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What connects industrial relations and corporate governance? Explaining institutional complementarity

Martin Höpner

Max Planck Institute for the Study of Societies, Cologne

Correspondence: Martin Höpner, MPIfG, Paulstr. 3, 50676 Cologne, Germany. E-mail: hoepner@mpifg.de

The concept of institutional complementarity is central to the recent debate on the internal logics of production regimes, redirecting our attention from the effects of single institutions to interaction effects. The article provides definitions of complementarity, coherence and compatibility and discusses the ways in which different authors describe interaction effects between corporate governance and industrial relations. It turns out that some of the interaction effects are actually direct causal links rather than effects deriving from complementarity. It is argued that complementarity may be caused by both structural similarity and incoherence, and that the concept provides only weak predictions with respect to institutional change. The article is followed by comments from Bruno Amable, Robert Boyer, Colin Crouch, Peter A. Hall, Gregory Jackson, Wolfgang Streeck, and an epilogue by Martin Höpner.

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JEL classification: P5 Comparative economic systems; J5 Labour–management relations

1. Introduction

In the recent literature on origins, structures and functions of production regime institutions, attention has been redirected from the focus on single institutions to the internal logic of institutional configurations as a whole. The concept of complementarity is central to this part of the debate, referring to situations in which the functionality of an institutional form is conditioned by other institutions. Substantial theoretical consequences derive from this notion. Once we accept the idea of complementarity, we find that the search for 'one best way' of organizing industrial relations, corporate governance etc. can be misleading. Rather, institutionally

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oriented political economy has to focus on the interaction of a given institution with other institutions, i.e. the overall design of institutional domains and production regimes.

The utility of the concept of complementarity has been demonstrated in various comparative studies, as well as case studies on the internal logics of single forms of capitalism. However, the use of the term 'complementarity' is far from uniform. Also, scholars disagree on the extent, the sources and the consequences of complementarity. The aim of this article is to establish an agenda for discussion. I will summarize the recent socio-economic literature on complementarity between two institutional domains of production regimes, industrial relations and corporate governance. The article is organized as follows. After some introductory remarks on the notion of complementarity, I address the fact that countries with organized industrial relations tend to have organized corporate governance as well. This is followed by a review of concepts of complementarity between the two. The next section focuses on the question of whether complementarity may explain the co-existence of complementary institutions. I close the paper by addressing the interplay of increasingly market-driven corporate governance and stable industrial relations in Germany, and by discussing the implications for the analysis of institutional complementarity.

2. The notion of complementarity

'Complementarity' comes from the Latin 'complementum', meaning 'that which completes'. Quite different scientific fields have shaped the idea of complementarity between elements of systems. In all these research areas, complementarity refers to a constellation in which two (or more) elements must be combined to produce a particular outcome. Complementary colours are colours that together add up to white light, such as red and green (Goethe's colour cycle). Computer scientists call binary numerical series complementary if every 1 in one series is a 0 in the other series and *vice versa*. In sociology, roles complement each other if, for example, someone's duty is the other one's right. The roles of professor and student are in this sense complementary. Complementary goods are defined as goods that have to be combined to produce a particular benefit. Higher alcohol prices reduce both alcohol consumption and smoking, suggesting a complementarity in consumption (Decker and Schwartz, 2000).[1] Economists also use the concept to identify elements of company strategies that increase output if they are combined (Milgrom and Roberts, 1995). The use of electricity and skilled work (Goldin and Katz, 1998) and

[1] By contrast, however, higher cigarette prices tend to reduce smoking participation but increase drinking.

the use of IT and particular kinds of workplace organization (Bresnahan *et al.*, 1999) are complementary.

In the discussion on different models of capitalism,[2] complementarity refers to a specific interplay of institutions. Although the use of the term is far from uniform, there is consensus that complementarity refers to outcomes. I will use the term in the following sense. *Complementarity* is a functional category and means that the performance of a configuration increases when its elements assume specific properties. *Coherence*, by contrast, refers to structures. Institutions are coherent if they are designed according to identical principles. Complementarity and coherence may or may not be accompanied by institutional stability. If institutional configurations are stable without necessarily being complementary or coherent, their elements are compatible. For example, the German dual management board is compatible with codetermination by employees, while it is disputed whether this combination increases performance.

Recent research on institutional interaction deals with the relations between monetary policy institutions and wage coordination (Hall and Franzese, 1998), between monetary institutions and leftist parties in government (Way, 2000), or between the strength of labour movements and leftist parties in government (Schmidt, 2002). The models of capitalism debate focuses on interaction effects between institutions within production regimes. Corporate governance and labour relations are only two of a larger set of interacting production regime institutions. According to the literature, complementarity may require a specific organization of skill formation (Crouch *et al.*, 1999; Marsden, 1990; Streeck, 1991), company finance (as distinguished from company monitoring), cooperation between firms in standard setting and technology transfer (Hall and Soskice, 2001), management careers (Lane, 1992), the rules of company decision-making, such as CEO power and veto points inside management, competition policy (Roe, 2001) and welfare state organization (Estevez-Abe *et al.*, 2001; Mares, 2001). A recent discussion concerns the question of whether complementarity also exists between the institutions of production regimes and political institutions, such as the electoral system (Gourevitch and Shinn, 2005; Iversen and Soskice, 2002).

The 'discovery' of complementarity has important implications, both theoretical and practical. First, the search for effects of isolated institutions may be misleading as effects may be due to the constellation of which the respective institutions are part. Secondly, by assuming overlaps between complementarity and institutional stability, there are implications for institutional change. Complementarity may reinforce resistance to change. At the same time, if changes in subsystems occur or are imposed from outside, the result may be unintended change in other, interrelated,

[2] For a general introduction, see Amable and Petit (1998), Howell (2003), Jackson (2004).

spheres of the political economy. Thirdly, the concept has consequences for political reform. In order to 'exploit the benefits from complementarity' (Aoki, 1999, p. 8), the theory would conservatively advise governments to seek an equilibrium in domestic systems rather than benchmark domestic institutions with those of other countries. The emphasis on complementarity raises doubt about the ability of governments to add institutions from different contexts by playing 'institutional Lego' (Amable and Petit, 2001, p. 5; see also Boyer, 2002*a*, p. 330). Put another way, benchmarking should lead to a search for functional equivalents to other countries' successful institutions that complement domestic institutions. For example, Anglo–American style liberalized employment protection may not fit into an organized economy like Germany's, but temporary work agencies may be functional equivalents that reduce labour market rigidities while avoiding tensions with other institutions (Eichhorst *et al.*, 2001).

