elam, 1992; Luhman, 1979).

ALTERNATIVE LEVELS OF COORDINATION SUBNATIONAL REGIONS AND NATION-STATES

In this as in our previous work (Hollingsworth, Schmitter, and Streeck 1994), we focus on economic coordination as occurring along two axes: one

spatial-territorial and the other economic-sectoral. In previous work, we were primarily concerned with economic coordination at the sectoral level, both within and across countries. In this volume, we are also concerned with variations in forms of coordination and social systems of production within particular spatial-territorial areas. Specifically, we are interested in understanding the interaction of spatially-based forms of coordination with social systems of production. Economic coordination varies by territory, for social institutions are rooted in local, regional, national, or even transnational political communities with their shared beliefs, experiences, and traditions.

By *region*, we mean a territorial area with little or no state sovereignty over its borders. It is in particular regions within countries where the social systems of flexible specialization have been located. Obviously, the development of regional economies does not necessarily lead to social systems of flexible specialization. The heavy concentration before World War II of the automobile industry in and around Detroit and the textile industry in parts of South Carolina are examples of how mass standardized producers were often spatially concentrated, and this is a subject about which geographers have written very widely. But the concern here is with the existence of regional economies having a high concentration of small firms that are integrated into a social system of flexible production, a subject about which Sabel and Zeitlin have written both insightfully and extensively (Sabel and Zeitlin, 1985; Zeitlin, 1992). Historically, when the demand for products was differentiated and diverse, different forms of production have existed from those in use when demand has been more stable and homogeneous. In general, the more stable the demand and the less frequent the change in technology, the more firms have found it advantageous to organize production in large vertically-integrated firms and to reap economies of scale by producing standardized products and extending the market. Historically, such a process tended to justify the large investment in single-purpose machines operated by relatively low-skilled workers (Chandler, 1962, 1977, 1990; Sabel and Zeitlin, 1996). But when demand has been differentiated, markets have been volatile, and/or technology has changed rapidly, then firms have chosen flexible strategies – flexible machines, labor, and/or marketing. More specialized firms must constantly innovate. Being relatively small, however, they require a host of common services that individual firms lack the capacity to provide: sophisticated training facilities in order to develop a highly skilled labor force, a continuing supply of credit, and complex marketing capacity. In response to these needs, producers in some areas have engaged with other firms – sometimes competitors, sometimes firms in complementary industries – to produce collective goods. The collective activities have historically varied, but the most common have been cooper-

ative training institutes and cooperative marketing facilities (e.g., to forecast fashion trends, to monitor foreign technical standards, to establish cooperative sales facilities, cooperative finance and credit programs, cooperative sales initiatives, local trademarks). Over time and across industries, the cooperative mechanisms for this kind of coordination have varied, but without artisan, employer, and/or worker associations, this form of collaboration and cooperation has failed. In sum, for a social system of flexible production to survive, firms must be integrated into collective institutions which can balance cooperation and competition (Zeitlin, 1992, 1994).

Where social systems of flexible production are more developed, the boundaries between firms and their environment are extremely blurred – so much so that such firms are very reluctant to move from one region to another. Thus, local governments in Sardinia and Sicily have a limited capacity to attract firms from Prato even by offering free land, cheap labor, and low taxes because the Prato firms are embedded in all kinds of collective institutions that provide a variety of world-class inputs. The underlying social conditions that facilitate the development of such a social system of production vary. Sometimes that development has emerged from a population viewing itself as a religious minority, while elsewhere it has emerged from a common ethnic base, common craft pride, common forms of professionalization, or common political affiliation. Without some forms of common social bonds, it has historically been difficult to develop the collective institutions which are prerequisites for social systems of flexible production, though as Sabel (1992) has argued, common social bonds are not a necessary condition for an emergence of such a system (also see Zeitlin, 1992).

Examples in the contemporary world of regions with social systems of flexible production include Jutland in western Denmark, the Smaland region in southern Sweden, and areas in the central and northeastern parts of Italy. Each of these districts produces highly specialized products. For example, Bologna produces machine tools and small appliances, while Tuscan and Venetian towns manufacture textiles and footwear. Whether in the contemporary world or in the nineteenth century, social systems of flexibly specialized production involved an integration of petty entrepreneurship, family-based small scale artisan firms, and/or municipalism. While flexibly specialized systems of production are pursued in a variety of institutionalized forms, there are limits to their ranges of variation (Grabher, 1993; Pollert, 1991; Sabel, 1992). Clearly, unregulated markets do not provide adequate incentives for the survival of flexible social systems of production. Cooperation among competing producers, a minimum of conflict between employers and their employees, and long-term

stable relations with suppliers and customers are prerequisites for the survival of flexible production systems.

Occasionally, the national state has been a modest actor in facilitating the emergence and persistence of flexible specialized production systems, but more frequently regional and local governmental authorities have promoted this form of social system, as with various German *länder* or Italian local authorities (Herrigel, 1989; Sabel, 1992; Sabel and Zeitlin, 1996; Zeitlin, 1992). For example, the state has often facilitated the development of training institutes for labor, and provided low cost loans as well as market and export information. However, the state alone has rarely been capable of promoting and developing the institutions necessary for the emergence of a flexible social production system. Of course, public procurement for defense and specific research programs have generally benefited large firms and conglomerates in developing plants with flexible production capacities (e.g., the aviation industry), and various governmental policies can be effective in promoting a high density of medium-sized and innovative firms in some industrial sectors. But the socioeconomic environment within which firms are embedded is the key to whether a social system of flexible production can emerge in a region.

Thus far, countries such as the United States and the United Kingdom have been deficient in the communitarian infrastructure necessary for the emergence of institutions with the capability of generating the high levels of trust among competing economic actors that are essential for successful social systems of production (Brusco, 1982; Kristensen, 1986; Sabel and Zeitlin, 1985, 1994b; Storper, 1989; Zeitlin, 1994). Nevertheless, this is not absolutely fatal, since public authorities can use existing institutions to mimic or help in implementing flexible systems of production. In France, for example, the Ministry of Telecommunications helped to launch Minitel during the 1980s. This is a network, the infrastructure of which was provided by public funding, but the content of which was defined by a myriad of private software firms. The outcome was finally equivalent if not superior to that of a completely private, flexible form of production (Phan, 1991). But for flexible forms of production to become widespread, firms must be embedded in a social environment very different from that which exists in most of France.

In a few environments, the Americans have also developed small regions of social systems of flexible production with the kind of cooperation among competitors described above. The dairy industry in the upper middle west is such an example (Young, Lindberg, Hollingsworth, 1989), as is Silicon Valley (Saxenian, 1994). But such districts have been rare in twentieth-century America.

