What Connects Industrial Relations and Corporate Governance?
Explaining Institutional Complementarity

Martin Höpner

With Comments by Bruno Amable, Robert Boyer, Colin Crouch, Peter A. Hall, Gregory Jackson, Wolfgang Streeck, and an Epilogue by Martin Höpner

Paper forthcoming in:
Socio-Economic Review Vol. 3, Issue 2, 2005

The author is a research fellow at the Max Planck Institute for the Study of Societies Cologne.

Dr. Martin Höpner | hoepner@mpifg.de
Contents

PAPER

What connects industrial relations and corporate governance?
Explaining institutional complementarity
Martin Höpner 5

1 Complementarity and political economy 6
2 The notion of complementarity 6
3 Clusters of institutions among OECD countries 8
4 How complementarity works 11
   Modeling complementarity – Complementarity and outcomes
5 Origins of complementary institutions and dynamics of change 14
   “Varieties of capitalism”: the firm-centered view – French regulation school: tensions, hierarchies, diversity – Institution-building as experimentation and hybridization – Class politics
6 Shareholder orientation and industrial relations in Germany 20
References 25

COMMENTS

Three meanings of complementarity
Colin Crouch 32

Requirements for a useful concept of complementarity
Wolfgang Streeck 36

Complementarity in régulation theory
Robert Boyer 39
Complementarity, hierarchy, compatibility, coherence
Bruno Amable 44

Institutional complementarity: Causes and effects
Peter A. Hall 46

Modeling complementarity: Multiple functions and different levels
Gregory Jackson 51

EPILOGUE

What have we learnt? Complementarity, coherence and institutional change
Martin Höpner 55
What connects industrial relations and corporate governance?
Explaining institutional complementarity
Martin Höpner

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 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 colors are colors that together add up to white light,

---

1 I would like to thank David Marsden, Wolfgang Streeck, an anonymous referee, and all participants of the first workshop of the “Complementarity Project”, held in Paris, September 26–27, 2003, for their helpful comments.
such as red and green (Goethe’s color 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). 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 the use of IT and particular kinds of workplace organization (Bresnahan et al. 1999) are complementary.

In the discussion on different models of capitalism, 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 labor 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 labor 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; 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 insti-

---

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

tutions of production regimes and political institutions, such as the electoral system (Gourevitch and Shinn 2004; 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. Second, 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, spheres of the political economy. Third, the concept has consequences for political reform. In order to “exploit the benefits from complementarity” (Aoki 1999: 8), the theory would conservatively advise governments 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: 5; see also Boyer 2002a: 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 labor 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, codetermination 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 labor market institutions tend to have a high degree of organization of corporate governance and vice versa. This is indicated by both separate and composite measures. 4

---

4 Organized labor markets are those that are regulated by state intervention or collective bargaining.
out of 45 correlation coefficients point in the expected direction, 40 of them equal \( r = .30 \) 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.\(^5\) However, institutional clustering is an indication for compatibility, but no proof of complementarity. Clusters may exist for other reasons than their function. One possible reason is simply the existence of culturally related “families of nations” in the OECD world (Castles 1993). Another possible explanation is that political forces such as Social Democratic parties in government 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,\(^6\) 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 to 1995. He finds evidence that concentrated ownership structures, when combined with highly unionized industrial relations, lead to growth in high skill industries. Ownership dispersion and labor 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.

\(^5\) 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 second, creditor rights (being low in Scandinavian countries and France, but high in the United Kingdom and New Zealand).

\(^6\) 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: 21) in which France, Italy, Spain, Portugal, Greece and Turkey are described as intermediate cases.
<table>
<thead>
<tr>
<th></th>
<th>Hall-Gingerich index of the coordination of corporate governance</th>
<th>Shareholder rights</th>
<th>Ownership dispersion</th>
<th>Market capitalization</th>
<th>M&amp;A market activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hall-Gingerich index of the co-ordination of industrial relations</td>
<td>(r = .86^{**}) (n = 20)</td>
<td>(r = -.61^{***}) (n = 20)</td>
<td>(r = -.49^{**}) (n = 20)</td>
<td>(r = -.60^{***}) (n = 19)</td>
<td>(r = -.66^{***}) (n = 20)</td>
</tr>
<tr>
<td>Coordination among labor bargaining units</td>
<td>(r = .59^{***}) (n = 20)</td>
<td>(r = -.32) (n = 20)</td>
<td>(r = -.36) (n = 20)</td>
<td>(r = -.36) (n = 19)</td>
<td>(r = -.04) (n = 20)</td>
</tr>
<tr>
<td>Trade union regulation</td>
<td>(r = .52^{**}) (n = 20)</td>
<td>(r = -.39^{*}) (n = 21)</td>
<td>(r = -.39^{*}) (n = 21)</td>
<td>(r = -.33) (n = 20)</td>
<td>(r = .05) (n = 21)</td>
</tr>
<tr>
<td>OECD index on labor market regulation</td>
<td>(r = .84^{***}) (n = 19)</td>
<td>(r = -.72^{***}) (n = 20)</td>
<td>(r = -.52^{**}) (n = 20)</td>
<td>(r = -.59^{***}) (n = 19)</td>
<td>(r = -.67^{***}) (n = 20)</td>
</tr>
<tr>
<td>Working time regulation</td>
<td>(r = .36) (n = 19)</td>
<td>(r = -.33) (n = 20)</td>
<td>(r = -.36) (n = 20)</td>
<td>(r = -.38) (n = 19)</td>
<td>(r = -.47^{**}) (n = 20)</td>
</tr>
<tr>
<td>Fixed-term employment contracts</td>
<td>(r = .63^{***}) (n = 19)</td>
<td>(r = -.53^{**}) (n = 20)</td>
<td>(r = -.24) (n = 20)</td>
<td>(r = -.34) (n = 19)</td>
<td>(r = -.46^{**}) (n = 20)</td>
</tr>
<tr>
<td>Employment protection</td>
<td>(r = .57^{**}) (n = 19)</td>
<td>(r = -.60^{***}) (n = 20)</td>
<td>(r = -.37) (n = 20)</td>
<td>(r = -.48^{**}) (n = 19)</td>
<td>(r = -.72^{***}) (n = 20)</td>
</tr>
<tr>
<td>Minimum wages</td>
<td>(r = .53^{**}) (n = 19)</td>
<td>(r = -.57^{***}) (n = 20)</td>
<td>(r = -.46^{**}) (n = 20)</td>
<td>(r = -.42^{*}) (n = 19)</td>
<td>(r = -.51^{**}) (n = 20)</td>
</tr>
<tr>
<td>Co-determination</td>
<td>(r = .50^{**}) (n = 19)</td>
<td>(r = -.30) (n = 20)</td>
<td>(r = -.26) (n = 20)</td>
<td>(r = -.31) (n = 19)</td>
<td>(r = -.06) (n = 20)</td>
</tr>
</tbody>
</table>

Pearson’s 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, United Kingdom, USA.

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 labor turnover. Data Source: Hall and Gingerich (2004).

Coordination among labor bargaining units: combined index, covering the degree of labor 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 labor market regulation: combined index, covering working time regulation, fixed-term employment contracts, employment protection, minimum wages, and codetermination. 0 = low degree of regulation, 10 = high degree of regulation. Data Source: OECD Employment Outlook, 1994.


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


Ernst (2002) tests the complementarity thesis with data on output growth in 27 manufacturing industries of 19 OECD countries over the period 1970 to 1995. He finds evidence that concentrated ownership structures, when combined with highly unionized industrial relations, lead to growth in high skill industries. Ownership dispersion and labor 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

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 the complementary relationship between contingent company monitoring by main banks and team-oriented lifetime employment in Japan (Aoki 1994, 1999). 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.¹

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 labor-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

¹ The company specificity of employees’ skills leads to the same effect: Re-employment probability decreases, which increases incentives to prevent intervention and company liquidation.
model connects lifetime employment, the imperfect labor market and the main bank system. The beneficial outcome of their complementary interplay is an effective monitoring of Japanese team-oriented production.\(^2\) Aoki (1994) points out that this model best matches 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: 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. Labor 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.