3. Clusters of institutions among OECD countries

Corporate governance arrangements and industrial relations systems consist of several elements. The authors reviewed here combine different sub-elements of the two spheres. Elements of the industrial relations systems are, for example, wage-bargaining institutions, co-determination rights and employment protection. Ownership concentration, disclosure practices, the presence or absence of hostile takeovers and the banking system are elements of the corporate governance system.

An initial indication of the existence of complementarity between particular institutions of industrial relations and corporate governance comes from international comparison. The correlation matrix in Table 1 shows that countries with organized labour market institutions tend to have a high degree of organization of corporate governance and *vice versa*.[3] This is indicated by both separate and composite measures. Forty-four out of 45 correlation coefficients point in the expected direction, 40 of them equal $r = 0.30$ or are larger, and 28 are significant at the 0.1 level or better. Composite measures tend to correlate higher than separate measures as they wash out variations among sub-elements.[4] However, institutional clustering is an indication for compatibility, but no proof of complementarity. Clusters may exist for reasons other than their function. One possible reason is simply the existence of culturally related 'families of nations' in the OECD world

[3] Organized labour markets are those that are regulated by state intervention or collective bargaining.

[4] However, it should be mentioned that two corporate governance arrangements do not fit into the normally distinguished clusters. First, accounting standards (with high degrees of company transparency not only in Anglo-Saxon, but also in Scandinavian countries, and a low degree in Switzerland), and secondly, creditor rights (being low in Scandinavian countries and France, but high in the UK and New Zealand).

Table 1 Correlations between degrees of organization in corporate governance and industrial relations, 21 OECD countries

	Hall–Gingerich Index of the coordination of corporate governance	Shareholder rights	Ownership dispersion	Market capitalization	M&A market activity
Hall–Gingerich Index of the coordination of industrial relations	$r = 0.86^{***}$ ($n = 20$)	$r = -0.61^{***}$ ($n = 20$)	$r = -0.49^{**}$ ($n = 20$)	$r = -0.60^{***}$ ($n = 19$)	$r = -0.66^{***}$ ($n = 20$)
Coordination among labour bargaining units	$r = 0.59^{***}$ ($n = 20$)	$r = -0.32$ ($n = 20$)	$r = -0.36$ ($n = 20$)	$r = -0.36$ ($n = 19$)	$r = -0.04$ ($n = 20$)
Trade union regulation	$r = 0.52^{**}$ ($n = 20$)	$r = -0.39^{*}$ ($n = 21$)	$r = -0.39^{*}$ ($n = 21$)	$r = -0.33$ ($n = 20$)	$r = 0.05$ ($n = 21$)
OECD index on labour market regulation	$r = 0.84^{***}$ ($n = 19$)	$r = -0.72^{***}$ ($n = 20$)	$r = -0.52^{**}$ ($n = 20$)	$r = -0.59^{***}$ ($n = 19$)	$r = -0.67^{***}$ ($n = 20$)
Working time regulation	$r = 0.36$ ($n = 19$)	$r = -0.33$ ($n = 20$)	$r = -0.36$ ($n = 20$)	$r = -0.38$ ($n = 19$)	$r = -0.47^{**}$ ($n = 20$)
Fixed-term employment contracts	$r = 0.63^{***}$ ($n = 19$)	$r = -0.53^{**}$ ($n = 20$)	$r = -0.24$ ($n = 20$)	$r = -0.34$ ($n = 19$)	$r = -0.46^{**}$ ($n = 20$)
Employment protection	$r = 0.57^{**}$ ($n = 19$)	$r = -0.60^{***}$ ($n = 20$)	$r = -0.37$ ($n = 20$)	$r = -0.48^{**}$ ($n = 19$)	$r = -0.72^{***}$ ($n = 20$)
Minimum wages	$r = 0.53^{**}$ ($n = 19$)	$r = -0.57^{***}$ ($n = 20$)	$r = -0.46^{**}$ ($n = 20$)	$r = -0.42^{*}$ ($n = 19$)	$r = -0.51^{**}$ ($n = 20$)
Co-determination	$r = 0.50^{**}$ ($n = 19$)	$r = -0.30$ ($n = 20$)	$r = -0.26$ ($n = 20$)	$r = -0.31$ ($n = 19$)	$r = -0.06$ ($n = 20$)

Pearsons *r*. * Significant at the 0.1 level; ** significant at the 0.05 level; *** significant at the 0.01 level.

Countries: Austria, Australia, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Sweden, Switzerland, Spain, UK, USA.

(Castles, 1993). Another possible explanation is that political forces in government, such as Social Democratic parties, may cause extensive organization of both industrial relations and corporate governance, which does not necessarily imply complementarity between the two.

Hall and Gingerich (2004) and Ernst (2002) go beyond arguments about clustering. In order to find empirical evidence for complementarity between industrial relations institutions and corporate governance arrangements, they test whether coherent configurations produce better outcomes than incoherent ones, implying that complementarity results from coherence. Hall and Gingerich develop an index of the degree of coordination of production regimes by combining different corporate governance and industrial relations measures. Coherent combinations are located at the extremes of the Hall–Gingerich scale, while incoherent ones are located in the middle. Australia, the Netherlands, Spain and Switzerland are located between the extremes,[5] indicating low degrees of institutional coherence. This should lead to reduced ability to exploit benefits from institutional complementarity. In fact, by statistically controlling for several other variables, Hall and Gingerich show that incoherent corporate governance–industrial relations combinations were associated with lower growth rates between 1971 and 1997.