Social systems of diversified quality mass production have certain similarities with those of flexible specialization. Both social systems of production are embedded in distinctive environments and are not easily imitated by other societies. But whereas firms with a high degree of flexible specialization tend to be small artisanal firms located in modest-sized regions – though there are exceptions – the key to understanding diversified quality mass production is the increased flexibility of large firms. New technology has enabled large firms to make their production functions more flexible and to reduce the batch size of specialized products inside large systems of production. Whereas social systems of flexible specialization engage in diversified low-volume production and emphasize economies of scope, diversified quality mass production combines economies of both scope and scale and is thus able to emphasize quality differentiated mass production. In other words, scale is one of the major variables differentiating diversified quality mass production from flexible specialized production systems. Significantly, the territorial space in which firms are embedded also differs. In contrast to flexible specialization social systems of production, diversified quality mass social production systems are generally either embedded in much larger regions or are more coterminous with an entire nation-state (Mueller and Loveridge, 1995). Nevertheless, wherever flexible social systems of production survive – whether they are systems with small firms engaged in flexible production or systems with larger firms engaged in diversified quality mass production – they are tightly integrated with the society's business associations and labor unions, the industrial relations system, the capital markets, and the systems of training for both labor and management of an industrial district.

It is difficult to disentangle what differences between flexible specialization systems of production and diversified quality mass of production are related to their inner and theoretical properties and what parts of their systems derive from the fact that they have evolved in distinctive regions or nations with idiosyncratic institutional configurations. *A priori*, mass production presupposes institutions that transcend a region in a particular nation-state: a vast transportation system and other kinds of infrastructure, large quantities of capital, macroeconomic stabilization in order to prevent large and unexpected economic fluctuations, etc. These factors suggest the need for a host of *national* institutions. Historical analyses and international comparisons demonstrate that diversified quality mass production systems are *actually* embedded in national sociopolitical structures, while flexible specialization systems can be embedded in subnational sociopolitical structures.

Diversified quality mass social systems of production are unlikely to exist unless they are embedded in national sociopolitical structures that are

democratic corporatist in nature. Examples of contemporary societies with relatively strong neocorporatist institutional arrangements – and hence strong diversified quality mass forms of social production – were Germany and Sweden of the 1980s. Both were highly developed systems of trade unions and business associations that were embedded in an ideology of partnership, that mitigated against intense class conflict, and that emphasized a careful balancing of conflict with cooperation among competing firms. For students of democratic corporatism, Japan poses a problematic case. Japan, like most democratic corporatist societies, has both peak associations of business, and, at the level of the firm, a strong ideology of social partnership between labor and capital. But there is an absence of well-organized labor unions at the level of the nation-state. Nevertheless, the strong emphasis on social partnerships that exists in Japan leads many scholars to classify it as a democratic corporatist society. Therefore, it is understandable that Japan also has a social system of diversified quality mass production (Katzenstein, 1985; Pempel and Tsunekawa, 1979; Schmitter and Lehbruch, 1979). But whereas the system of strong labor unions and business associations in various European countries has led to a social system of production complemented by a well-developed social democratic neocorporatist welfare state, the weakness of national unions in Japan means that the dominant Japanese social system of production is embedded in a somewhat different type of corporatist political economy. This has been labeled as microcorporatism (Boyer, 1991), in opposition to conventional macro- or even mesocorporatism, typical of social democratic countries.

How do we explain the absence of a diversified quality production system in the United States? Indeed, why did its opposite – a system of mass standardized production – excel there and in many respects persist? In general, the larger the spatial-territorial area in which a social system of production is embedded, the larger the number of parties and interests that must be involved in efforts to develop national forms of collective coordination – e.g., labor unions, business associations, etc. Thus, a country as large as the United States – in contrast with smaller democracies – has a very complex economy (e.g., large numbers of industrial sectors), as well as regions with uneven levels of development and racial, religious, and ethnic diversity. With so much heterogeneity of interests, it has historically been more difficult to develop highly institutionalized collective forms of economic coordination. When these societywide collective forms of coordination are either absent or weak, markets and corporate hierarchies are more prominent as forms of coordination, and as a result Fordist systems of production are more likely to occur (Hollingsworth, 1991a, 1991b). Nevertheless, as Hage and Alter argue in their chapter on networks in this volume,

a variety of cooperative ventures may exist among firms even in an environment that is weak in highly institutionalized forms of collective behavior. Hence, in the United States there are among business firms numerous joint ventures, cross-licensing agreements, franchises, and various forms of strategic alliances (Porter, 1986, 1990). Thus in the film, biotechnology, publishing, microelectronics, or software industries, there is a great deal of networking as a form of economic coordination (Powell, 1990). To some observers, this kind of collaboration resembles the type of industrial districts in which flexible forms of social production flourish, but most of these forms of networking are not embedded in the same kind of rich institutional environment which Sabel, Zeitlin, and others have discussed in their analyses of industrial districts. In most societies, geographical concentrations of related industries facilitate some degree of cooperation and trust, but these are generally developed quite modestly unless they are accompanied by an environment in which firms have membership in highly developed organizations of a collective nature. Again, the success of Japanese transplants to North America and Britain suggests that it may be possible for quasi-diversified quality mass production to emerge in a few industries, even within the more unfriendly institutional environments of these countries (Florida and Kenney, 1991; Kenney and Florida, 1988; Oliver and Wilkinson, 1988). In all these examples, firms succeed in building long-term relationships and trust, either by carefully selecting the workers to be hired, by training the subcontractors (Japanese transplants), by benefiting from personal links developed within universities (the biotech industry), or by developing business contacts over a long period of time (the movie and publishing industries). However, these are a very few industries in a very large national economy. And Hollingsworth argues in this volume that a flexible social system form of production is not likely to become pervasive in the American economy unless the national system of training, the industrial relations system, financial markets, state structure and policies, and political culture are fundamentally transformed.

COORDINATION AT THE TRANSNATIONAL REGION AND GLOBAL LEVELS

At the level beyond the nation-state, whether at the global level or at the multinational regional level such as the European Union, collective forms of coordination, such as associations and unions, are either weakly developed or nonexistent. Moreover, the power of states as coordinating actors is weak at the transnational level. However, regardless of the spatial-territorial location, whether at the subnational region, the nation-state, or the trans-

national level, there is a need for some institutional arrangement to coordinate relations among economic actors. Indeed, irrespective of the territorial level at which economic coordination is to occur, economic actors confront many of the same problems: the issues of promoting efficiency among transacting partners, reducing macroeconomic instabilities, minimizing distributional conflicts, reducing conflicts and resolving disputes, and monitoring compliance in regard to domestic and/or international norms and rules.

Economic coordination at the international level may occur in many forms (Risse-Kappen, 1995). Just as economic coordination in domestic economies is carried out by different types of institutional arrangements (see Figure 1-1), this is also true at the transnational level. At the lowest level of control, the market is the most prominent form of coordinating transactions among unrelated firms. At a higher level of control, there may be coordination through hierarchies such as transnational corporations or collective forms of coordination such as international trade associations or international cartels. Industries that are generally coordinated by markets – irrespective of the level – are securities, banking, textiles, apparel, shoes, and hotels, while industries coordinated by corporate hierarchies are highly capital intensive ones, such as chemicals, bauxite, oil, aircraft, and automobiles (Chandler, 1962, 1977, 1990; Hollingsworth and Lindberg, 1985; Porter, 1990). Some industries are highly cartelized, e.g., illegal drugs and from time to time oil, coffee, cocoa, and bauxite. Of course, coordination at the global level may also involve actions by nation-states, and their form of coordination may also vary from low control (e.g., bilateral agreements) to high control structures (supranational government, colonial empires). International regimes are a form of middle-level control among states, somewhat analogous to international cartels or trade associations among unrelated firms (Keohane, 1984; Krasner, 1983; Rosenau and Czempiel, 1992; Young, 1986, 1989).