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 labor. 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.\(^3\) 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 labor, and high capital market pressures combined with weak labor. The mechanism that links the two is the time horizon of wage-bargaining parties.

---

\(^2\) In addition, scarce monitoring resources are saved, as intervention is necessary only in exceptional periods.

\(^3\) 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.
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: 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: 109, 112) 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 maneuver 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 thus allow different profitability 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 to German firms, and every euro of annual turnover translates into two euros in terms of the company’s market value, as compared to 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 labor 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.

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 programs, 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: 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, 2003; 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: 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.
“Varieties of capitalism”: the firm-centered view

The “varieties of capitalism” approach “regards companies as the crucial actors in a political economy” (Hall and Soskice 2001: 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-centered 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 behavior 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: 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: 45–66) is not to present a final theory on this. Institutions may be created and adjusted by firms without direct state involvement; or politicians may anticipate firms’ needs and future complementarity 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: 517–520) 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) shows 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-centered 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: 50–54; Iversen and Soskice 2001; Mares 2001; Swank and Martin 2001). Mechanisms have been discovered that were overlooked by the trade-union-centered 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: 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-centered model: the regulation school and the approaches of Streeck and Roe.

**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. The first is the attention paid to the tensions between complementary elements of production regimes. While concurred with the idea of complementarity, regulation theory argues that institutional 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: 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: 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: 9; André 2002; Jackson 2004; Lipietz 1985; Streeck 2001a).

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

---

4 For a general introduction to regulation theory, see Boyer and Saillard (2002), Hübner and Mahnkopf (1988).
regulation theorists, Fordism was derived from the central status of the wage–labor nexus as the driving form of the production regime. The organization of the wage–labor 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–labor nexus in order to adjust it and correct the disequilibrium (Aglietta 1976: 383; Amable 1999: 11–15; Amable and Petit 1998: 6–7; Amable and Petit 2001: 10; Boyer 1990: 108; Boyer and Saillard: 39). Boyer (2000) discusses whether the hierarchy among interrelated institutions is currently changing again, placing the finance regime in the central position of the production regime.

Third, 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 (2002b: 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.

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 codetermination 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 the Second World War (Jackson 2001; Lehmbruch 2001; Streeck 2001a; 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 2001a: 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 fulfill an ex ante given mission and destiny in history (Lipietz 1985: 113–114).

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 labor movement (Streeck 1995: 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 2001a: 30–31).

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 2001b: 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).5 The German financial sector was shaped by two very different logics,

---

5 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
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).

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. 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: 44; see also Allen and Gale 1999). Second, politics decide on agency costs, depending on the strength of the labor movement (which Roe identifies with social democracy). According to Roe, the most obvious example is German codetermination, which pressures managers to side with employees instead of shareholders (Roe 2000: 7–9; Bebchuk and Roe 1999: 37). Codetermination also leads to ineffective management supervision by supervisory boards. The results are risk aversion, over-investment and expansion even if unprofitable, avoidance

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 codetermination, which was seen as alien to the economic system when codetermination 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.

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. (1998a), 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.
of rapid change, rigid labor 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 like transparent accounting, incentive compensation, hostile takeovers and proxy contests (Roe 2000: 12–18). 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: 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: 265).

In a cross-country comparison, Roe shows that ownership diffusion is low where labor 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 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 labor on the one hand, and countries with limited competition, concentrated ownership, and progressive outcomes for labor 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 favor less labor-oriented decisions in class struggle, and ownership diffuses (Roe 2000: 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.7

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.8 Shareholder orientation of large German companies increased

---

7 In fact, Ernst (2002) finds a “complementary” interaction effect between union strength and ownership concentration.
8 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.
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.

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 percent 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: 17 and 45; Höpner 2003a).

However, external impulses fell on fertile ground internally. Managerial elites obviously sympathized with Anglo-American company strategies. If one adds one more institution 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. Second, 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 four years between 1996 and 1999 and in the 40 largest German industrial companies, top managers’ salaries increased by an average of 66 percent – plus stock options (Höpner 2001: 24–27; 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 codetermination 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 value companies might attempt to abolish codetermination. As surveys among managers of big firms show, workforce codetermination has become part of a widely accepted economic culture. Codetermination 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.9

The amount of consensus between capital and labor on the introduction of shareholder-oriented business strategies is surprisingly high (Max-Planck-Institut für Gesellschaftsforschung 2002: 40–42). How can this be explained? Paradoxically, some features of shareholder value lead to an increase in codetermination (Höpner 2003b). 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 codetermination. Shareholder orientation also strengthens the power of supervisory boards in their interaction with managers. When the Codetermination 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

9 Unlike the prediction of the Amable model, cooperation in wage bargaining seems to increase instead of decrease under conditions of rising capital market pressure.
agreement was required. Now, as a result of shareholder value, the power of supervisory boards is on the rise again, and every increase in supervisory board rights is an increase in effective codetermination.

Most restructuring is implemented in agreement with works councils. This may 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 center, and works councils act primarily in the interest of core employees. Second, profitability-oriented restructuring may also affect wages in the core units. Kurdelbusch (2002) has 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. Third, 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: 10) or like a "snowball effect" (Hall and Gingerich 2004: 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 codetermination 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, codetermination 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 codetermination were ab-
sent. 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: 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: 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 2003 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 codetermination. However, if in the end a complementary relationship of shareholder orientation and codetermination 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 codetermination in Germany shows that the range of possible complementarities may be larger than the number of already existing configurations.
References


Howell, C. (2003) ‘Varieties of Capitalism: And then there was one?’, Comparative Politics, 36, 103–124.


Three meanings of complementarity
*Colin Crouch*

At least three different meanings of complementarity are identified in Höpner’s paper, ranked in descending levels of clarity and rigor:

1. Complementarity where components of a whole mutually compensate for each other’s deficiencies in constituting the whole.
2. Complementarity in the economist’s sense of two goods, a fall in the price of one of which will lead to a rise in the demand for the other.
3. Complementarity as similarity.

Complementarity where components of a whole mutually compensate for each other’s deficiencies in constituting the whole

This is the strictest meaning because it defines two phenomena (in our case institutions) as complementary when they have opposed characteristics, such that a whole comprises the two parts. Höpner cites the computer scientist’s sense of complementary binary numerical series. Two hemispheres that form a sphere are another good example. It is well worth looking for such cases in institutional analysis, as they are rich in information and predictive possibilities. But they may be relatively rare, and as Höpner warns more generally, there are temptations to functionalism if we search for “necessary” complementarities of this type. It is important to note that this use of the term is the opposite of what is implied by the majority of current institutionalist uses of complementarity, which cluster around meaning 1.

Examples of such complementarity would be:

a. Non-transferable company pension schemes in US corporations, which offset the tendency towards high labor mobility of many other US labor market institutions.
b. Highly portable skill qualifications in Germany, which offset the tendency towards low labor mobility of many other German labor market institutions.
c. The role of big institutional investors in the US economy, whose individual impact on a firm or whole sector can be so large that they cannot behave as in a pure market, but need to act strategically, often engaging in dialogue with firms’ managements. They thereby offset the tendency to spot markets of some other US financial institutions, and make possible a supply of patient capital. (An interesting example of this would be the Californian Public Service Pension Scheme, one of the very largest investors, and often depicted as the purest expression of the US system. The very idea of a public service pension fund is itself a compensating element in the model of US capitalism. If the USA really was characterized primarily by markets,
there would be very few public service employees in California, and they would not have a collective pension scheme.)

Complementarity in the economist’s sense

The second form is extremely useful. It is however not as rigorous as it seems, and correct use needs to be both aware of this and to be willing to exploit its resulting flexibility. A good example of this kind of complementarity would be the hypothesis that, if the price of flour falls, there will be a rise in demand for tomatoes. This happens because the fall in the price of flour causes a reduction in the price of pizza, leading to a rise in demand for tomatoes, flour and tomatoes (with some other ingredients) being complementary parts to the whole pizza. Although this is very rigorous, it is also contingent and empirical. Unlike cases falling under 1, there is no logical relationship between flour and tomatoes, such that one is defined as the characteristics lacking in the other. They are linked by a purely empirical phenomenon, the pizza. This is the fortuitous consequence of human creativity, certain human tastes, the coincidental existence of large numbers of tomatoes in the region where pizza dough was first developed, and then a large quantity of tradition. This complementarity depends on certain strong *ceteris paribus* clauses. A change of taste (for example, resulting from further growth of the recently fashionable tomato allergy) and growing popularity of *pizze bianche* could destroy the relationship altogether.