Ernst (2002) tests the complementarity thesis with data on output growth in 27 manufacturing industries of 19 OECD countries over the period 1970–1995. He finds evidence that concentrated ownership structures, when combined with highly unionized industrial relations, leads to growth in high skill industries. Ownership dispersion and labour market flexibility foster growth in industries that are equity financed. Taken individually instead of combined, the variables fail to predict outcomes. This is strong support for the complementarity thesis by evidence from comparison of both countries and sectors.

4. How complementarity works

4.1 Modeling complementarity

How do scholars account for the complementarity phenomenon in qualitative terms? Although the existence of complementarity between industrial relations and corporate governance seems undisputed among scholars in the models of capitalism debate, the mechanisms they describe are quite different. I will review ‘typical’ approaches that represent a larger literature, starting with authors who use game-theoretic models to explain complementarity. Thus Aoki’s aim is to explain

[5] These four countries have coordination scores between 0.33 and 0.66 on the Hall–Gingerich scale that ranges from 0 to 1. However, the Hall–Gingerich scale differs from the description in Hall and Soskice (2001, p. 21) in which France, Italy, Spain, Portugal, Greece and Turkey are described as intermediate cases.

the complementary relationship between contingent company monitoring by main banks and team-oriented lifetime employment in Japan (Aoki, 1994, 1999, 2000). Team-oriented production is difficult to monitor, as the effort level of each team member cannot be directly controlled. Lifetime employment reduces this moral hazard problem. It leads to a poor market for re-employment and increases incentives for monitoring by insiders to prevent the liquidation of the firm.[6]

This incentive structure gives rise to a specific kind of monitoring that is contingent on the financial performance of the firm. In phases of financial health, main banks do not intervene in the details of company management. Banks will increase their monitoring when the financial state of the firm becomes critical, for example, by sending bankers into the board of directors. In times of financial crisis, the main bank bears the responsibility for the governance of the firm and imposes either restructuring or a merger or, in the worst case, liquidation. To prevent intervention by the main bank, management and employees face incentives for labour–management collaboration, as well as work incentives. An Anglo–American style active re-employment market would undermine this as the incentive to prevent bank intervention and liquidation would vanish, which in turn would undermine contingent monitoring. Thus, Aoki's model connects lifetime employment, the imperfect labour market and the main bank system. The beneficial outcome of their complementary interplay is an effective monitoring of Japanese team-oriented production.[7] Aoki (1994) points out that this model matches best the Japanese production regime of the 1970s.

Another formal model of a complementary interplay of corporate governance and industrial relations institutions was introduced by Amable *et al.* (2001, pp. 1–12) and further developed by Hall and Gingerich (2004). I will refer to it as the Amable model. Like Aoki's model, it draws attention to the survival probability of firms. The Amable model is a two-player game between employees and management. Both sides choose the level of their investment in the long-term success of the firm. Labour invests in firm-specific skills; management invests in resources whose productivity depends on cooperative relationships with employees. The higher the level of investment made by one side, the more vulnerable it is in wage negotiations. If the survival probability of the firm depends on short-term profits, management will always avoid undermining its wage negotiating position *vis-à-vis* employees and, therefore, will choose a low level of investment. Otherwise, it would reduce the survival probability of the firm. The outcome is that no long-term investments take place, but the survival probability of the firm remains high.

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[6] The company specificity of employees' skills leads to the same effect: re-employment probability decreases, which increases incentives to prevent intervention and company liquidation.

[7] In addition, scarce monitoring resources are saved, as intervention is necessary only in exceptional periods.

This situation changes when capital market pressures are low and the survival probability of the firm depends on long-term instead of short-term profits. Now, the ability to reach a cooperative equilibrium will depend on the wage-bargaining institutions and the organization of labour. If the degree of organization is high, both sides can cooperate. Therefore, a low degree of financial market pressure is a precondition for cooperative wage bargaining.[8] Maximally simplified, the Amable model is a dilemma game with a non-cooperative equilibrium in which a specific kind of capital market organization as a background variable allows cooperation. Identifying a high survival probability of the firm as a beneficial outcome, there are two coherent combinations that allow exploitation of benefits from complementarity: low capital market pressures combined with highly organized labour, and high capital market pressures combined with weak labour. The mechanism that links the two is the time horizon of wage-bargaining parties.

4.2 Complementarity and outcomes

Further arguments that link industrial relations and corporate governance institutions are found in Hall and Soskice's 'varieties of capitalism' book. Hall and Soskice (2001, p. 22) link long-term firm affiliations of employees to the time horizon of capital market participants, arguing that access to patient capital allows firms to retain a skilled workforce through economic downturns. Soskice (1999, pp. 109, 112; see also Soskice, 1990) points out that the beneficial outcomes of complementarity are different in coordinated market economies (CMEs) and liberal market economies (LMEs). In CMEs, the gain from complementarity lies in the formation of firm-specific skills, which requires not only patient capital but also coordinated wage setting in order to minimize the risk of poaching. The institutional advantage of LMEs is their high degree of flexibility, facilitated by both short-term finance and a 'hire and fire' system of employment protection.