How do international regimes emerge and persist over several decades? For some authors (Kennedy, 1987), the historical record suggests that a hegemonic power has been necessary for either the establishment or the persistence of international regimes. But when a hegemonic power is decaying without any evident successor, the stability of the international system is at stake. The 1920s provide a suggestive example of such a collapse (Kindleberger, 1978). Other authors argue that because international regimes provide public goods and lower transaction costs among their members, it is in the rational self-interest of states to abide by the rules and norms of regimes even if there is no hegemony to enforce them (see Eden and Hampson in this volume; also Keohane, 1984; Snidal, 1985, 1991). Of course, this argument assumes a “pure” coordination problem and the absence of any conflict of in-

terests. If, on the contrary, the configuration of the system is close to a prisoner dilemma problem, the rational strategy of each nation will not lead to the emergence of cooperation. Conflict among international actors might then become severe, since a great deal of economic coordination takes place by markets and hierarchies at the global level.

Ultimately, it is the existence of international regimes that institutionalize the norms and rules that allows economic actors to carry out most effectively their transactions at a global level. Eden and Hampson (in this volume) provide a discussion of a few prominent international regimes in the contemporary world and the kinds of problems that they attempt to confront. Just as a number of the following papers argue that there are institutional arrangements that attempt to reduce transaction costs within the nation-states, Eden and Hampson argue that, at the global level, there are international regimes, a major goal of whose is to reduce transaction costs. For example, the World Intellectual Property Organization registers domestic patents and copyrights internationally and attempts to protect these forms of property rights at the international level, an activity which greatly reduces transaction costs in international trading. Regimes that provide specialized trading privileges for members also have the effect of reducing transaction costs. Examples include GATT, the European Union structure, and the emerging North American Free Trade Agreement which is designed to oversee the gradual reduction of trade and tariff barriers among Canada, Mexico, and the United States.

Other types of regimes have other goals. For example, some states have organized international cartels in order to strengthen their domestic economies. This has been common in the oil, uranium, bauxite, and coffee producing countries. Meanwhile, other regimes have been established to cushion and to control the effects of autonomous macroeconomic policies by individual states. Some of the institutional arrangements created to bring this about include the International Monetary Fund, the World Bank, the Bank of International Settlements, the Group of Seven, and the European Monetary System (EMS). Finally, states attempt to minimize distributional conflicts with the following regimes: GATT with its preferences to less developed countries, the World Bank, and the IMF (Gilpin, 1987; Keohane, 1984; Krasner, 1983; Young, 1989).

Obviously the effectiveness of these regimes in lowering transaction costs, promoting macroeconomic stability, and minimizing distributional conflicts varies from time to time and from one institutional arrangement to another. However, as regimes acquire greater effectiveness in coordinating economic activity at the supranational level, there will be some alteration of coordinating mechanisms at the level of the nation-state. Hence,

the emergence of a common European internal market is expected to lead to some kind of deregulation of various European economies, providing for "regime shopping" by mobile capital and to a lesser extent by labor as national borders are weakened or abolished. Throughout the European Union there may well emerge political institutional arrangements with greater pluralism, institutional fragmentation, deregulation, and voluntarism – in short, socioeconomic-political forms of coordination that have many similarities to the neoliberal type of institutions that characterize the political economy of the United States. There is increasing concern that, as the various European societies become integrated into the European Union, there will be an undermining of the essential institutional prerequisites of the type of bargained, cooperative political economy which has facilitated the development of such social systems of production as diversified quality mass production in Germany or flexible specialization in Italy. Of course, it remains to be seen how much the emergence of a stable regime at the level of the European Union can erode local cultures, traditions, and power structures on which flexible social systems of production are built. But even to pose the problem is to suggest that changes in coordination at one spatial-territorial location may alter the forms of coordination and social systems of production in place at other spatial-territorial locations. These are a few of the issues that the papers in Parts II and III of this volume confront.

CONVERGENCE OR DIVERGENCE AMONG SOCIAL SYSTEMS OF PRODUCTION

During the 1960s, there was a widely held view that the diffusion of common production technologies and divisions of labor at the societal level would eventually lead to convergence both in the institutional arrangements employed by societies for coordinating economic activity and in their economic performance. This prognosis was made for Europe and Japan, which were expected to converge toward the American model. Even the East European socialist countries were seen as part of this global process, and it was believed that they would eventually evolve toward a variant of a mixed economy, combining both market mechanisms and state interventions.

If one restricts the concern about convergence to social systems of production, discussions about convergence and divergence are still very much alive in the social science community. For example, some of the industrial organizational literature argues that firms competing in the same product markets tend to become similar in their structure and behavior, else they disappear. In other words, the convergence thesis assumes that there is one

best solution to organizing labor, raw materials, and capital in order to manufacture and distribute goods. Producers, processors, and distributors must at least emulate if not surpass their most efficient competitors in order to survive. Every time a group of innovators discovers a new, but highly efficient method of increasing output, their competitors are likely to follow. Thus, competition and survival involve discovering and implementing the best techniques and strategies (Chandler, 1962, 1977; Chandler and Daems, 1980). But industrial censuses persistently demonstrate that a whole spectrum of different vintages of firms and technologies coexist in most countries over long periods of time. In a world in which innovation is permanent, there will exist simultaneously innovators and imitators, leading and lagging firms (Nelson and Winter, 1982). For neo-Schumpeterians, this diversity of technology and organizations plays a positive role in providing flexibility and adaptability, whereas a country with a single or unique social system of production would face the danger of long-term instability in its economy (Eliasson, 1989). Some losses in static efficiency (the average firm is far from the best practice) might be overcome by the gain in dynamic efficiency, due to the variety of alternative technologies and organizations that could be developed as firms constantly face new environments (Herrigel, 1989; Hyman and Streeck, 1988).

In the field of sociology, organizational analysts have confronted the divergence – convergence debate by focusing on the way that environmental constraints shape organizational behavior. Several scholars (DiMaggio and Powell, 1983; Hollingsworth and Hollingsworth, 1987; Pfeffer and Salancik, 1978) have argued that organizations in similar environments will converge in their behavior as they respond to like pressures. In short, this is a variant on the industrial organization literature: Organizations competing in the same environment begin to resemble one another because they are subject to the same resource constraints and to similar regulatory and normative pressures.

Transaction cost economics also speaks to a similar set of concerns. It argues that there will be differences in governance forms depending on the variability in organizational environments (Schneiberg and Hollingsworth, 1990; Williamson, 1975, 1985). Thus, transaction cost economics allows for the possibility that firms in the same industry may have different governance forms because they may encounter different kinds of transaction costs. On the other hand, most transaction cost theorists argue that there is one best organizational form for firms that have similar or identical transaction costs. All these conceptions share the same concern for a static optimization of transaction or production costs, with the implicit hypothesis of the uniqueness of the adequate productive organization. Again, evolutionary models

provide diverse answers: Biologists observe that various species have solved differently many of the same problems, although the ecological system may be stable due to the dynamic complementarities of the different species. When refined and extended to social sciences, these models usually reveal a multiplicity of institutions fulfilling the same coordination purposes (Lesourne, 1991). Of course, such a transposition of biological analyses has been severely criticized, but the same results are obtained concerning the diffusion of technologies with increasing returns to scale (Arthur, 1988). In these theories, history matters (David, 1988), since, once implemented, an institution can persist, even if it would be rational for the society to replace it with one better suited to the new environment (Boyer and Orlean, 1991).