Examples of this type of complementarity abound at the level of institutions, for example those discussed by Streeck in German and Japanese historical development. The bundle of characteristics of those economies came together because actors worked creatively to bring them together. Over a long period they then adjusted them to make them fit better. (Sometimes it may even have been a matter of making the best of initially unpromising material. German trade unionists may well regard *Mitbestimmung*, not as a *pizza*, but one of those highly spiced southern Italian dishes, highly successful, but designed initially to conceal the fact that the meat was often rotten.) A later observer is likely to think that they were either made in heaven or at least strategically planned, but in fact they resulted from a mass of adjustments: *pizza napolitana*; German corporate governance.

If we bear in mind the role of human creativity in forging these complementarities, we shall be aware that entrepreneurial actors may intervene at points of change and produce surprising new combinations that unsettle the *ceteris paribus*. These complementarities are not necessarily rigid. If they are worried about tomato allergy, pizza makers might take advantage of a decline in the price of flour to reduce the price of *pizze bianche*, in order to encourage their consumption. German *Aufsichtsrat* worker representatives take advantage of new forms of corporate governance in order to gain from transparency.
Identification of the role of actors here also encourages us to look for different types of links that bind the complementary items. The basic economist’s model assumes that the link is the market and ultimately consumer preference and taste. But the Coasian firm as organization may also be at work. Assume that there is a pizza-making monopoly, which firm is also trying to break into the mobile phone business. It therefore uses a fall in the price of flour, not to reduce the price of its pizza, but to cross-subsidize its mobile phones. We therefore observe that a fall in the price of flour leads to a rise in the demand for mobile phones. This is certainly a complementarity in the strict economist’s sense, but it exists at a different level from that of the consumer-driven market case of the pizza. Many of the institutional complementarities observed in the literature that can be related back to a public policy take this form. Government (or the policy elite more widely defined) is a policy monopolist, and it acts across a range of areas. Certain apparent consistencies between, say, industrial relations and welfare state institutions may take this form. They are real enough and can be significant; often social actors will work on them subsequently in a Streeckian way to make some sense of the link; and they may become very entrenched. But these are not complementarities existing at a profound sociological level; they certainly do not imply relationships of necessity.¹

Complementarity as similarity

It follows from much that has been said above that I consider the use of complementarity to designate institutions that have some kind of similarity as quite misleading. All notion of completion through compensation, crucial to 1 and 2, is missing. This does not mean that cases of institutional similarity are not interesting. They may constitute cases of Wahlverwandtschaften, which are certainly well worth study. But, in general, similarity among institutions may be taken as a lack of complementarity, such that some of the useful balancing characteristics of truly complementary components are missing. It is very confusing if we give a concept two contradictory meanings.

¹ Complementarity as “reciprocal reinforcement” might be seen as another type discernible in Höpner’s account. It refers to situations where the existence of one institution provokes that of another, which in turn strengthens the first, and so on. This is a powerful concept, as it can demonstrate how certain kinds of path dependence might be created. But is it necessarily complementarity? We should bear in mind the idea of ‘completion’ contained in our concept, and the implications of a certain kind of efficiency; the identified components of the complementarity need to constitute some kind of whole. By itself, reciprocal reinforcement does not imply this at all. Two phenomena might simply reinforce each other without together forming a whole. Complementarities of types 1 and 2 may well include cases of reciprocal reinforcement, and it will be important to note this when it occurs. However, this then becomes a possible attribute of complementarity, not a separate form of it.
So much is nomenclature, but a difficult substantive issue is raised here. The logic of strict complementarity (types 1 and 2) is that certain efficiencies are achieved when balancing or contrasting characteristics are found alongside each other. To use less functionalist terms, such an approach stresses the advantages of the mongrel over the pedigree animal: the latter has heavily reinforced characteristics, which means that vulnerabilities are exaggerated, while the mongrel avoids such reinforcement and may therefore appear more "balanced." At the same time, of course, the pedigree animal, because it does have exaggerated characteristics, does some things particularly well. Both types of animal offer advantages, but they are different types of advantage. (Thoroughbred racehorses will run much faster than a wild horse; but their legs break more easily.) The same may be true of ensembles of institutions. Those based on balanced complementarities may be adept at certain activities; those based on similarities at others.

This is fine, and leads us to interesting research questions about when which type is appropriate (there are different horses for different courses, as the British saying has it). Unfortunately however this is contradicted by various research findings, cited extensively in Höpner’s paper, which suggest that “mixed” cases always do worse than “pure” ones (the work by Hall and Gingerich is the most extreme formulation of this hypothesis). There are several potential ways of reconciling these findings with the theoretical arguments in favor of institutions with compensatory features:

1. It is possible that, by concentrating on broad, basic characteristics of institutions, these studies miss smaller, inconsistent, empirical features that provide the ‘compensation’. For example, how many studies of US capital markets look at the role of certain kinds of venture capitalism (the so-called angels) who provide a certain form of patient capital? If these studies did notice these things, they would have to regard them as a source of inefficiency, since they clearly contradict the spot market image of US capitalism. But such a conclusion could well be wrong.

2. There may be an important difference between just “mixed” institutions and those that embody truly compensatory features. In principle this is a convincing idea: it cannot be assumed that at any moment just any jumble of institutional characteristics will constitute a complementarity. It is not any jumble of ingredients that makes a pizza. This suggests a hard task for research, identifying complementarities among the general jumble.

3. Observations of relative performance between structures based on complementarities and those based on similarities may not hold for all times and criteria. The Hall and Gingerich research includes some surprising examples of lack of success. If one focuses on some other criteria of economic success than growth, Austria, the Netherlands and Switzerland would appear as among the world’s most successful economies during the 1970–97 period studied. Again, this suggests a big research agenda.
Requirements for a useful concept of complementarity
Wolfgang Streeck

Any useful concept of complementarity must contain an explicit assumption on the relevance of *efficiency constraints* for institution-building. If it was high, institutional complementarity, to the extent that it enhances economic performance, would have to be an important ongoing concern for actors. There are, however, reasons to believe that most economic systems command a great deal of slack; that the time lag between decisions on institutional structures and their economic effects is long; and that an unpredictably changing environment permanently resets the conditions of economic performance, rendering it futile to follow current performance requirements too narrowly. To this extent institution-builders may rationally neglect economic complementarity and pursue other targets, such as social stability. By implication this would assume loose rather than tight coupling of system elements, allowing for change in individual institutions without negative feedback caused by efficiency pressures from supposedly complementary institutions.

Five more requirements come to mind:

1. Complementarity as a meaningful concept must be open to the fact that different institutions tend to be controlled by different elites with different interests, and especially with their own ideas as to which institution must be adjusted to enhance the functioning of the other. Particularism of functional domains and institutional elites must be recognized as an empirical condition that must somehow be overcome for there to be complementarity. This requires that mechanisms be specified by which such particularism may in practice be overcome. Put more abstractly, tendencies of social subsystems towards *structural differentiation and functional autonomy* must be taken into account as facts of life that raise fundamental questions of system integration. This holds in particular in a world in which some sectors have become internationalized while others are still nationally constituted, making societies less than ever susceptible to being governed from a hierarchical center.

2. A useful concept of complementarity must allow for manifold historical and political *contingencies and constraints* getting into the way of actors pursuing institutional complementarity. Except for extreme cases, institutional adjustment in pursuit of complementarity can therefore only be partial. Nor can institutional designers avoid accommodating interests other than economic efficiency and performance. This is likely to result in endemic tensions and inconsistencies in social arrangements that will necessitate constant readjustment.