Without referring to the time horizon of wage bargainers or capital markets, Höpner and Jackson (2001) link the presence or absence of a market for corporate control to the room for manoeuvre that managements, employees and public authorities have to promote company growth instead of profitability. The capital market, present in both organized and liberal market economies, adjusts price–earnings ratios (or price–cash flow ratios). Capital market participants tend to value every unit of profit at the same stock price. Capital markets therefore allow different profitability

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[8] Amable *et al.* (2001) and Hall and Gingerich (2004) differ with respect to which side will defect in a once-given cooperation when capital market pressures rise. According to Amable *et al.*, the weaker partner in wage negotiations will cease to cooperate. In the Gingerich–Hall model, management will never choose the cooperative strategy (i.e. high investment depending on a cooperative relationship with employees) when capital market pressures are high.

levels to persist. By contrast, takeover markets adjust profitability levels. If managements choose to promote company growth instead of profitability, the stock price will decrease, which creates incentives for a hostile takeover (Manne, 1965). This makes the distribution of a firm's net value added co-vary with corporate governance arrangements (de Jong, 1997). By comparing British and German companies, Höpner and Jackson show that price–earnings ratios are similar in both countries. That is why investors have no reason to withdraw from less capital-market-oriented and less profitable firms in organized economies. However, the return on sales of large UK companies is twice as high compared with German firms, and every euro of annual turnover translates into 2 euros in terms of the company's market value, compared with only 50 cents in Germany. At the same time, although the stock price of large German firms is only half of the stock price of British firms, German firms are twice as large in terms of employees and turnover.

According to Höpner and Jackson, the crucial distributional outcome is not the level of wages, but the share of net value added that is allowed to be invested in company growth and diversification without having to be highly profitable. Company growth increases employment security by enlarging internal labour markets. Corporate governance systems that permit hostile takeovers prevent firms from persisting in a low profitability–low stock price equilibrium. This is why the British industrial sector absorbs a smaller share of the workforce than the German industrial sector, for instance. Hostile takeovers and profit-maximizing strategies are as compatible as the absence of a takeover market and high shares of net value added invested in company growth. The distributional outcomes of both configurations, however, are quite different.

What all hitherto reviewed conceptualizations of the corporate governance–industrial relations interplay have in common is that they start with corporate governance arrangements, which turn out to allow industrial relations to produce particular outcomes. By comparison, two scholars emphasize how industrial relations shape corporate governance: Roe (discussed in the next section) and Vitols (1996, 2001; Jackson and Vitols, 2000). Vitols argues that different income groups have different saving preferences. Beside transfer programmes, the most important determinant of the degree of distributional equality is the industrial relations system (Mosher, 1999). High-income households have a preference for high-risk securitized assets, such as corporate bonds, due to their greater capacity to absorb short-term risks. Middle-income households have a greater demand for less risky assets such as bank deposits. Thus, industrial relations systems that produce low degrees of income inequality support bank-based savings regimes (Vitols, 2001, p. 193), which in turn support bank-oriented instead of capital-market-oriented corporate governance.

A similar argument links welfare state arrangements to corporate governance systems (Jackson, 2001, 2004; Jackson and Vitols, 2000; Vitols, 2001). The organization of retirement pensions affects the demand for investment in equities. Private

pension schemes organized on a capitalized basis are the largest purchasers of securities in market-based systems. The demand side of the capital market is, therefore, more highly developed where individualistic pension systems exist. Continental European-style solidaristic retirement systems are based on a transfer of income between generations. They create a lower demand for pension funds which, in turn, emerge as shareholders of corporations and shape the corporate governance system.

5. Origins of complementary institutions and dynamics of change

So far, the review has shown that the idea of complementarity is widely accepted among scholars in the models of capitalism debate. But, as Ernst (2002, p. 2) points out, there is no consensus on the mechanisms through which corporate governance and industrial relations systems interact with each other and increase aggregate performance. The literature specifies quite different mechanisms. The discussion as to whether or not these can be combined in a consistent theory has just begun. Another aspect of complementarity has generated debates, too: Where are the explanatory limits of the complementarity concept? Does complementarity provide insights into the origins of institutions? In other words, does the reason for the existence of complementary institutions lie in their superior performance? In this section, I will draw attention to different views on the dynamics of change.

5.1 'Varieties of capitalism': the firm-centred view

The 'varieties of capitalism' approach 'regards companies as the crucial actors in a political economy' (Hall and Soskice, 2001, p. 6). This approach explains the properties of institutions with their functional contribution to the interaction among firms. It should be understood as part of a counter-movement against the trade-union-centred literature of the 1970s and 1980s, in which welfare states and industrial relations were regarded as products of 'politics against markets' (Esping-Andersen, 1985; Korpi, 1978) that employers would abolish if their power would allow them to do so. In opposition to this, scholars like Hall and Soskice emphasize the internal coherence of organized production regimes. Even high degrees of unionization and welfare state intervention may facilitate corporate coordination, helping firms develop successful strategies in particular market niches. CMEs, Hall and Soskice argue, rely on comparative advantages different from pure market behaviour and competition. In this view, complementarity theory is also a theory of institutional change, and 'nations with a particular type of coordination in one sphere of the economy should tend to develop complementary practices in other spheres as well' (Hall and Soskice, 2001, p. 18) in order to reach an equilibrium point with maximum gains from complementarity.

Different mechanisms of institutional adjustment are conceivable, and the aim of Hall and Soskice (2001, pp. 45–66) is not to present a final theory on this. Politicians may anticipate firms' needs in the process of institutional engineering, or firms may be directly involved in the creation of institutions. In the context of the discussion of national models of capitalism, many authors have argued that the employers were involved even in such fields as the centralization of wage bargaining or the creation of social policies, which had formerly been seen as spheres in which politics are politics against markets. Swenson (1991, pp. 517–20) points out that the centralization of Danish and Swedish wage bargaining was the result of cross-class alliances in the exposed sectors, rather than a result of class struggle. Mares (1996, 2001) has shown that the introduction of unemployment insurance in France and Germany was politically supported by large firms. Manow (2000) describes the interest and involvement of employers in the creation of the German and Japanese welfare states.

The concept of a firm-centred political economy, in which different institutions are linked by strong complementarity, has generated new insights on public policy, particularly social policy (Estevez-Abe *et al.*, 2001; Hall and Soskice, 2001, pp. 50–4; Iversen and Soskice, 2001; Mares, 2001; Swank and Martin, 2001). Mechanisms have been discovered that were overlooked by the trade-union-centred literature of the 1970s and 1980s. However, some scholars in the recent discussion argue that, although the consideration of corporate interests in institution-building has been an important contribution, the pendulum might have swung too far in the direction of functionalism–utilitarianism. As Pierson (2000, p. 795) puts it with reference to the current welfare state debate, 'There is a real danger that in correcting an oversimplified view of employer hostility, analysts will push a good point too far. It often seems only a small step from the identification of linkages between social programs and systems of economic production to the suggestion that the welfare states were in fact built by employers, for employers.' In the following paragraphs, I will discuss three approaches that differ from the pure firm-centred model: the regulation school and the approaches of Streeck and Roe.