Finally, a group of economists has recently addressed the issue of convergence, focusing on the extent to which nations converge over time in their levels of productivity, income, and technology (Abramowitz, 1986; Baumol, 1986; Baumol, Blackman, and Wolff, 1989; Baumol and Wolff, 1989; Maddison, 1982; Nelson, 1991b). In much of this literature, the argument for convergence relies heavily on the concept of technological transfer: The greater the technological and productivity gap between leading and following nations, the greater the follower's potential of productivity advances. "In short, the follower, *ceteris paribus*, tends to catch up to the leader" (Williamson, 1991: 56). The argument is complemented by models of accumulation: Diminishing returns to capital assume that productivity growth will be slower for the lead country that starts with high initial levels of labor productivity. Followers are especially likely to exhibit higher rates of productivity growth if they invest heavily in human capital relative to physical capital (Barro, 1989; Williamson, 1991).

However, the argument for such a convergence is far from convincing, as numerous exceptions can be found. First, the catching up has taken place for a limited number of countries, with a number of counter examples such as Argentina or even Great Britain, not to speak of most African countries. Second, this type of convergence has been quite specific to the last three decades and has not occurred over the long run (Amable, 1991). Third, what is missing in much of this literature is the social dimension. An important exception in the economic literature is the work of Abramowitz (1986; also see Veblen, 1916: 70), who argues that a country's potential to catch up is not strong simply because it is backward. Rather, its potential depends on its social capabilities (for a discussion of this concept, see Abramowitz, 1986; Ohkawa and Rosovsky, 1973: Chapter 9). The problem with incorporating social capability into the convergence argument is that thus far scholars have been rather vague as to what it means, and we have not learned how to measure it, though Ohkawa, Rosovsky, and Abramowitz have rec-

ognized that it must take into consideration the nature of the skills of labor and management, a country's industrial relations system, as well as its financial markets, industrial structure, and political system. In short, what Abramowitz means by a nation's social capabilities is remarkably similar to what we in this volume mean by a nation's social system of production.

For us, the key to understanding the degree to which the economic performance of countries will converge is influenced very much by the extent to which they have similar social systems of production. Because the social systems of production of modern societies are complex configurations of numerous institutional sectors, however, it is problematic that they can diffuse across countries – except over an extraordinarily long period of time. In fact, given the strong complementarities and syncretic flavor of any national system of innovation (Nelson, 1993), it would be surprising to observe an easy catching up by followers: The structural advantage taken by a leading country or industry initially prevents an easy imitation. Still more, followers, while trying to imitate, usually encounter unexpected problems, which trigger a series of induced adaptations or even innovations that may finally deliver a different model, building on their own national specificities. When France and Germany tried to follow the first British industrial revolution, both countries moved toward quite different new models (Gerschenkron, 1962). Similarly, after World War II, many Japanese manufacturers wanted to follow American mass production practices but got, quite unintentionally, diversified quality mass production (Ohno, 1989).

The following chapters suggest not only that different coordinating mechanisms are associated with different social systems of production, but also that different coordinating mechanisms and different social systems of production result in different types of economic performance. Hence, as long as countries vary in the type of coordinating mechanisms and social systems of production that are dominant in their economies, there are serious constraints on the degree to which they can converge in their economic performance. Different social systems of production tend to maximize in a more or less explicit manner different performance criteria, usually mixed considerations about static and dynamic efficiency, profit, security, social peace, and economic and/or political power. In short, in contrast to the implications of neoclassical economic theory, in real world economies there are no universal standards which all economically rational actors attempt to maximize. Economic history provides numerous examples of how the variety of principles of rationality are implemented in different societies (Boyer, 1990; Gustafsson, 1990; Hollingsworth and Streeck, 1994; North, 1981, 1990; Tolliday and Zeitlin, 1991: 1–31).

Performance standards or goals are socially selected, and they vary greatly in space and time. Of course, profitability is a goal of firms in all capitalist economies, but depending on the social system of production within which firms are embedded, returns on investments may be sought in the short or long term. Moreover, different social systems of production vary in the norms dictating the level of profits that are acceptable at different stages in various product life cycles. In other words, how long and under what conditions profitability can be neglected in product development depends on what other economic performances a particular social system of production attempts to maximize.

The following chapters suggest that social systems of production vary not only in the ways firms approach profits, but also in the degree to which they attempt to maximize (a) the criteria of allocative efficiency or X-efficiency considerations, (b) social peace and egalitarian distribution considerations, (c) quantity versus quality aspects of production, and (d) innovation in developing new products versus innovation in improving upon existing products (Hage, 1980).

Perhaps in the world arena, where different social systems of production confront one another, we can best learn about the efficacy of specific standards of competitiveness. In the international arena, where there is competition over different social systems of production involving firms in the same industrial sectors, there is some potential to adjudicate heretical claims that a diversified quality mass production system (DQMP) – with its low wage spread, high wages, high employment stability, and highly institutionalized collective forms of coordination – may perform better than a social system of production coordinated primarily by markets and hierarchies (Hollingsworth and Streeck, 1994). In a DQMP system, slower adjustments to unexpected disturbances might deliver some losses in the short run on productivity and profit criteria, but in the long run the internal mobility of labor and its permanent upgrading within existing organizational structures are likely to provide a strong incentive to process innovations and productivity increases (Buechtemann, 1991). In contrast, when markets and hierarchies are the two major coordinating mechanisms in a social system of production, their industrial relations system with its emphasis on short-term decision-making processes is likely over time to result in more labor market segmentation, more productivity slowdown, and a cumulative deficiency in training (Streeck, 1991).

On the other hand, the following chapters as well as our previous volume *Governing Capitalist Economies: Performance and Control of Economic Sectors* (Hollingsworth, Schmitter, and Streeck, 1994) suggest that not all of a

country's sectors compete and perform equally well. Some social systems of production perform better in some product markets than in others. Most countries succeed in a few industrial sectors but not very well in most. National success tends to occur when there exist clusters of sectors that are complementary to one another. Most industrialized countries rarely have sectors that are not part of clusters of sectors performing well at the global level. Moreover, firms within globally successful sectors are often concentrated within specific regions or districts of countries where they are part of similar social systems of production (Hollingsworth, Schmitter, and Streeck, 1994; Porter, 1990; Sabel and Zeitlin, 1985).