3. Very fundamentally, a useful concept of complementarity must entail a credible account of the origin of complementarity in the *absence of a grand design or a master designer*. This means that “economizing”, in the sense of adjusting institutions to
make them more productive by making them more complementary, must be conceived largely as taking place “on the ground” and bottom-up, by discovery, improvisation, or serendipity. Formation of an efficient production regime would then depend on Schumpeterian creativity under Hayekian conditions of distributed intelligence, where institutional designers are just one category of players among others and where no player has the capacity, except in very rare conditions, to impose a coherent blueprint on a society’s institutional architecture. Put otherwise, what must be avoided is the implication of an all-powerful “complementarity-maker”, be it a state or a business class, making a production regime efficient by provident institutional intervention. It is only on the baseline of a non-functionalist, action-theoretical, historical account of the formation of institutional orders that the possibility of deliberate, voluntaristic institutional design in the service of economic performance may be entertained. While purposive institution-building undoubtedly exists, analytically it must be placed in the context of the ongoing evolution of social systems, among other things by recognizing the inherent limits to the cognition of even the most powerful actors and to their effective control over the behavior of others.3

4. Functionalist accounts of the origins of institutional complementarity, that is to say, must be made compatible with historical-genetic accounts featuring “real” as opposed to efficiency-theoretical causal relations. For example, Höpner mentions that “Aoki’s model connects lifetime employment, the imperfect labor market and the main bank system”, in the sense that it shows how they work beneficially together to

---

2 Consider Höpner’s example where he suggests that “Anglo-American style liberalized employment protection may not fit into an organized economy like Germany’s”. It does fit, however, and quite nicely judged by levels of both income and employment, into the organized economy of Denmark, with its high levels of training effort and much higher unionization than Germany. To make the two fit, a special sort of – highly organized – labor market policy had to be invented that combines very high unemployment benefit with sharp sanctions against workers unwilling to take a job offered to them by the employment office. Another example for the basically unpredictable creativity of practical action is the emerging combination of “shareholder value” capital markets policy and co-determination in large German firms. Höpner does point out that their compatibility was originally dependent on government-financed early retirement. But skilled actors that manage against the odds to combine previously incompatible institutions or social practices, may also be capable of inventing functional equivalents for background conditions that have become unsustainable. In Germany, employers and trade unions have responded to the end of government funding of early retirement by funding it by collective agreement (Altersteilzeit). It is, I maintain, mostly through such “fixes” that political-economic institutions and production regimes in reality evolve, even though and precisely because they will not keep long and will require new fixing after a few years.

3 In a fascinating recent book, *Dictatorship, State Planning, and Social Theory in the German Democratic Republic* (Cambridge University Press, 2003), Peter Caldwell shows how in the late 1960s intellectuals in the *Sozialistische Einheitspartei* failed in their effort to improve the economic planning process as the Party refused to face the “challenge of a horizontal world with multiple centers, improbable complexity, and planless self-generation” (p. 184). Scholars studying the “varieties of capitalism” should avoid making the same mistake.
make possible effective mutual monitoring in team-based production. There is, however, no point in time when the three elements were jointly designed for the purpose Höpner (following Aoki) attributes to them. The imperfect (external) labor market of Japan came about in the early twentieth century when employers, operating under stark labor scarcity, tried to reduce worker turnover and eliminate independent artisans from the organization of factory work by no longer hiring workers from each other, locking their workforces into internal labor markets, especially of large firms. After the Second World War, enterprise unions were in part formed from below and in part imposed on workers by employers, cementing the internalization of labor in the firm. Lifetime employment then became the only major obligation for employers that unions were able to fight for and win, preventing employers from firing workers after they had made it impossible for them to quit. The main bank system, meanwhile, reflected the policies and constraints of national economic developmentalism and was only later discovered to be a resource for firms trying in adverse economic conditions to live up to their 1950s and 1960s postwar settlement with labor.

5. Finally, and importantly, a useful concept of complementarity must leave space for institutional change, including major change, short of a comprehensive redesign of the system as a whole. In other words, it must answer the question how change should be possible in spite of the mutual reinforcement between institutions that is implied in the idea of performance-driven complementarity. In addition to endogenous change, importation and assimilation of “foreign” institutional arrangements must be systematically provided for. This requires assuming loose enough coupling between system elements, so that change in one element becomes conceivable which then may create new contingencies and constraints for other elements, posing new puzzles for actors seeking institutional complementarity in the pursuit of economic efficiency.
Martin Hüpner provides a stimulating analysis of the links between industrial relations and corporate governance and then delivers a prognosis about the future of German institutional architecture. This is an opportunity to point out some striking convergences with regulation theory and to confront the vision of possible trajectories elaborated from these two analytical frameworks.

Coevolution, institutional complementarity or hierarchy?

The concept of complementarity was not present in earlier research in which régulation theory stressed the notions of accumulation regime, régulation mode, architecture of institutional forms, exogenous driven and endogenous generated crises. Later, the inner development of this research agenda has shown the usefulness of two concepts, institutional complementarity and institutional hierarchy. The major emphasis of régulation theory was on structural transformation and the endogenous co-evolution of institutional forms. It might be useful to give definitions of these three notions.

The more central concept stresses the fact that a coherent régulation mode is only the post factum outcome of a series of innovations and adjustments. All institutional forms result from social compromises that are then embedded in law, jurisprudence, social norms and conventions. Each of these institutional forms induces some specific behavior, of firms, wage earners, banks and so on. At the level of the economy, there is no automatic mechanism that would ensure their compatibility. Instead, institutional forms continuously adjust and thus co-evolve. Co-evolution is the process of trial and error through which a series of institutional forms that are initially disconnected and formally independent (since they result from institutionalized compromises among diverse agents in different fields) adjust to one another until a viable institutional configuration emerges. The economic adjustments then become part of a mode of régulation and retrospectively appear as coherent. This extends to institutional analysis a concept developed by neo-Schumpeterian theories for the joint evolution of technologies and organizations. However, the mechanisms at work may differ: in the latter case it may be market selection while in the former political processes play a decisive role.

In retrospect, analysts of a past or present régulation mode may it find useful to invoke the concept of institutional complementarity. More precisely, complementarity of institutional forms describes a configuration in which the viability of an institutional form is strongly or entirely conditioned by the existence of several other institutional forms, such that their conjunction offers greater resilience and better performance compared to alternative configurations. For example, the Fordist wage-labor nexus.
and a credit based monetary regime proved complementary, as were the competitive wage-labor nexus and the gold standard regime. “Comparative Institutional Analysis” stresses the same idea concerning the complementarity of keiretsu, employment stability and the main bank system in Japan (Aoki 2001). It has also been used to capture some of the features of Silicon Valley as a possible new institutional configuration. The notion of institutional complementarity seemingly translates at the macroeconomic level into the theory of super-modularity (Milgrom and Roberts 1990), but the underlying mechanisms are quite different: institutional complementarity is observed only ex post and does not derive from organizational or technological complementarity.

Observation of the transformations of industrialized countries during the last two decades has shown the value of a third notion, that of hierarchy of institutional forms. This describes a configuration in which, for a given era and society, particular institutional forms impose their logic on the institutional architecture as a whole, lending a dominant tone to the mode of régulation. Whereas the notion of institutional complementarity implies symmetry between two or more institutions, institutional hierarchy stresses asymmetry. Two definitions can be given, one static and the other dynamic. Institutional hierarchy by design means that during the conception of one institutional form, the constraints of another, superior institutional form are explicitly or implicitly taken into account. For instance, the monetary regime put forward by a conservative central bank implies flexible labor market adjustments and the absence of structural deficit spending by governments. According to a second interpretation, the transformation of one institutional form guides the development of (several) other institutional forms through the range and intensity of its repercussions. In Fordism, the wage-labor nexus played this role because of the founding compromise from which it originates. In the 1980s, it was replaced by the monetary and financial regime which tends to dictate developments in other areas.