5.2 French regulation school: tensions, hierarchies, diversity

Different from the 'varieties of capitalism' approach, regulation theory focuses on the temporal dimension of the institutional organization of production regimes and the periodic shifts in this organization. I will concentrate on three contributions to the discussion on the dynamics of complementary institutions made by authors in the tradition of the French regulation school.[9] The first is the attention paid to the tensions between complementary elements of production regimes. While concurring with the idea of complementarity, regulation theory argues that institutional

[9] For a general introduction to regulation theory, see Boyer and Saillard (2002), Hübner and Mahnkopf (1988).

equilibrium is not the normal case in the organization of production regimes. Instead, in the tradition of Marxist thinking, scholars like Lipietz and Boyer argue that capitalist accumulation causes permanent disequilibrium. In a dynamic social process, regulation aims to reduce such disequilibrium, but never eliminates it. The crucial point is that this endogenous dynamic constantly forces changes from inside. Identical reproduction is an exception to the rule. Institutional forms are always in a state of flux, sometimes changing gradually and at other times rapidly, when the co-evolution of institutional forms has led to contradictory inter-institutional relations (Boyer and Saillard, 2002, pp. 39–43). Complementarity, in this view, is always accompanied by tensions, which rules out the idea of institutional configurations being in a static equilibrium. Influenced by such ideas, Crouch and Farrell (2002, p. 7) write that equilibrium approaches 'may systematically overlook fruitful incoherencies within empirical social systems; institutional systems, far from being coherent, are characterized by redundancies, previously unknown capacities, and incongruities, which very frequently provide the means through which other actors—whether firms, policy entrepreneurs or others—may seek to tackle new exigencies' (see also Amable, 1999, p. 9; André, 2002; Bertrand, 2002; Jackson, 2004; Lipietz, 1985; Streeck, 2001*a*).

The second contribution of the regulation school to the discussion of complementarity is the idea of changing hierarchies among complementary institutions. A given institution shapes the organization of related institutions, but in an asymmetric way, with the hierarchy among institutions undergoing permanent change. According to regulation theorists, Fordism was derived from the central status of the wage/labour nexus as the driving form of the production regime. The organization of the wage/labour nexus permeated the regime, influencing the form of state intervention, the credit regime and oligopolistic competition. In the late 20th century, a change in institutional hierarchy occurred that forced the competition among firms into a more central position, causing changes in the organization of the wage/labour nexus in order to adjust it and correct the disequilibrium (Aglietta, 1976, p. 383; Amable, 1999, pp. 11–5; Amable and Petit, 1998, pp. 6–7; Amable and Petit, 2001, p. 10; Boyer, 1990, p. 108; Boyer and Saillard, 2002, p. 39). Boyer (1998, 2000) discusses whether the hierarchy among interrelated institutions is currently changing again, placing the finance regime in the central position of the production regime.

Thirdly, regulation theory not only leaves room for tensions and contradictions both inside and between institutions, but also claims that different types of organization inside one sphere can be linked to each other in a complementary way. Boyer (2002*b*, p. 78) describes the Japanese coexistence of a competitive industrial relations regime, characterized by rapid adjustments of wages and employment to the economic cycle, and a Fordist wage relation, shaped by long-term employment and rigid wages. Beyond compatibility, this combination is complementary,

creating competition for access to employment and incentives for insider monitoring in large firms. Of course, regulation theory has emphasized further aspects of institutional change, such as the creation of institutions as a result of political compromises among social groups, which places politics in a position of relative autonomy. I will now discuss this with respect to the work of Streeck and Roe.

5.3 Institution-building as experimentation and hybridization

The crucial point in Streeck's contribution to the discussion of complementarity is that institution-building is relatively independent from the existence of complementarity. By referring to research on the origins of the two paradigmatic cases of organized economies (Streeck and Yamamura, 2001), Streeck concludes that major economic institutions in Germany—such as co-determination or the independent central bank—were not introduced because of their beneficial interplay with other institutions. Institution-building is one thing while development of strategies of actors to use institutions beneficially is another. Complementarity, in this view, does not exist *ex ante* (in the process of institution-building), but is discovered and developed *ex post*. So who is the designer? Here, more so than others, Streeck emphasizes the steering capacity of the state elite in exceptional historical, 'political' moments.

Beside the years after the crises between 1873 and 1879, the contributors to the volume on the origins of non-liberal capitalism in Germany and Japan identify two watershed phases in history in which the main economic institutions of both countries were formed: the 1930s (especially after the banking crisis of 1931) and the years immediately after World War II (Jackson, 2001; Lehmbruch, 2001; Streeck, 2001*a*; Vitols, 2001). In these extraordinary moments of post-revolutionary state foundation, or of war, dictatorship, and occupation, political elites were more than normally capable of strategic and autonomous action (Streeck, 2001*a*, p. 35). Still the outcomes of institution-building were far from coherent. Traditional and modern, liberal and non-liberal elements always existed. Their complementarity, to the extent that it developed, was the result of a process of experimentation and hybridization. This view is shared by regulation theorists like Lipietz, who points out that most institutions are 'historical lost properties', and to mix up their functions in social reproduction with the conditions of their formation would be a 'subjectification' of social structures. Functionalist theorists—obviously, what Lipietz has in mind here is Marxist functionalism—tend to have a 'fetish' relationship to the institutions they observe, thinking that they were born to fulfil an *ex ante*-given mission and destiny in history (Lipietz, 1985, pp. 113–4).