As the social sciences increasingly recognize that noneconomic domestic institutions are important determinants of success in world markets, economic competition is increasingly becoming competition over different forms of social systems of production, and competitive pressures for better economic performance are more and more often translated into pressures for broad societal change. During the 1950s, the United States was widely perceived as the world's most competitive economy, and its social system of mass standardized production was widely admired. But in our own age, as the American economy tends to perform poorly in an increasing number of industrial sectors, there are mounting pressures to change many of its social institutions – its systems of education and training, industrial relations, financial institutions, the internal structure of firms, etc. In other words, countries whose social systems of production tend to compete poorly in the international arena are subject to pressures to deindustrialize and/or to rebuild institutions in order to enhance economic performance. Thus, international competition among national social systems of production may cut deeply into a country's social and political fabric (Streeck, 1991; Hollingsworth and Streeck, 1994).

On the other hand, the competitiveness of a country's dominant social system of production depends, in part, on the international rules of the game. Within certain limits, powerful countries can create international regimes that favor their firms and sectors and that encourage competitor nations to alter their productive systems in the image of those in the hegemonic country. To understand the coordination and performance of capitalist economies, we must be sensitive to how economic coordination is linked at all spatial-territorial areas – the level of regions within countries, the level of the nation-state, and levels beyond the nation-state. This volume attempts to shed light not only on economic coordination, social systems of production, and economic performance at each of these levels, but also on how coordination and performance are linked in these various spatial-territorial arenas.

REFERENCES

- Abramowitz, Moses. 1986. "Catching Up, Forging Ahead, and Falling Behind." *Journal of Economic History*. 46 (June): 385–406.
- Alter, Catherine and Jerald Hage. 1993. *Organizations Working Together: Coordination in Interorganizational Networks*. San Francisco: Jossey Bass.
- Amable, B. 1991. "Changement Technique endogene en economie ouverte, institutions et trajectoires nationales de croissance." Ph.D. thesis, E.H.E.S.S. Paris.
- Aoki, Masahiko. 1988. *Information, Incentives and Bargaining in the Japanese Economy*. Cambridge: Cambridge University Press.
- Arrow, Kenneth J. 1973. "Social Responsibility and Economic Efficiency." *Public Policy*. 21: 303–17.
1974. *The Limits of Organization*. New York: Norton.
- Arthur, W. B. 1988. "Competing Technologies: An Overview." In R. Dosi et al., eds. *Technical Change and Economic Theory*. London and New York: Printer Publishers. Pp. 590–607.
- Barro, Robert J. 1989. "A Cross-Country Study of Growth, Saving, and Government." National Bureau of Economic Research Working Paper No. 2855.
- Baumol, William J. 1986. "Productivity Growth, Convergence, and Welfare: What the Long-Run Data Show." *American Economic Review*. 76(5): 1072–85.
- Baumol, William J., Sue Anne Batey Blackman, and Edward N. Wolff. 1989. *Productivity and American Leadership: The Long View*. Cambridge and London: MIT Press.
- Baumol, William J. and Edward N. Wolff. 1989. "Three Fundamental Productivity Concepts: Principles and Measurement." In George R. Feiwel, ed. *Joan Robinson and Modern Economic Theory*. London: Macmillan. Pp. 638–59.
- Becattini, Giacomo. 1990. "The Marshallian Industrial District as a Socio-Economic Notion." In Frank Pyke, Giacomo Becattini, and Werner Sengenberger, eds. *Industrial Districts and Inter-firm Cooperation in Italy*. Geneva: International Institute for Labor Studies. Pp. 37–51.
- Benson, J. "The Interorganizational Network as a Political Economy." *Administrative Science Quarterly*. 20: 229–49.
- Boyer, Robert. 1990. "Economie et histoire: Vers de nouvelles alliances?" *Annales ESC*. November–December: 1397–1426.
1991. "New Directions in Management Practices and Work Organization: General Principles and National Trajectories." Revised draft of paper presented at the OECD Conference on Technological Change as a Social Process, Helsinki, December 11–13, 1989.
- Boyer, Robert and Benjamin Coriat. 1986. "Technical Flexibility and Macro Stabilization." *Ricerche Economiche*. XL (October–December): 771–835.
- Boyer, Robert and Jean-Pierre Durand. 1993. *L'après-Fordisme*. Paris: Syros.
- Boyer, R. and A. Orlean. 1991. "Why Are Institutional Transitions So Difficult?" Mimeograph CREA, prepared for the Conference "L'Economie des Conventions." Paris.
- Bradach, Jeffrey L. and Robert G. Eccles. "Price, Authority, and Trust: From Ideal Types of Plural Forms." *Annual Review of Sociology*. 15: 97–118.

- Brusco, Sebastiano. 1982. "The Emilian Model: Productive Decentralization and Social Integration." *Cambridge Journal of Economics*. 6: 167-184.
1986. "Small Firms and Industrial Districts: The Experience of Italy." In D. Keeble and E. Weaver, eds. *New Firms and Regional Development in Europe*. London: Croom Helm.
- Buechtemann, C. F. 1991. "Does (De-)Regulation Matter? Employment Protection in West Germany." In E. Matzner and W. Streeck, eds. *Beyond Keynesianism, the Socio-Economics of Production and Full Employment*. Hants, UK: Edward Elgar Publishing.
- Campbell, John L., J. Rogers Hollingsworth, and Leon Lindberg, eds. 1991. *The Governance of the American Economy*. Cambridge and New York: Cambridge University Press.
- Chandler, Alfred D. 1962. *Strategy and Structure*. Cambridge: MIT Press.
1977. *The Visible Hand: The Managerial Revolution in American Business*. Cambridge: Harvard University Press.
1990. *Scale and Scope: The Dynamics of Industrial Capitalism*. Cambridge: Harvard University Press.
- Chandler, Alfred D. and Herman Daems, eds. 1980. *Managerial Hierarchies: Comparative Perspectives on the Rise of the Modern Industrial Enterprise*. Cambridge: Harvard University Press.
- Chisholm, Donald. 1989. *Coordination Without Hierarchy: Informal Structures in Multiorganizational Systems*. Berkeley: University of California Press.
- Coase, Ronald H. 1981. "The Coase Theorem and the Empty Core. A Comment." *Journal of Law and Economics*. 24: 183-7.
1960. "The Problem of Social Cost." *Journal of Law and Economics*. 3: 1-44.
- Coleman, James S. 1992. *Foundations of Social Theory*. Cambridge: Harvard University Press.
- Coriat, Benjamin. 1991. *Penser*. Paris: C. Bourgeois.
- Crouch, Colin and Wolfgang Streeck. 1996. *Varieties of Capitalism*. London and Paris: Pinter.
- David, Paul A. 1988. "Path-Dependence: Putting the Past in the Future of Economics." *IMSSS Technical Report*. No. 533 Stanford University.
- DiMaggio, Paul and Walter W. Powell. 1983. "The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields." *American Sociological Review*. 48: 147-160.
- Eccles, Robert. 1981. "The Quasifirm in the Construction Industry." *Journal of Economic Behavior and Organization*. 2 (December), 335-58.
- Elam, Mark. 1992. "Markets, Morals, and Powers of Innovation." Unpublished paper presented before the School for Workers, University of Wisconsin, Madison. April 6, 1992.
- Eliasson, G. 1989. "Modelling Long-Term Macro-Economic Growth as a Based, Path-Dependent, Experimentally Organised Economic Process: The Swedish Micro-to-Macro Model." Mimeograph paper prepared for the International OECD Seminar on Science, Technology and Economic Growth.
- Etzioni, Amitai. 1988. *The Moral Dimension: Towards a New Economics*. New York: The Free Press.
- Florida, Richard and Martin Kenney. 1991. "Transplanted Organizations: The Transfer of Japanese Industrial Organization to the U.S." *American Sociological Review*. 56: 381-98.

