

A MEASURE OF COMPARATIVE INSTITUTIONAL DISTANCE

JASPER J. HOTHO¹

University of Groningen

Abstract. Three varieties of institutionalism currently dominate international business studies: new institutional economics, new organizational institutionalism, and comparative historical institutionalism. Yet corresponding measures of institutional country distance are only available for the first two strands of institutionalism. This paper addresses the under-representation of comparative historical institutional thought in currently available measures of institutional distance. Building on Whitley's business systems framework, a measure of institutional distance is developed and validated which captures intrinsic, substantive institutional differences in economic organization, rather than differences in institutional effectiveness. The results of the two-stage cluster analysis used to validate the selected indicators closely approximate the business systems typology, which is both indicative of the validity of this measure and of the distinctiveness of the business system types that make up the business system framework.

¹ Mailing address: University of Groningen, Faculty of Economics and Business, Dept. of International Business & Management, P.O. Box 800, 9700 AV Groningen, The Netherlands. Tel : +31 (0)50 363 3929. E-mail: j.j.hotho@rug.nl

INTRODUCTION

Country differences are central to many of the questions addressed in international business (IB), and intrinsic, substantive country differences have been employed to explain a wide range of behaviour by multinational enterprises. National cultural differences for example, have been used to explain the location of MNE activity (e.g. Grosse and Goldberg, 1991; Grosse and Trevino, 1996), entry and establishment mode selection (e.g. Kogut and Singh, 1988; Drogendijk and Slangen, 2006), internationalization sequence (Erramilli, 1991), or international joint venture dissolution (Park and Ungson, 1997; Hennart and Zeng, 2002). In recent years, institutional differences and the notion of institutional distance have received particular attention; evidenced for example in a string of special issues on the role of institutions in the *Journal of International Management* (2003), *Organization Studies* (2005) and, recently, the *Journal of International Business Studies* (2008).

What institutions are however, and what types of institutions are of interest, differs by level of analysis and by the subject under consideration (Aoki, 2001; Scott, 1995). As a result, several varieties of institutionalism have emerged (Scott, 1995), and various measures of institutional distance have been developed and applied in correspondence with these different varieties of institutionalism. Three varieties in particular have recently dominated in IB research: new institutional economics, new organizational institutionalism, and comparative historical institutionalism¹. For the first two strands of institutionalism, relatively well-developed measures of institutional distance are available, such as measures on the rule of law as employed in comparative corporate governance (e.g. La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1998), or there is consensus on how suitable instruments can be developed, as in the case of new organizational institutionalism (e.g. Kostova, 1999; and Busenitz et al., 2000).

The starting point of the third variety of institutionalism, comparative historical institutionalism (e.g. Whitley, 1999; Hall and Soskice, 2001), is that the key institutional elements in a society are reciprocally constituted. Key institutional and societal features are presumed to develop interdependently over time, resulting in intrinsic differences in economic organization between countries. One of the more elaborate comparative institutional frameworks available is developed in the work of Richard Whitley on the varieties of capitalism (Whitley, 1992; 1999). Whitley points to the coherent variation of countries on key institutional features and business system characteristics, such as

between characteristics of the domestic financial system and the type of owner control, on the basis of which distinctive business system types can be distinguished. Due to the complex interdependencies between societal features, this strand of institutionalism largely relies on extensive systematic qualitative comparisons to describe such differences between countries (Maurice, 2000). Partially as a result of this qualitative orientation, no indicator of institutional distance is currently available which builds on the thought of comparative historical institutionalism.

This is a major omission from the IB literature, given the central role of intrinsic country differences in our understanding of international business. It implies that for many IB researchers, currently available measures of institutional distance do not suffice. The institutional indicators borrowed from international economics are indicative of the effectiveness of (formal) institutions, such as in protecting property rights and in preventing corruption, rather than of intrinsic differences in country-level institutions such as between Germany and the United Kingdom. Measures of institutional distance developed from the perspective of new organizational institutionalism instead rely on the decomposition of the institutional context into the regulative, normative, and cognitive components which guide social behaviour (Kostova, 1997, 1999; Walsh, 1995; Busenitz et al., 2000). However, social behaviour is constrained by different institutional elements in different settings. Such measures can therefore only be compiled with respect to narrow domains (Kostova and Roth, 2002), such as the legitimacy of a particular organizational practice, which is at a much lower level of analysis than the majority of studies in international business.