Processes of reciprocal adjustment between institutions set in when firms have to find successful strategies in the context of a hybrid configuration, for example

one containing both a liberal competition regime and the presence of an entrenched labour movement (Streeck, 1995, p. 7; Jackson, 2001). According to this approach, 'the structural and functional coherence—the 'system integration'—of the two national models of embedded capitalism had to be continuously established, restored, redefined and defended against all sorts of disorganizing forces' (Streeck, 2001*a*, pp. 30–1).

Ultimately, the puzzle that Streeck seeks to solve is to specify the preconditions for an effective embeddedness of firms in society and society's ability to treat these as 'constitutional associations' (Streeck, 2001*b*, p. 4) whose internal structures and decisions are a matter of public interest. Embeddedness requires permanent political support to shield it from creeping marketization. A decisive characteristic of German organized capitalism has been the central position of financial companies in the network of interlocking directorates (Beyer, 2002; Windolf and Beyer, 1995) and the interplay of self-regulation and state intervention in the financial sector (Zysman, 1983). Beyer (2002) and Streeck and Höpner (2003) show how, in several cases in the past, the state used the financial resources of banks and insurance companies to speed up reconstruction (Allianz investments), to prevent bankruptcies (Holzmann, AEG), to protect traditional company structures (Gerling) and to prevent takeovers from outside (Continental).[10] The German financial sector was shaped by two very different logics, being both a sector of competing firms and a national infrastructure. Organized capitalism, therefore, is a highly politicized configuration. German sectoral governance was based on a high degree of self-regulation, but it would be misleading to underestimate the formative influence of politics. Self-organization took place in the context of a state that observed the compatibility of its outcomes with the public interest and that had the ability and readiness to intervene hierarchically. Every self-organization of organized capitalism evolved 'in the shadow of hierarchy' (Mayntz and Scharpf, 1995).

[10] The procedure of state intervention and the ex post development of complementarity with respect to the outcomes of intervention was repeated perpetually. As Beyer (2002) shows, it was initially against the wishes of the Allianz insurance company that the state forced it to invest in German industrial companies. 'Some politicians seem to think that they can use our resources for all thinkable projects of economic policy. We will never give up our resistance against this,' said the Allianz CEO in the year 1951 (quoted in Beyer, 2002). Some years later, in the context of the 'economic miracle', the investments turned out to be very successful, and Allianz adopted a strategy of financing industrial companies voluntarily. Another example of '*ex post* complementarity' is co-determination, which was seen as alien to the economic system when co-determination laws were passed in the 1950s and 1970s, but was accepted as part of a coherent configuration once both works councils and managements had learned to use it to their advantage.

5.4 Class politics

A straightforward explanation of the origins of organized economies as an outcome of class struggle is not written by a political scientist, but by a lawyer.[11] Roe (2003) connects class theory with an argument on complementarity between industrial relations, ownership concentration (as one distinctive feature of corporate governance systems) and the degree of competition. His argument is clear and distinct: ownership concentration is the shareholders' reaction to high agency costs. To prevent stakeholders—above all managers and employees—from rent-seeking, shareholders abstain from diffusing their investments, which prevents the emergence of the Berle-Means firm. Two mechanisms lead to high agency costs. The first is the degree of competition: the less competition, the higher are the incentives for stakeholders to extract rents from the firm. If competition is high, such incentives are low as rent-seeking would reduce the survival probability of the firm (Roe, 2002, p. 44; see also Allen and Gale, 1999). Secondly, politics decide on agency costs, depending on the strength of the labour movement (which Roe identifies with social democracy). According to Roe, the most obvious example is German co-determination, which pressures managers to side with employees instead of shareholders (Roe, 2000, pp. 7–9; Bebchuk and Roe, 1999, p. 37). Co-determination also leads to ineffective management supervision by supervisory boards. The results are risk aversion, over-investment and expansion even if unprofitable, avoidance of rapid change, rigid labour markets and high wages. All these are rent-seeking mechanisms and managers prefer some of them anyway.

In addition, trade unions and Social Democrats oppose instruments that might help reduce agency costs, such as transparent accounting, incentive compensation, hostile takeovers and proxy contests (Roe, 2000, pp. 12–8). In short, 'social democracies widen the natural gap between managers and distant shareholders, and impede firms from developing the tools that would close up the gap' (Roe, 2000, p. 19). This creates incentives for shareholders not to diffuse their investments, as they need to retain direct control in the firm in order to make effective claims for the rents that would otherwise be distributed between managers and employees (see also Gilson and Roe, 1999, p. 265). In a cross-country comparison, Roe shows that ownership diffusion is low where labour is strong, indicated by the positions of countries on left-right scales, degrees of inequality and government spending in percent of gross domestic product. In addition, social democracy has emerged in

[11] It is interesting that some of the most prominent contributors to the discussion on the origins of different models of capitalism seem to draw on typical explanatory variables of neighboring disciplines. Hall, a political scientist, refers to the interests of firms; La Porta *et al.* (1998*a*), economists, explain the differences between countries with reference to common law versus civil law traditions (this is not an argument about complementarity and is therefore not discussed here); and Roe, a lawyer, refers to class politics and the power of social democracy.

countries where international competition was limited over a long period (Roe, 2001). Thus Roe finds two clusters of countries with complementary features: countries with competitive product markets, dispersed ownership and conservative outcomes for labour on the one hand, and countries with limited competition, concentrated ownership and progressive outcomes for labour on the other. Roe also claims that his theory is consistent with developments over time: as European integration leads to increased competition, shareholder orientation rises, governments increasingly favour less labour-oriented decisions in class struggle, and ownership diffuses (Roe, 2000, p. 36). To sum up, Roe combines a theory on class politics with an argument on complementarity: politics affect industrial relations, which in turn leads to complementary features in the field of corporate governance.