- Freeman, Christopher, ed. 1986. *Design, Innovation and Long Cycles in Economic Development*. New York: St. Martin's Press.
- Friedland, Roger and Robert R. Alford. 1991. "Bringing Society Back in: Symbols, Practices, and Institutional Contradictions." In Walter W. Powell and Paul J. DiMaggio, eds. *The New Institutionalism in Organizational Analysis*. Chicago: University of Chicago Press. Pp. 232-63.
- Fukuyama, Francis. 1995. *Trust: Social Virtues and the Creation of Prosperity*. New York: Free Press.
- Gambetta, Diego. 1988. *Trust: Making and Breaking Cooperative Relations*. New York: Basil Blackwell.
- Garcia, A. 1986. "La Construction Sociale d'un marche parfait: le Marche au Cadran de Fontaine en sologne." *Actes de la Recherche en Sciences Sociales*. 65.
- Gerschenkron, Alexander. 1962. *Economic Backwardness in Historical Perspective*. Cambridge: Harvard University Press.
- Gilpin, Robert. 1987. *The Political Economy of International Relations*. Princeton: Princeton University Press.
- Ginsburger, F. 1982. "Le Rôle du travail Precaire Dans Les Transformations de la Relation Salariale." Thesis, University of Paris, VIII.
- Grabher, G., ed. 1993. *The Embedded Firm: On the Socioeconomics of Industrial Networks*. London: Routledge.
- Granovetter, Mark. 1985. "Economic Action and Social Structure: The Problem of Embeddedness." *American Journal of Sociology*. 91: 481-510.
- Gustafsson, Bo, ed. 1990. *Power and Economic Institutions: Reinterpretations in Economic History*. Aldershot: Edward Elgar.
- Habermas, Jurgen. 1975. *Legitimation Crisis*. Boston: Beacon Press.
- Hage, Jerald. 1980. *Theories of Organizations: Form, Process, and Transformation*. New York: John Wiley.
- Hage, Jerald and Zhongren, Jing. 1996, forthcoming. "Adaptive Costs: A New Paradigm for the Choice of Organizational Form." In J. Rogers Hollingsworth, ed. *Social Actors and the Embeddedness of Institutions*. M. E. Sharpe.
- Hechter, Michael. 1987. *Principles of Group Solidarity*. Berkeley and London: University of California Press.
- Hechter, Michael, Karl-Dieter Opp, and Reinhard Wippler, eds. 1990. *Social Institutions: Their Emergence, Maintenance, and Effects*. New York: Aldine de Gruyter.
- Herrigel, Gary. 1989. "Industrial Order and the Politics of Industrial Change: Mechanical Engineering." In Peter Katzenstein, ed. *Industry and Political Change in West Germany: Towards the Third Republic*. Ithaca: Cornell University Press. Pp. 185-221.
1995. *Industrial Constructions: The Sources of German Industrial Power*. New York: Cambridge University Press.
- Hirst, Paul and Jonathan Zeitlin. 1990. "Flexible Specialization Versus Post-Fordism: Theory, Evidence, and Policy Implications." Working paper, Birkbeck Centre for Public Policy.
- Hirst, Paul and Jonathan Zeitlin, eds. 1989. *Reversing Industrial Decline? Industrial Structure and Policy in Britain and her Competitors*. Oxford: Berg.
- Hollingsworth, J. Rogers. 1991a. "The Logic of Coordinating American Manufacturing Sectors." In John L. Campbell, J. Rogers Hollingsworth, and Leon

- Lindberg, eds. *The Governance of the American Economy*. Cambridge and New York: Cambridge University Press. Pp. 35–73.
- 1991b. "Die Logik der Koordination des verarbeitenden Gewerbs in Amerika." *Kolner Zeitschrift für Sociologie und Socialpsychologie*. 43: 18–43.
- Hollingsworth, J. Rogers and Ellen Jane Hollingsworth. 1987. *Controversy about American Hospitals: Funding, Ownership, and Performance*. Washington: American Enterprise Institute.
- Hollingsworth, J. Rogers and Leon Lindberg. 1985. "The Governance of the American Economy: The Role of Markets, Clans, Hierarchies, and Associative Behavior." In Wolfgang Streeck and Philippe C. Schmitter, eds. *Private Interest Government: Beyond Market and State*. London and Beverly Hills: Sage Publications. Pp. 221–54.
- Hollingsworth, J. Rogers, Philippe Schmitter, and Wolfgang Streeck, eds. 1994. *Governing Capitalist Economies: Performance and Control of Economic Sectors*. New York: Oxford University Press.
- Hollingsworth, J. Rogers and Wolfgang Streeck. 1994. "Countries and Sectors: Performance, Convergence and Competitiveness." In J. Rogers Hollingsworth, Philippe Schmitter, and Wolfgang Streeck, eds. *Governing Capitalist Economies: Performance and Control of Economic Sectors*. New York: Oxford University Press. Pp. 270–300.
- Hollingsworth, J. Rogers, Richard Whitley, and Jerald Hage, eds. 1996, forthcoming. *Firms, Markets, and Production Systems in Comparative Perspective*.
- Hounshell, David A. 1984. *From the American System to Mass Production, 1800–1932*. Baltimore: John Hopkins University Press.
- Hyman, Richard and Wolfgang Streeck. 1988. *New Technology and Industrial Relations*. Oxford and New York: Basil Blackwell.
- Katzenstein, Peter J. 1985. *Small States in World Markets: Industrial Policy in Europe*. Ithaca: Cornell University Press.
1989. *Industry and Politics in West Germany: Toward the Third Republic*. Ithaca: Cornell University Press.
- Kennedy, Paul. 1987. "The Relative Decline of America." *The Atlantic*. 260: 29–38.
- Kenney, Martin and Richard Florida. 1988. "Beyond Mass Production and the Labor Process in Japan." *Politics and Society*. 16: 121–58.
1993. *Beyond Mass Production: The Japanese System and Its Transfer to the U.S.* New York: Oxford University Press.
- Keohane, Robert. 1984. *After Hegemony: Cooperation and Discord in the World Political Economy*. Princeton: Princeton University Press.
- Kindleberger, Charles P. 1978. *Manias, Panics, and Crashes: A History of Financial Crises*. New York: Basic Books.
- Krasner, Stephen D. 1983. *International Regimes*. Ithaca: Cornell University Press.
- Kristensen, Peer Hull. 1986. *Industrial Models in the Melting Pot of History and Technological Projects and Organizational Changes*. Roskilde, Denmark: Institut for Samfun Dsokonomi.
- Landau, Ralph and Nathan Rosenberg, eds. 1986. *The Positive Sum Strategy: Harnessing Technology for Economic Growth*. Washington, D.C.: National Academy Press.
- Lazarson, Mark H. 1988. "Organizational Growth of Small Firms: An Outcome of Markets and Hierarchies." *American Sociological Review*. 53: 330–42.