Both concepts, of complementarity and hierarchy, may give the impression of a completely deterministic system without any uncertainty or slack. Cross-national comparison of régulation modes has shown, however, that the fit between institutions is far from perfect. The concept of hybridization precisely describes the process through which tentatively imported institutions are transformed via their interaction with domestic institutional forms. This means that there are some degrees of freedom within each general institutional form. Hybridization is a major factor explaining the evolution of institutions and the diversity in institutional architectures. Of course, another source of dynamics for régulation theory is the inner development of tensions within a given architecture. The recognition that the fit among institutions is always partial and transitory brings to the fore the mechanisms diagnosed by comparative historical analysis: layering and conversion are powerful mechanisms of evolution (Thelen 2003). Again this implies a “softening”, or at least a more careful use, of the concepts of complementarity and hierarchy.
The German case: so many interpretations!

How do the previous notions help in understanding the contemporary transformation of German institutions? Will the shareholder orientation of the large firms erode German industrial relations, especially co-determination? Let us review briefly a series of possible interpretations none of which seems totally convincing, exhaustive or mutually exclusive.

– The general interpretation of Martin Höpner gravitates around the hypothesis of an hybridization of German labor institutions by the diffusion and redefinition of shareholder values. But this is a rather general analysis that has to be broken down into a series of sub-hypotheses.

– After all, the Hall and Soskice interpretation of strong complementarity between nearly all the German institutions might not be completely right. Actually, the current diffusion among large companies of shareholder value might mean that the main bank system and patient capital on one side and codetermination and work councils on the other side were in the past compatible but not necessarily complementary.

– A third interpretation would be that the inner functioning of codetermination is redefined under the pressure of the adoption of shareholder value by major German corporations. This would imply that labor market institutions and governance structure are experiencing a conversion which in the long run might amount to a significant transformation in the institutional architecture. The central argument would be that there is a lot of slack in any institutional order, even within the tightly organized “social market” economy.

– Still another vision may stress the differences between the levels of the firm and of the economy. At the micro level, it may be possible to insert shareholder value into codetermination and work councils, but this may mean growing inequalities as well as less employment, which in the end would necessarily destabilize the extant mode of régulation. In a sense, the poor macroeconomic performance of the German economy since the mid-1990s would be evidence of such a divergence between the micro corporate regime and the conditions of stability at the macro level.

– This raises the issue of heterogeneity among firms within the same institutional context. Perhaps large German corporations may be able to combine shareholder value and codetermination, but this need not necessarily be so for small and medium sized firms. Since these do not have access to financial markets and do not usually benefit from public subsidies and support (for instance via early retirement), the demography of German firms may be adversely affected and consequently, the viability of the whole institutional architecture could be threatened.

– Maybe the observation of a surprising compatibility between shareholder value and codetermination derives from the fact that while the two are in fact incompatible, it takes time for institutional change to give rise to a new régulation mode that can be recognized as such by experts and economic actors. Institutional change
manifests itself only in the long run. Apparent compatibility would only reflect the *built-in inertia of institutional systems*.

- A variant of a previous interpretation emphasizes the role of early retirement and other public policies in procuring the agreement of workers for restructuring and employment reduction under the pressures of shareholder value. Compatibility between changing corporate governance and unchanged industrial relations would be secured through a permissive social policy. (Later, when the various disequilibria pile up in a large public deficit, the ongoing evolution becomes unsustainable.) This means that complementarity would exist, not between two, but between three institutions (Figure 1) – or that *incompatibility between two institutions would be resolved by the addition of a third one*. By extension, the whole institutional architecture might play this role, but this makes the analysis quite difficult.

![Figure 1 Complementarity among several institutions and not only two](image)

A An apparent incompatibility of two institutions  
B The catalytic role of a third institution

- Yet another interpretation of the same process is the following. In the Golden Age of the “German model”, under the aegis of codetermination and works councils, wage earners had a leading role. Today, while the legal organization of industrial relations has remained unchanged, a shift in the bargaining power of firms has enabled them to impose a shareholder value strategy. Therefore, in terms of outcomes, the system is no more the same, in spite of the large continuity in its governance institutions. Hence the hypothesis of a *shift in the hierarchy between corporate governance and industrial relations*.

- One could also infer that *institutions per se are unimportant* compared to two powerful structural economic transformations: more intense competition in the single European market and as a result of globalization, and the entry of international investment funds in Germany. This is precisely the argument developed by some theorists of finance (Rajan and Zingales 2003). They believe that in the long run institutions are selected according their efficiency and this is enhanced by the development of international markets and finance.

- However, this vision can be challenged in turn. The survey of the Max Planck Institute may point to *functional convergence* of outcomes through adaptation on the margins of existing domestic institutions. This would contradict the hypothesis of definitive institutional complementarity at the national level as well as of supermodularity at the firm level. A series of marginal innovations following es-
established German principles would deliver the economic performance required by market competition, resulting in convergence of performance in spite of institutional diversity.

So many interpretations seemingly sustained by the same empirical evidence! Can this uncertainty be reduced by further research?

References

The notion of institutional complementarity is always, implicitly or explicitly, based on a theory of institutions. I will define institutions as political economy equilibriums that correspond to a compromise between conflicting social actors. By fixing the rules of the game, institutions suspend but do not abolish social conflict. Therefore, rather than directly linking institutions and institutional change to economic performance, one should analyse institutions with respect to the establishment and evolution of social compromises. Institutional complementarity must then be assessed with respect to the decision processes that lead to a particular compromise. It is grounded in a socio-political equilibrium, rather than being an expression of the various performance measures associated with different institutional configurations. As exposed shown by Amable (2003), the institutional configuration of an economy depends on the political support provided by a dominant socio-political coalition or “social bloc.“ Institutional change is the outcome of strategies aimed at improving the situation of some or all components of the dominant bloc. The bloc itself being heterogeneous, institutions are always the result of compromises between actors who do not generally have perfect vision of all interdependencies and complementarities between institutions. With changes in agents’ options and strategies the social compromise has to be continuously re-established.

The notion of hierarchy of institutions is also related to that of political equilibrium. Political actors seek political support from a dominant social bloc (Palombarini 2001). They will tend to implement institutional change in a direction that satisfies the existing dominant bloc. This has consequences for institutional change, which happens more easily where the groups forming the dominant bloc have little interest. By comparison, change will be implemented more cautiously in domains where the most powerful socio-political groups have vested interests. Institutions at the top of an institutional hierarchy are those that are most crucial for the socio-political groups that constitute the dominant bloc. Modification of the latter may lead to changes in the institutional hierarchy, and hence in the pattern of institutional complementarities. A changing environment may modify the strategies of the groups that form the dominant bloc, which in turn may lead to a restructuring or breaking-up of the bloc. This will cause more or less radical institutional change (up to a change of “model”), depending on the extent of the changes in the pattern of alliances between social blocs and political actors.

What can be said about other concepts frequently associated with complementarity? Complementarity is by no means synonymous with institutional isomorphism, i.e., the presence of identical principles in different institutional areas. Institutional isomorphism and institutional complementarity are totally independent notions which may or may not coincide depending on the case considered. Overemphasis on “common
principles” presumably comes from a generalisation of the empirical properties of specific national models. The state was supposed to be active in every institutional area in France, hence France was considered “statist”; free markets and competition are supposed to prevail everywhere in the US, hence the “logic” of the US model is a free market logic, and so on.

These particular configurations, however, represent only one version of institutional complementarity. Complementarity may also exist where very different “logics” operate in different institutional areas. One could for example envisage a free market logic on the labor market coupled with comprehensive and de-commodified social protection. The apparent lack of coherence is no weakness, except perhaps for the social scientist who believes that agents would be so disturbed by a coexistence of a free market logic on labor markets and a logic of de-commodification in social protection that they would become schizophrenic. The establishment of a compromise does not depend on adoption of common principles or common values by all actors, or even by the actors that form the dominant bloc. In fact, imposing isomorphism could very well destabilise a model by making some of the established compromises more fragile. In fact one may doubt the viability of a model where the market logic would apply to all institutional areas. Excessive emphasis on institutional isomorphism may reduce the complexity of institutional complementarities and make comparative institutional analysis fundamentally one-dimensional.