6. Shareholder orientation and industrial relations in Germany

In this section, I leave the literature review behind and consider an empirical case: the increased shareholder orientation among German companies and its interplay with industrial relations. In particular, I inquire into its implications for the notion of complementarity.[12] Shareholder orientation of large German companies increased markedly in the second half of the 1990s. Indications for this are the introduction of profitability targets, shareholder-oriented controlling concepts (such as discounted cash flow), the dismantling of conglomerates, increased company transparency and the adoption of international accounting standards, the introduction of the 'one share, one vote' rule, and increased investor relations activities. A watershed event was the takeover of the Mannesmann conglomerate by Vodafone, as the German production regime had formerly been described as effectively preventing companies from hostile takeovers (Höpner and Jackson, 2001). Starting in 1998, a large package of political reforms was passed with the aim of increasing the capital market orientation of companies (Beyer and Höpner, 2003). The dissolution of the German company network, both in terms of interlocking capital and interlocking directorates, had been under way since around 1985 and accelerated dramatically after 1995. Beyer and Hassel (2002) have shown that the increased shareholder orientation of German companies resulted in a reorientation of companies from growth to profitability, and as a consequence in a re-distribution of net value added to shareholders from employees.

[12] The description refers to my own work as well as to discussions held in the context of a larger project on 'The German system of industrial relations under the impact of internationalization', which was based at the Max Planck Institute in Cologne and led by Wolfgang Streeck between 1999 and 2001. In this context, a group of scholars collected and analyzed company data: Bastiaan van Apeldoorn, Jürgen Beyer, Michel Goyer, Anke Hassel, Martin Höpner, Gregory Jackson, Antje Kurdelbusch, Britta Rehder, Wolfgang Streeck and Rainer Zugehör.

Why did this happen? Shareholder orientation in Germany is a result of a combination of both external and internal impulses. One gateway of institutional change was increased competition, which originally resulted from European integration. European integration intensified competition for export-oriented companies, and sectors such as energy were forced for the first time to compete internationally. Another gateway of change was the rise of institutional investors as shareholders of German companies, a result of both the international diversification of the assets of Anglo–American funds and the formation of domestic funds. These 'two dimensions of internationalization' (Hassel *et al.*, 2003) resulted in the 'discovery' that German companies had shareholders. In multiple regression, around 62% of the variance in the shareholder orientation of large firms can be explained through exposure to international product market competition and share ownership by institutional investors (which also exposes companies to the market for corporate control; Höpner, 2001, pp. 17, 45; Höpner, 2003*a*).

However, external impulses fell on fertile ground internally. Managerial elites obviously sympathized with Anglo–American company strategies. If one adds one more institutional sphere of production regimes to the four subsystems in the Hall–Soskice model or the five subsystems in the regulation school model, the source of internal instability becomes apparent: the sphere of management and company decision-making. The German management elite—in terms of profession and career features—changed remarkably in the 1990s, and when managers saw an opportunity to raise their salaries by adopting Anglo–American management standards, they jumped at the chance. First, a side-effect of shareholder orientation was an increase in the variable part of managerial compensation, particularly in the form of stock options. Secondly, one factor that had kept German managerial compensation at a relatively low level had been the involvement of the *Hausbanken* in company monitoring. As regression analysis shows, company network dissolution led to an increase in the fixed part of managerial remuneration. In the 4 years between 1996 and 1999 and in the 40 largest German industrial companies, top managers' salaries increased by an average of 66%, plus stock options (Höpner, 2001, pp. 24–7; for the American case, see Kennedy, 2001).

It is difficult to decide whether external factors were more important than internal ones, and the correct answer seems to vary from company to company. In the case of the utilities company, e.on (until 2000, VEBA), it seems that management used shareholder pressure to achieve internal restructuring that it would have pursued anyway. An example of capital market pressures changing managers' preferences is Bayer (Vitols, 2002). However, recent developments cannot be explained by either internal or external forces alone.

How does increased capital market orientation interact with industrial relations? First, it should be understood that shareholder orientation leaves the institutions of central collective bargaining and of co-determination intact. Large,

internationally oriented companies enjoy above-average productivity and would be confronted with higher wage demands if they opted out of central collective agreements. In addition, they are comparatively highly unionized and, because of their export orientation, are eminently vulnerable by industrial conflicts (Hassel and Rehder, 2001). There is also no indication that shareholder oriented companies might attempt to abolish co-determination. As surveys among managers of large firms show, workforce co-determination has become part of a widely accepted economic culture. Co-determination has moved from a partly class-oriented background to a system of consensus and efficiency oriented 'co-management', and both works' councils and managements in shareholder-oriented companies avoid confrontations in questions of pay policy and employee participation.[13]

The amount of consensus between capital and labour on the introduction of shareholder-oriented business strategies is surprisingly high (Max-Planck-Institut für Gesellschaftsforschung, 2002, pp. 40–2). How can this be explained? Paradoxically, some features of shareholder value lead to an increase in codetermination (Höpner, 2003*b*). Disclosure conflicts are conflicts over managerial control in which both shareholders and employees oppose managers. Trade unions and works councils welcome the change in accounting practices toward internationally accepted standards and are calling for a European directive that would abolish German Commercial Code (HGB) accounting. Transparency, trade unionists argue, is a condition for effective co-determination. Shareholder orientation also strengthens the power of supervisory boards in their interaction with managers. When the Co-determination Act was passed in 1976, several companies tried to limit employee influence on operative decisions by reducing the number of finance and investment decisions for which supervisory board agreement was required. Now the power of supervisory boards is on the rise again, and every increase in supervisory board rights is an increase in effective co-determination.