- Leibenstein, Harvey. 1966. "Allocative Efficiency versus X-Efficiency." *American Economic Review*. 66: 392–415.
1976. *Beyond Economic Man: A New Foundation in Microeconomics*. Cambridge: Harvard University Press.
- Lesourne, J. 1991. *Economie de L'ordre et du Desordre*. Paris: Economica.
- Lindberg, Leon, John L. Campbell, and J. Rogers Hollingsworth. 1991. "Economic Governance and the Analysis of Structural Change in the American Economy." In John L. Campbell and J. Rogers Hollingsworth, eds. *Governance of the American Economy*. New York: Cambridge University Press. Pp. 3–34.
- Luhmann, Niklas. 1979. *Trust and Power*. Chichester: Wiley & Sons.
- MacNeil, I. R. 1978. "Contracts: Adjustments of Long-Term Economic Relations Under Classical, Neoclassical, and Relational Contract Law." *Northwestern University Law Review*. 72: 854–906.
- Maddison, Angus. 1982. *Phases of Capitalist Development*. Oxford: Oxford University Press.
- Marglin, S. 1974. "What Do Bosses Do? The Origins and Functions of Hierarchy in Capitalist Production." *Review of Radical Political Economics*. 1(6): 60–112.
1991. "Understanding Capitalism: Control versus Efficiency." In Bo Gustafsson, ed. *Power and Economic Institutions: Reinterpretations in Economic History*. Aldershot: Edward Elgar Publishing. Pp. 225–52.
- Maurice, M., F. Sellier, and J. J. Silvestre. 1982. *Politique D'education et Organisation Industrielle en France et en Allemagne*. Paris: Presses Universitaires de France.
- Maurice, M., A. Sorge, and M. Warner. 1980. "Societal Differences in Organizing Manufacturing Units. A Comparison of France, West Germany, and Great Britain." *Organization Studies*. I: 59–86.
- Maynard-Smith, J. 1982. *Evolution and the Theory of Games*. Cambridge and New York: Cambridge University Press.
- Mueller, Frank and Ray Loveridge. 1995. "The 'Second Industrial Divide'? The Role of the Large Firm in the Baden-Württemberg Model." *Industrial and Corporate Change*. 4 (3): 555–82.
- Nelson, Richard R., ed. 1982. *Government and Technical Progress. A Cross Industry Analysis*. New York: Pergamon Press.
1993. *National Innovation Systems: A Comparative Analysis*. New York: Oxford University Press.
- Nelson, Richard R. 1991a. "The Role of Firm Differences in an Evolutionary Theory of Technical Advance." *Science and Public Policy* 18 (6): 347–52.
- 1991b. "Research on Productivity Growth and Productivity Differences: Dead Ends and New Departures." *Journal of Economic Literature*. 19(3): 1029–64.
- Nelson, Richard R. and Sidney Winter. 1982. *An Evolutionary Theory of Economic Change*. Cambridge: Harvard University Press.
- North, Douglass. 1981. *Structure and Change in Economic History*. New York: Norton.
1990. *Institutions, Institutional Change and Economic Performance*. Cambridge and New York: Cambridge University Press.
- Ohkawa, Kazushi and Henry Rosovsky. 1973. *Japanese Economic Growth: Trend Acceleration in the Twentieth Century*. Stanford: Stanford University Press.
- Ohno, T. 1989. *L'esprit Toyota*. Paris: Masson.
- Oliver, Nick and Barry Wilkinson. 1988. *The Japanization of British Industry*. Oxford: Basil Blackwell.

- Ostrom, Elinor. 1986. "An Agenda for the Study of Institutions." *Public Choice*. 48: 3-25.
1990. *Governing the Commons: The Evolution of Institutions for Collective Action*. New York: Cambridge University Press.
- Parsons, Talcott. 1951. *The Social System*. New York: Free Press.
1966. *Societies: Comparative and Evolutionary Perspectives*. Englewood Cliffs, N.J.: Prentice Hall.
1967. *Sociological Theory and Modern Society*. New York: Free Press.
- Pempel, T. J. and Keiichi Tsunekawa. 1979. "Corporatism Without Labor? The Japanese Anomaly." In Philippe Schmitter and Gerhard Lehbruch, eds. *Trends toward Corporatist Intermediation*. Beverly Hills: Sage Publications. Pp. 231-70.
- Pfeffer, J. and G. R. Salancik. 1978. *The External Control of Organizations: A Resource Dependence Perspective*. New York: Harper and Row.
- Phan, D. 1991. "Structures de marche et diffusion de services a valeur ajoutee sur un reseau de telecommunication." Roneotype, Ecole Nationale Superieure des P&T.
- Piore, Michael J. and Charles F. Sabel. 1984. *The Second Industrial Divide: Possibilities for Prosperity*. New York: Basic Books.
- Polanyi, Karl. 1957. *The Great Transformation: The Political and Economic Origins of Our Time*. Boston: Beacon Press (originally published in 1944).
- Pollert, Anna, ed. 1991. *Farwell to Flexibility?* Oxford: Blackell.
- Porter, Michael. 1986. *Competition in Global Industries*. Boston: Harvard Business School.
1990. *The Comparative Advantage of Nations*. New York: Free Press.
- Posner, R. A. 1977. *Economic Analysis of Law*. Boston: Little, Brown.
- Powell, W. W. 1990. "Neither Market nor Hierarchy: The Limits of Organization." In Barry Staw and L. L. Cummings, eds. *Research in Organizational Behavior*. Greenwich, CT: JAI Press. Vol. 12, Pp. 295-336.
- Putnam, Robert D. 1993. *Making Democracy Work*. Princeton: Princeton University Press.
- Pyke, F., G. Becattini, and W. Sengenberger, eds. 1990. *Industrial Districts and Inter-firm Co-operation in Italy*. Geneva: International Institute for Labour Studies.
- Pyke, F. and W. Sengenberger, eds. 1992. *Industrial Districts and Local Regeneration*. Geneva: International Institute for Labour Studies.
- Risse-Kappen, Thomas, ed. 1995. *Bringing Transnationalism Back In: Non State Actors, Domestic Structures, and International Institutions*. Cambridge and New York: Cambridge University Press.
- Romer, P. 1986. "Increasing Returns and Long-run Growth." *Journal of Political Economy*. 94: 1002-1037.
1990. "Endogenous Technological Changes." *Journal of Political Economy*. 98(5), part 2, S71-S102.
1994. "The Origins of Endogenous Growth." *Journal of Economic Perspectives*. 8 (1): 3-22.
- Rosenau, James N. and Ernst Otto Czempel, eds. 1992. *Governance Without Government: Order and Change in World Politics*. Cambridge and New York: Cambridge University Press.
- Sabel, Charles F. 1991. "Moebius-Strip Organizations and Open Labor Markets: Some Consequences of the Reintegration of Conception and Execution in