The notion of compatibility of institutions may be defined in the following way. Institutional forms x and y are compatible if their coexistence does not set in motion a process of institutional change in the sense that some political forces would like to keep x and change y. Therefore, institutions x and y are not compatible if there is no stable (which does not mean eternal!) equilibrium including both x and y, i.e., no stable socio-political compromise. Coherence may be distinguished from compatibility by pointing out that compatibility refers to the relationship between a given number of institutional forms whereas coherence concerns the whole institutional structure of an economy. Coherence is related to the stability of the political coalition supporting a given “model.” A model defined by an institutional structure (x, y, z) can be said to be coherent if there is a stable political equilibrium supporting all the compromises behind the institutions. Once again, coherence should be conceived independently from common principles or “logics”. In most cases, there is no single logic able to reflect the totality of institutional complementarities and the hierarchy inherent in a given economic model.

Reference
Institutional complementarity: causes and effects

Peter A. Hall

When analyzing institutional complementarities, it is vital to distinguish between two different issues. The first concerns the effects of institutions where the question is: what effects follow from the presence of (one or more) institutions? The second concerns the basis for institutional origins or change where the question is: why do (one or more) institutions come into being, dissolve or change? In conceptual terms, these are separate questions and should initially be treated as such.

With respect to the first question about effects, the concept of complementarity, in the sense in which I find it most useful, posits that one (or more) institution(s) may enhance the effects of another institution (or of several others). This is the issue addressed in Hall and Gingerich (2004): do certain kinds of institutions in the sphere of corporate governance enhance the effects of specific types of labor-market institutions (and vice versa)? That is a difficult enough problem to resolve without simultaneously asking what may be implied about institutional change.

It is also an important problem. If the economic impact of a specific set of institutions in the sphere of labor markets (or industrial relations) depends on the type of institutions for corporate governance present in the economy, then, most efforts to assess the impact of labor-market arrangements that do not also consider the nature of corporate governance will produce misleading conclusions. Much of the literature on labor markets commits this error. Interaction effects of this sort can condition the impact of many kinds of institutions. Hall and Franzese (1998) argue, for instance, that the character of wage coordination conditions the impact of central bank independence. This phenomenon lies at the heart of the theories of the régulation school. Even if we were to ask no other question, this one is worth exploring.

Effects on what and for whom?

Of course, this formulation of the problem raises the issue of what effects are entailed by the presence of an institutional complementary. Hall and Gingerich (2004) focus on the impact of institutions on national economic performance. But institutions that have no effect or deleterious effects on national performance might still be described

---

4 If complementary institutions for corporate governance are not included in the regression analysis, for instance, estimates of the impact of a particular set of labor-market institutions will be mispecified, unless institutions for corporate governance are distributed randomly across the national cases, and Gingerich and Hall (2002) show they are not.
as “complementary” with respect to their impact on the interests of other actors in the economy. Roe (2000) emphasizes this type of effect. He claims that concentrated shareholdings are complementary to industrial relations systems that entrench the power of employees from the perspective of their impact on shareholders’ interests even though they might not enhance overall economic performance or serve the interests of labor. Thus, when we speak of the effects associated with a complementarity between institutions, we must specify what effects we have in mind and for whom they are beneficial. The choice of what effects to study belongs to the analyst and should turn on the broader issues s/he seeks to illuminate.

It is useful to highlight the distinction between complementarities that enhance aggregate economic performance (levels of growth, employment, productivity, etc.) from those that deliver benefits primarily to a few specific groups. These two categories are not mutually exclusive. On the contrary, complementarities that enhance aggregate performance may exist or endure only because they also serve the interests of particular actors.

Herein lies one of the latent debates in the literature of political economy. The institutions of coordinated market economies such as those of Germany, including forms of worker protection embodied in works councils or social policy and some features of corporate governance, which are said by Hall and Soskice (2001) and many others such as Crouch and Streeck (1997) to enhance aggregate economic performance, are said by others to damage aggregate performance and simply deliver rents to specific groups of actors (cf. Pagano and Volpin 2001). My own view is that many of these institutions deliver rents and enhance aggregate performance (against some standard that must be specified), but this issue has not yet been explored adequately. The conventional concept of “rents” obscures the important issues, because it is based on implicit comparison to an alternative scenario characterized by fully competitive markets that is often unrealistic.

However, this debate reveals the underlying importance to this topic of distributive issues. Who benefits from a specific set of complementarities? Although “insiders” may gain more than others from some arrangements, do all not often gain to some degree? It also reveals the importance of counterfactuals to the problem of assessing the effects of institutional complementarities. When specifying the impact of an institution, we must do so against some standard that imagines an alternative world, and the range of institutional variation in the relevant universe does not always specify realistic alternatives. When assessing the impact of German institutions for wage coordination, do we do so against an alternative that imagines a German economy without trade unions or do we imagine that economy with powerful unions but no institutions for wage coordination?
Complementarity and institutional change

I turn now to the second question: how might the analysis of complementarities help us to understand how institutions originate and change? We can avoid unnecessary debate by ruling out approaches to this problem based on crude forms of functionalism. I first encountered political science when the field was debunking the structural-functionalism of Parsons (1951) followed by the functionalism of some variants of neo-Marxism (cf. Elster 1983). To my mind, the core observation was that of Merton (1949) who pointed out that many different types of institutions often serve as "functional equivalents" for one another. If this is true, and I believe it is, then the presence of one set of institutions cannot dictate the presence of a specific set of other institutions, even if the two are complementary. Similarly, I am skeptical that the social world throws up anything as coherent as a "system" with "imperatives" that some institution must be created to fulfil. Hall and Gingerich (2004) note that complementarities may help to explain the presence of institutions but cannot constitute a full explanation. For that, of course, we must turn to politics, which is often a messy process.

However, this observation does not mean that the effects of institutions and hence of institutional complementarities are entirely irrelevant to institutional development. The questions here are: How relevant are they? When are they relevant? And which institutional effects are consequential?

I take the cautionary points made by Streck, Crouch and others that institutions are not always designed to be complementary, that complementarities are often "discovered" after an institution has been established for other reasons, that the development of complementarities frequently entails a process of institutional experimentation, and that, in a world replete with institutions and redundant capacities, complementarities with roughly similar effects can be fashioned out of diverse sets of institutions. But I want to defend the contention that institutional effects of the sort present when two (or more) institutions are complementary to each other can be important to the politics of institutional creation and change. I am interested in deciding to what extent such effects are important – both in general terms and in concrete instances.

There is a good pedigree for understanding politics in terms that render complementarities relevant to institutional creation, erosion and change. It lies in perspectives that regard political action as driven, in some measure, by the interests of the actors as the latter perceive them. This is a useful perspective. Swenson (2001) persuades me that Swedish employers agreed to universal social benefits because they believed this type of benefit system could serve their interests. Moreover, the value to employers of such benefits turned on the effects of institutional arrangements previously adopted in another sphere of the political economy, namely, the sphere of industrial relations. In short, Swedish employers saw a complementarity between concerted wage negotiation and universal pension benefits, and the crucial political support they gave to the latter was conditioned by a calculation about the effects of this institutional complementarity.
Does this exhaust the range of factors that motivate political action? Of course, not. Can actors be motivated by considerations other than economic interest? Of course, they often are. Are they sometimes mistaken about what will serve their interests? Yes. Do political actors have to balance multiple interests (assigning each a weight in a multivariate preference function) when assessing how a proposal will affect their interests? Of course, they do (Hall forthcoming). *Eppur si muove*. Lasswell (1936) was right that politics is usually about “who gets what, when, where and how”, and I believe it a mistake to think that the managers of a firm or the leaders of trade unions do not consider the effects of a policy carefully and often accurately when deciding whether to support it or not.

If this is true, then, complementarities can be consequential for processes of institutional creation and change. The remaining problem is to determine just when that is the case. The problem is complicated by the fact that institutions must not simply be created but also operated. No matter how beautiful a practice or how deeply entrenched it is in law, if actors defect from it, as many German firms now seem to be defecting from some forms of concertation formerly organized by employers associations, then it will erode (cf. Kume and Thehen 1999). As Streeck points out, governments often seem to play an architectonic role in processes of institutional creation. But, as he well knows, they can be incompetent architects. In short, various kinds of incrementalism are built into the processes whereby institutions come into being, endure or erode, and we need to know more about how these processes of incrementalism operate. However, I would start this inquiry from a consideration of the effects of the institutions, both as we perceive them and as the relevant actors perceived them at the time.