Most restructuring is implemented in agreement with works councils. This may be a surprise, as shareholder-oriented restructuring promotes profitability by slowing down growth and therefore amounts to redistribution away from employees (Beyer and Hassel, 2002). Several mechanisms help works' councils tolerate the introduction of profitability goals and restructuring. First, gains and losses are asymmetrically distributed among the core and peripheral units of companies. Less job security on the peripheries may increase job security at the centre, and works' councils act primarily in the interest of core employees. Secondly, profitability-oriented restructuring may also affect wages in the core units. Kurdelbusch (2002)

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[13] Unlike the prediction of the Amable model, cooperation in wage bargaining seems to increase instead of decrease under conditions of rising capital market pressure.

found a strong connection between shareholder orientation and the introduction of variable non-management pay. Variable pay increases with profitability, which makes redistribution to shareholders compatible with constant and even rising wages for core employees. Thirdly, early retirement absorbs redistribution conflicts and allows both "managements and works councils" to shift the social costs of restructuring to the welfare state. Conflict potential would be higher if restructuring would lead to more dismissals. Unsurprisingly, early retirement is defended by both companies and trade unions. To sum up, shareholder orientation involves gains and losses for employees, and there are several mechanisms that make works' councils tolerate restructuring although they do cause redistribution. This contrasts with the situation in France where comparable restructuring causes more confrontational conflicts inside firms (see also Goyer, 2002).

The lesson for the concept of complementarity depends on whether we focus on institutions or outcomes. One implication of the models of capitalism view is that complementarity should cause resistance to change if it is limited to only one sphere. In case such change happens nevertheless, it should cause changes in complementary spheres as well. Current developments in Germany look more like a hybridization of elements that were formerly domiciled in different regimes rather than like limited, 'institutionally neutral' change (Amable and Petit, 2001, p. 10) or like a 'snowball effect' (Hall and Gingerich, 2004, p. 24) of radical changes in all interrelated spheres. The changes in German corporate governance are a recent phenomenon, and evidence as to their interplay with industrial relations is necessarily tentative. From today's point of view, however, the expectation that there may also develop complementarity between more capital market-oriented corporate governance and institutions like co-determination and central collective bargaining—although such a combination would lack coherence—does not seem absurd. German industrial relations have shown remarkably high flexibility, and it is at least an open question whether they might in the long run fit with shareholder-oriented strategies. So far, co-determination seems to have opened the door for significant steps towards increased investor orientation, making possible relatively silent restructuring of the largest German companies that would have caused enormous conflicts with employees if co-determination were absent. The outcome of this fit is, of course, very different from that of the previous configuration, which points to the fact that the social construction of functionality changes over time and depends on environmental conditions. The German experience also points to the existence of potentials for destabilization from inside—one of them being the preference of managers for high salaries.

On the other hand, we have to note that redistribution in the industrial relations sphere does actually occur, which supports the 'snowball effect' view. As Howell (2003, p. 120) points out, 'focusing attention on the persistence of institutional arrangements may miss the breakdown of the social and political settlements underlying them and the consequent transformation in the substantive effects of

those institutions.' Thelen (2003, p. 228) puts it this way: 'Another way that institutions change is through processes of institutional conversion, as institutions designed with one set of goals in mind are redirected to other ends. These processes can be set in motion by a shift in the environment that confronts actors with new problems that they address by using existing institutions in new ways or in the service of new goals.' As increased marketization of corporate governance undermines distributional compromises in industrial relations (Beyer and Hassel, 2002), it may be misleading to focus on the stability of institutional structures as this may hide what Gilson (2000) calls 'functional convergence'.

In addition, the peaceful and perhaps complementary interplay of increased capital market orientation and organized industrial relations between 1995 and 2004 may have depended on background factors such as public financial support for early retirement. Changes in this respect might lead to more conflicts inside firms and, as a consequence, to more tensions between shareholder orientation and co-determination. However, if in the end a complementary relationship of shareholder orientation and co-determination seems at least conceivable, must the theoretical consequence be that complementarity may be possible in any given institutional configuration? This would be misleading as not every conceivable institutional configuration is functionally promising (Lipietz, 1985). Elective affinities between institutions actually exist. But the interplay of shareholder orientation and co-determination in Germany shows that the range of possible complementarities may be larger than the number of already existing configurations.

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Appendix

Definitions and sources of variables

Hall–Gingerich Index of the Coordination of Industrial Relations: combined index, covering the level of wage coordination, the degree of wage coordination, and labour turnover. Data Source: Hall and Gingerich (2004).

Coordination among Labour Bargaining Units: combined index, covering the degree of labour bargaining coordination among employers and employees: 1 = low degree of coordination, 3 = high degree of coordination. Data source: Layard *et al.* (1991).

Trade Union Regulation: index on trade union support by the state: 4 = low degree of regulation, 16 = high degree of regulation. Data source: Armingeon (1994).

OECD Index on Labour Market Regulation: combined index, covering working time regulation, fixed-term employment contracts, employment protection, minimum wages, and co-determination: 0 = low degree of regulation, 10 = high degree of regulation. Data Source: OECD Employment Outlook (1994).

Working Time Regulation: OECD Index: 0 = low degree of regulation, 2 = high degree of regulation. Data source: OECD Employment Outlook (1994).

Fixed-Term Employment Contracts: OECD Index: 0 = low degree of regulation, 2 = high degree of regulation. Data source: OECD Employment Outlook (1994).

Employment protection: OECD Index: 0 = low degree of regulation, 2 = high degree of regulation. Data source: OECD Employment Outlook (1994).

Minimum Wages: OECD Index: 0 = low degree of regulation, 2 = high degree of regulation. Data source: OECD Employment Outlook (1994).

Co-determination: OECD Index: 0 = low degree of regulation, 2 = high degree of regulation. Data source: OECD Employment Outlook (1994).

Hall–Gingerich Index of the Coordination of Corporate Governance: combined index, covering shareholder rights, market capitalization, and ownership dispersion. Data source: Hall and Gingerich (2004).

Shareholder Rights: Index on outside investor rights: 0 = low shareholder orientation, 5 = high shareholder orientation. Data source: La Porta *et al.* (1998*a*).

Ownership Dispersion: ratio of the stock market capitalization held by minority shareholders at 1994. Data source: La Porta *et al.* (1998*b*).

Market Capitalization: market capitalization of listed domestic equity issues at the end of 1996. Data source: OECD Financial Market Trends.

M&A Market Activity: ratio of the number of mergers and acquisitions and population, averaged over 1990–1997. Data source: Pagano and Volpin (2001).