- a Volatile Economy." In Pierre Bourdieu and James S. Coleman, eds. *Social Theory for a Changing Society*. Boulder: Westview Press. Pp. 23-63.
1992. "Studied Trust: Building New Forms of Co-operation in a Volatile Economy." In Frank Pyke and Werner Sengenberger, eds. *Industrial Districts and Local Economic Regeneration*. Geneva: International Institute for Labor Studies. Pp. 215-50.
- Sabel, Charles F. and Jonathan Zeitlin. 1985. "Historical Alternatives to Mass Production: Politics, Markets, and Technology in Nineteenth Century Industrialization." *Past and Present*. 108 (August): 133-76.
- 1996, forthcoming. "Stories, Strategies, Structures: Rethinking Historical Alternatives to Mass Production." To appear in Charles F. Sabel and Jonathan Zeitlin, eds. *World of Possibilities: Flexibility and Mass Production in Western Industrialization*. New York: Cambridge University Press.
- Saxenian, Annalee. 1994. *Regional Advantage: Culture and Competition in Silicon Valley and Route 128*. Cambridge: Harvard University Press.
- Scharpf, Fritz W. 1993. "Games in Hierarchies and Networks: Analytical and Empirical Approaches to the Study of Governance Institutions." Boulder: Westview Press, 1993. Pp. 7-23.
- Schmitter, Philippe C. and G. Lehbruch, eds. 1979. *Trends Towards Corporatist Intermediation*. New York: Sage Publications.
- Schmitter, Philippe and Wolfgang Streeck. 1981. "The Organization of Business Interests: A Research Design to Study the Associative Action of Business in the Advanced Industrial Societies of Western Europe." Berlin: Wissenschaftszentrum, II M/LMP Discussion paper 81-3.
- Schneiberg, Marc and J. Rogers Hollingsworth. 1990. "Can Transaction Cost Economics Explain Trade Associations?" In Masahiko Aoki, Bo Gustafsson, and Oliver E. Williamson, eds. *The Firm As A Nexus of Treaties*. London and Beverly Hills: Sage Publications. Pp. 320-46.
- Scranton, Philip. 1984. *Proprietary Capitalism: The Textile Manufacture at Philadelphia, 1800-1885*. Cambridge and New York: Cambridge University Press.
- Snidal, Duncan. 1985. "The Limits of Hegemonic Stability Theory." *International Organization* 39(4): 579-615.
1991. "Relative Gains and the Pattern of International Cooperation." *American Political Science Review*. 85: 701-26.
- Sorge, Arndt. 1989. "An Essay on Technical Change: Its Dimensions and Social and Strategic Context." *Organization Studies*. 10(1): 23-44.
- Sorge, Arndt and Wolfgang Streeck. 1988. "Industrial Relations and Technical Change: The Case for an Extended Perspective." In Richard Hyman and Wolfgang Streeck, eds. *New Technology and Industrial Relations*. New York and Oxford: Basil Blackwell. P. 19-47.
- Stinchcombe, Arthur L. and Carol A. Heimer, eds. 1985. *Organization Theory and Project Management*. Oslo: Norwegian University Press.
- Storper, Michael. 1989. "The Transition to Flexible Specialization in the U.S. Film Industry: The Division of Labour, External Economies and the Crossing of Industrial Divides." *Cambridge Journal of Economics*, 13(2): 273-305.

1993. "Regional 'Worlds' of Production: Learning and Innovation in the Technology Districts of France, Italy, and the U.S.A." *Regional Studies*. 27: 4334-55.
- Streeck, Wolfgang. 1987a. "Industrial Relations and Industrial Change: The Restructuring of the World Automobile Industry in the 1970s and 1980s." *Economic and Industrial Democracy*. 8(4): 437-62.
- 1987b. "The Uncertainties of Management in the Management of Uncertainty: Employers, Labour Relations and Industrial Adjustment in the 1980s." *Work, Employment, and Society*. 1(3): 281-308.
1988. "Comments on Ronald Dore, 'Rigidities in the Labour Market': The Andrew Schonfield Lectures (III)." *Government and Opposition*. 23(4): 413-23.
1989. "Skills and the Limits of Neo-Liberalism: The Enterprise of the Future as a Place of Learning." *Work, Employment, and Society*. 3(1): 89-104.
1991. "On the Institutional Conditions of Diversified Quality Production." In Egon Matzner and Wolfgang Streeck, eds. *Beyond Keynesianism: The Socio-Economics of Production and Full Employment*. Aldershot, Hants, England: Edward Elgar. Pp. 21-61.
- Streeck, Wolfgang, et al. 1987. *The Role of Social Partners in Vocational Training and Further Training in the Federal Republic of Germany*. Berlin: European Centre for the Development of Vocational Training.
- Streeck, Wolfgang and Philippe C. Schmitter. 1985a. "Community, Market, State, and Associations? The Prospective Contribution of Interest Governance to Social Order." In Wolfgang Streeck and Philippe C. Schmitter, eds. *Private Interest Government: Beyond Market and State*. Beverly Hills: Sage Publications. Pp. 1-29.
- Streeck, Wolfgang and Philippe C. Schmitter, eds. 1985b. *Private Interest Government: Beyond Market and State*. London and Beverly Hills: Sage Publications.
- Tolliday, Steven and Jonathan Zeitlin, eds. 1991. *The Power to Manage: Employers and Industrial Relations in Comparative Historical Perspective*. London and New York: Routledge.
1992. *Between Fordism and Flexibility: The Automobile Industry and Its Workers*. Oxford and New York: Berg.
- Veblen, Thorstein. 1916. [1966]. *Imperial Germany and the Industrial Revolution*. Ann Arbor: University of Michigan Press.
- Williamson, Jeffrey G. 1991. "Productivity and American Leadership: A Review Article." *Journal of Economic Literature*. 29: 51-68.
- Williamson, Oliver. 1975. *Markets and Hierarchies: Analysis and Antitrust Implications*. New York: Free Press.
1985. *The Economic Institutions of Capitalism*. New York: Free Press.
- Young, Brigitte, Leon N. Lindberg, and J. Rogers Hollingsworth. 1989. "The Governance of the American Daily Industry: From Regional Dominance to Regional Cleavage." In William D. Coleman and Henry J. Jacek, eds. *Regionalism, Business Interests and Public Policy*. London: Sage. Pp. 127-52.
- Young, Oran R. 1986. "International Regimes: Toward a New Theory of Institutions." *World Politics* 39(1): 104-22.
1989. "Politics of International Regime Formation: Managing Natural Resources and the Environment." *International Organization*. 43(3): 349-76.

- Zeitlin, Jonathan. 1992. "Industrial Districts and Local Economic Regeneration: Overview and Comment." In F. Pyke and W. Sengenberger, eds. *Industrial Districts and Local Economic Regeneration*. Geneva: International Institute for Labour Studies. Pp. 279-94.
1994. "Why Are There No Industrial Districts in the United Kingdom?" In Arnaldo Bagnasco and Charles Sabel, eds. *Ce que petit peut faire: Les petites et moyennes entreprises en Europe*. Poitiers: Observatoire du Changement Social en Europe Occidentale.
- 1996, forthcoming. "Between Flexibility and Mass Production: Strategic Ambiguity and Selective Adaptation in the British Engineering Industry, 1840-1914." In Charles Sabel and Jonathan Zeitlin, eds. *World of Possibilities: Flexibility and Mass Production in Western Industrialization*. New York: Cambridge University Press.