Having done so, one can then ask: what considerations beyond the aggregate welfare effects associated with institutional complementarities enter into the decision process? Once again, one of the key issues concerns the relative role of ‘distributive’ versus ‘general’ gains. My starting supposition is that the distributive effects of an institution (or of an institutional complementarity) are most crucial to the process whereby it is established. An institution must advance the interests of a sufficient number of actors for the requisite coalition in support of it to be assembled, whether in the political arena, if the government initiates the institution, or in another arena, such as that of industrial relations, if the institutional practice is built there. What this means is that, even if we want to understand complementary institutions as ones that enhance the aggregate economic performance of the unit at hand, we should acknowledge that it is often not their aggregate effects *per se*, but the distribution of actor-specific effects, that is most crucial to the relevant processes of institutional creation and change.
References


Modeling complementarity: Multiple functions and different levels

Gregory Jackson

Whether we consider corporate governance (CG) and industrial relations (IR) to be complementary or not depends on what outcomes we are interested in. Any notion of complementarity requires specification of a utility function — but Höpner’s review shows that the literature, in fact, offers us several competing models (agency costs vs. transaction costs vs. causal models etc.). Probably it will prove useful to see these as different dimensions rather than as mutually exclusive. In this case, a schematization of the various functional linkages between CG and IR is needed.

Given two institutional domains such as “corporate governance” and “industrial relations,” models of complementarity make take several general forms:

(a) CG → IR
(b) CG ← IR
(c) CG ←→ IR
(d) CG IR

Firm Strategy

Corporate governance may be seen as an independent variable facilitating or constraining patterns of industrial relations — or vice versa. Or both factors can be seen as independent variables whose interaction effects are important for some third institution or performance outcome. More complex versions may consider additional domains, such as welfare state institutions.

Next, how are the various domains actually linked? Let’s take two examples from the literature.

Hall and Soskice: Their model stems from the field of industrial economics and is specified as a transaction cost model (Hall and Soskice 2001). Their model interprets the German case as having patient capital and employee voice as complementary institutions contributing to German industrial success. Commitment by investors supports stable long-term employment, investment in worker training, and cooperative industrial relations. These institutional complementarities are closely linked to dynamic (X-) efficiency in lower volume, high quality product markets that require high skills (Streeck 1992, 1997). This view fits model (d), above. Change in one domain would take effect through firm strategy and performance.

Roe: Mark Roe specifies his model in terms of agency theory (1999, p.194). The focus is on how industrial relations impacts corporate governance. Similar to Hall and Soskice, Roe sees concentrated ownership and codetermination as “complementary” in the sense of being mutually reinforcing, but in a very different way. The argument is that
Codetermination leads to poor managerial accountability by dividing the supervisory board into factional benches, diluting the board’s overall powers and promoting collusion between management and employees (Pistor 1999). Codetermination increases agency costs to shareholders because “diffuse owners may be unable to create a blockholding balance of power that stockholders would prefer as a counterweight to the employee block.” In this way codetermination impacts ownership structures, making concentrated ownership the only effective “solution.” Conversely, codetermination is “in tension” with dispersed ownership and will result in lower numbers of widely held corporations. Roe’s model stipulates a direct causal impact of IR on CG, as shown in (b), above.

Thus different authors stress different causal arrows. We could easily add to the list by considering how CG impacts IR (Model a) through patterns of investment and degree of control. Model (d) could be extended to account for indirect impacts, such as where CG impacts firm strategy, and this in turn has an important impact of the development of IR. A second point is that where Hall and Soskice think in terms of the commitment of investment to particular firms or arm’s length market investments, Roe is thinking in terms of distributional conflict between social classes. We may add a third dimension of corporate accountability, where investors and employees are linked in monitoring management. Höpner and I have discussed these three distinct types of linkages in our work (Jackson et al. 2003). These considerations show a huge complexity in the number of causal arrows, and the multiple mechanisms linking investment, distribution and control need to be specified.

In sum, we might reasonably assume X as being complementary to Y for doing Z. But real world social actors must deal with multiple functions (Z₁, Z₂, Zₙ) and trade-offs between them. Making inferences about the overall complementarity of two institutions, let alone their causal relationship, would require a meta-model to sum up all the possible functions. To make matters worse, utility functions are not given “naturally” but relate to strategic choices by actors, and thereby remain empirically contingent (as discussed by Crouch). The fit between institutions is often an “unintended” result of incremental adaptations, as shown by the reconfiguration of Japanese wartime institutions toward new ends in the post-war period (Aoki 1997). Moreover, we would have to account for exogenous conditions. For example, corporate governance faces problems of both “overinvestment” and “underinvestment”, depending on the lifecycle of firms, sectors and economies. This raises serious issues about the scope of economic models and their relationship to empirical research. For now, we can observe: Institutions or “domains” often perform multiple functions and we cannot tell a priori which utility function will drive overall performance – e.g. be most relevant to economic performance under a given set of conditions (states of nature).

---

5 Logically, “tensions” may exist as the inverse of complementarities, although existing literature has yet to make this explicit and think about how to label these cases.
A closely related issue is that any model must specify the level where complementarity is assumed to operate. Here the distinction between functional domains and specific institutions is crucial. The term *domain* designates some historically given or common sense vision of how functions cluster together, and often implies a specific constellation of collective actors. Corporate governance may be considered as a domain in terms of various functions – fostering investment, allocating risks, securing returns etc. But each domain, in turn, is itself a “system” that consists of distinct *institutions* – patterns of ownership, corporate law, financial regulations, boardroom practices, etc.

Does complementarity exist at the level of domains (e.g. with respect to the way a function such as firm-specific investment is performed) or of specific “historically individual” social or legal institutions (e.g. independent directors, codetermination, etc.) within those domains? One institution in the CG domain may be compatible with one element of industrial relations, but less so with others.

My comparison of Germany and Japan may be illustrative here (Jackson 2003). Both countries are grouped together by the Varieties of Capitalism literature as having long-term committed capital as well as labor. As capital relations become more marketized, this poses different problems for each country because long-term employment is backed by different institutions with different social and political foundations. German works councils are less resistant to corporate restructuring because they have strong legal rights to representation, strong employment protection, and a strong welfare state to which to externalize the costs of adjustment. Japanese enterprise unions also have strong employment guarantees but are unable to externalize adjustment costs to the state. As a result they face greater dilemmas when confronted with changing organizational boundaries. In short, we see similar functional complementarities but different institutional linkages. To sum up: Understanding how corporate governance and industrial relations interact depends on what models are used to specify their relations across different levels of analysis.

The two issues discussed above compound themselves if we attempt to apply the concept of complementarity to institutional change or the evolution of social systems. Indeed, much sloppiness or confusion in the literature comes from moving from complementarity in some dimension of performance, to the causation of institutional outcomes themselves. Each economic model captures just one dimension of economic life and represents just one causal factor. Moreover, institutional forms are relatively robust to the varying economic functions for which actors utilize them.

In my view, these functions are often blurred in economic models. First, institutional forms are often equated with a specific function. Hall and Soskice have some tendency to do this, which is why their typologies concern two “types” rather than a wider array of social forms. This points to the age-old problems of linking economic and sociological models of action.
Second, a strong relationship is assumed between increasing returns from complementary institutions on the one hand and the inherent viability of an institution on the other. Even leading economic theorists such as Aoki (2001) and others have not adequately addressed this distinction in their written work. It is tempting and probably quite correct to think that some institution A may only be viable/efficient/able to survive in combination with certain other institutions. This assumption is the basis for all comparative and “configurational” approaches to economic institutions. For example, the stock market may only be viable (or will be more viable) with strict legal rules for disclosure. But this does not mean that institution A is either a necessary or a sufficient condition for institution B. Necessary or sufficient conditions for an institution to exist are only a very special case of complementarity. Put another way, if we have two complementary institutions A and B, it makes a big difference whether we are saying a change in A will lead to changing performance of B, or to a change in B itself.

References


EPILOGUE

What have we learnt? Complementarity, coherence and institutional change

Martin Höpner
1 Complementarity versus coherence

The commentators have defined complementarity in different ways. Our discussion has focused on the complex interrelations of three phenomena: institutional complementarity, coherence, and change. Clear and distinct definitions that avoid preliminary assumptions about their empirical interplay are an essential precondition for discussing the links between them (see, for example, Amable’s comment). Institutional complementarity means that the functional performance of an institution A is conditioned by the presence of another institution B and vice versa. This, I suggest, is the way we should continue to define complementarity, independently from both the sources of complementarity and the consequences for institutional change. Complementarity, then, refers to functional features of institutions.

Institutions also have structural features. Different institutions can be structured in a coherent way, or they might impose different, perhaps conflicting, governance modes and therefore lack coherence. Complementarity can exist without coherence, coherence without complementarity. By crossing complementarity and coherence, we can distinguish four cases.

<table>
<thead>
<tr>
<th>Coherence of governance modes (structural feature)</th>
<th>Complementarity (functional feature)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Coherent institutions, productive interplay. US and German &quot;models&quot; of corporate governance and industrial relations in the Varieties of Capitalism literature.</td>
</tr>
<tr>
<td>0</td>
<td>Lack of a counterbalancing institution. No capital market in the GDR.</td>
</tr>
<tr>
<td>1 Productive interplay of elements in an incoherent configuration. Highly portable skill qualifications of German vocational training.</td>
<td>Dysfunctional tensions. Intermediate cases in the Hall/Gingerich U-Curve.</td>
</tr>
</tbody>
</table>

The interaction effect in field 1/1 is empirically demonstrated in Hall and Gingerich (2004). Between 1971 and 1997, growth among OECD countries was significantly higher if institutions promoted strategic coordination not only in the corporate governance sphere, but also in the industrial relations sphere. The same was true if market coordination in the corporate governance sphere was combined with market-driven industrial relations. Incoherent combinations, however, performed poorly. These cases are found in field 0/0.

In his comment, Crouch argues convincingly that institutionalism must not underestimate the importance of 0/1 complementarity by attributing productive institutional interaction only to 1/1 situations. The highly portable skills generated by German vocational training, which exist although fluctuation of workers between firms is low, are an example for this. Educators, to add a non-institutional example, tell us that good learners learn better in groups that also include bad learners. The 1/0 field points
to situations in which the institutional setting is coherent from the perspective of governance modes, but where the introduction of incoherent, counterbalancing modes of governance would be likely to increase performance. For example, the introduction of functional equivalents to a Western style capital market in the German Democratic Republic (GDR), while structurally hostile to the main economic institutions in Socialist economies, may have allocated investments to more productive sectors.

2 Specification of perspective

The search for complementarity requires specification of performance criteria and perspectives (see the comment by Hall). There are often conflicts of aims between different kinds of performance (for example, growth and environmental protection). In addition, institutional complementarity might increase overall macroeconomic performance, or alternatively the welfare of particular groups. Complementarity therefore depends on perspective. If it causes redistribution, one person’s complementarity is another’s institutional dysfunctionality. Imagine a worker in a company unit with less than average profitability, who gets dismissed because management and works council aim to increase overall profitability and job security in the core units.

Coherence also requires a definition of criteria. Governance modes are only one structural aspect of institutions. Another one is the distribution of power. Production regimes with organized industrial relations and organized corporate governance seem coherent in the sense that both domains facilitate strategic coordination (as distinguished from market behaviour). However, if we focus on power distribution, the coherence vanishes. Organized corporate governance gives power to blockholders and banks, but organized industrial relations redistribute power to employees – which seems to be a case for the 0/1 field rather than for 1/1.

3 Complementarity and institutional change

The relationship of complementarity and institutional change is a controversial issue (compare, for example, the comments by Hall and Streeck). The presence of one set of institutions cannot dictate the presence of other institutions, even if the two are complementary, writes Hall in his comment. Compare this, however, to the most contentious sentence in Hall and Soskice’s “Introduction to Varieties of Capitalism”: “[N]ations with a particular type of coordination in one sphere of the economy should tend to develop complementary practices in other spheres as well” (p. 18). These two sentences open up an array of empirical possibilities from which we can rule out only the extreme positions: Neither does complementarity totally determine institutional change, nor is institutional change entirely independent from functional-
ity (which is, in part, conditioned by complementarity). The actual impact that complementarity has on institutional change must be determined empirically. Our discussion has helped to identify criteria for empirical research:

a. **Intensity of the interaction effect.** The more intense the functional effect deriving from complementarity, the more likely the evolution of complementary institutions.

b. **Effects on distribution.** How does transition to a configuration that increases the benefits from complementarity affect the distribution of power, finance, and status (see, for example, the comments by Amable and Streeck)? Such effects can speed up, slow down, neutralize, or even counterbalance the impact of complementarity on institutional change. Following Hall and Gingerich, a production regime with organized corporate governance is likely to increase economic growth if industrial relations become organized, too. However, employers are never enthusiastic when they forfeit managerial prerogatives to works councils and trade unions, and they rarely do so voluntarily. The more powerful the groups that benefit from change, the more likely change will happen.

c. **Political foundations.** It makes a difference whether an institution is protected by law or not (see the comment by Jackson). German codetermination cannot be abolished bottom-up because works councils are mandatory.

d. **Experimentation.** In his comment, Streeck explores further criteria that are necessary to decide whether complementarity should be expected to launch institutional change. Neither do institutions totally determine actors’ behaviours, nor are actors necessarily aware of the (actual or potential) effects that derive from institutional interaction. Complementarity will lead to institutional change only if institution-builders are *ex ante* aware of the functionality of institutional relations. What Streeck calls “economizing” is therefore more likely to take place “bottom-up, by discovery, improvisation, or serendipity” (see Streeck’s comment) than in the moment of initial institution building.

4 **Institutional hierarchy**

All discussants seem to agree on the usefulness of the concept of institutional hierarchy as developed by scholars in the tradition of the French regulation school (see especially the comments by Amable and Boyer). Relationships between institutional domains are often implicitly described as a heterarchical or symmetrical interaction. In his comment, Boyer defines institutional hierarchy as a situation in which particular institutional forms are strong enough to impose their logic on other forms of the same configuration. In the light of our discussion, the concept of institutional hierar-
chy is important, first, in the case of performance-driven transitions from dysfunctional 1/0 situations to 1/1 complementarity. Only one internal logic remains after such institutional change, and it is an open question who imposes change on whom. Second, the concept is also useful with respect to the subcase of 0/1 complementarity that Crouch emphasizes. If the functionality of a configuration is based on the interaction of different governance modes, it remains to be determined where the boundaries between conflicting modes are located, i.e. who imposes constraints on whom. The regulation school hypothesizes that the financial sector is currently enhancing its hierarchical position vis-à-vis industrial relations. The idea of changing hierarchies among institutions opens up a dynamic perspective on the interaction of institutions and raises promising hypotheses on the dynamics behind current production regime changes.

5 Limits of the concept

Our discussion has shown that the concept of institutional complementarity is helpful for understanding the internal logic of institutional configurations. It challenges the focus on effects of single institutions, and redirects our attention to the functional effects of configurations. However, institutionalism should also be aware of the limits of the concept. Our discussion has revealed some of them. Complementarity describes only one special case of institutional interaction. In my article, I described the whole range of links between corporate governance and industrial relations discussed in the literature; many of them have nothing to do with complementarity, but are direct causal links between structural features of the two institutional domains (see also Jackson’s comment). The concept does not tell us whether complementarity derives from similarity or from heterogeneity, as empirical examples exist for both 1/1 and 0/1 complementarity. Also, the concept does not provide valid predictions with respect to institutional change, apart from the vague certainty that complementarity is one of many possible sources of change. Even the compatibility of complementary institutions cannot be taken for granted. Complementarity is a highly abstract concept, describing one possible functional feature of institutional interaction. Its sources and consequences, however, have to be specified by empirical research on actual institutions in a given space and time.

Reference