The objective in this paper is to develop a measure of institutional distance which captures intrinsic, substantive institutional country differences in economic organization, rather than differences in institutional effectiveness. The measure or scale of institutional distance developed in this paper is based on the key institutional features applied by Whitley (1999) to distinguish and characterize distinctive business systems. In the development of such a measure of comparative institutional distance, three consecutive steps are taken. The first step is the identification of suitable indicators which approximate these key institutional features. The second step is the verification of the validity of the selected indicators. To that end, we perform a two-step cluster analysis to assess whether Whitley's business system typology can be reproduced on the basis of these indicators. The final step is the development of a measure of institutional distance, and the calculation of institutional distances between the OECD countries used in our sample. We start this paper with a discussion of the three

varieties of institutionalism which have dominated international business, and with a discussion of Whitley's business system typology.

VARIETIES OF INSTITUTIONALISM AND INSTITUTIONAL DISTANCE

Scholars in economics, sociology, political science and organization studies rely on vastly different conceptions of what institutions are. Such varieties of institutionalism differ in whether institutions are primarily perceived as regulative systems, normative systems or cultural-cognitive systems, as well as in the level of analysis (Scott, 1995). As a result, depending on focus and level of aggregation, scholars with an interest in institutions have come to focus on such diverse topics as the effect of formal regulations on the location of foreign investment (e.g. Bevan, Estrin, and Meyer, 2004), the effect of new technologies on job roles in radiology departments (Barley, 1986), or the role of organizational symbolism (Dandridge, Mitroff, and Joyce, 1980). Ultimately, as Aoki (2001) concludes, "which definition of an institution to adopt is not an issue of right or wrong; it depends on the purpose of the analysis" (Aoki, 2001: 10).

Of all the varieties of institutionalism, three varieties in particular have dominated international business research over the past two decades, namely new economic institutionalism (or rather new institutional economics), new organizational institutionalism, and comparative historical institutionalism. The identification of the dominant varieties of institutionalism is of course dependent on the issue at hand, and on where one draws the line between international business and other domains. Morgan and Kristensen (2006) for example only distinguish between organizational institutionalism and comparative historical institutionalism, which suits their discussion on the institutional duality within MNEs. The three strands of institutionalism which are considered here however, correspond with the dominant themes which are addressed within the broad domain of international business; both in terms of research questions and in terms of level of analysis. While the aim is not to be exhaustive—a rare feat when one attempts to discuss the many (and heterogeneous) strands and sub-strands of institutionalism—an attempt is made to position each variety within either economics or sociology. It is subsequently argued that for each variety of institutionalism appropriate measures of institutional differences are available, except for comparative historical institutionalism.

New Institutional Economics

The first dominant strand of institutionalism in international business, *new institutional economics*, is strongly rooted in microeconomic thought. New institutional economics has found widespread application in, for example, historical economics (North, 1990, 1991) and in game theoretic approaches to the formation and change of macro-economic institutions (Aoki, 2001), but also in the sub-fields of international business in which the effectiveness of country-level institutions is paramount. The kernel of new institutional economics is perhaps best understood in contrast with the view of institutions from which it intended to differentiate itself, that of the ‘old’ institutional economists such as Thorstein Veblen, John Commons, and Gunnar Myrdal.

At the beginning of the 20th century, and in particular in the *interbellum*, a group of economists rebelled against the neo-classical view of the economy as a relatively closed model. The fundamental principle of what became known as *institutional economics* was that as all institutional features of society are interdependent (including individual preferences), the analysis of economic problems cannot occur without taking into account the dynamics of the entire social system (Myrdal, 1978). However, the acknowledgement of institutional idiosyncrasies and the complexities of society implied that their institutional analyses often resulted in “tentative generalizations and mere plausible hypotheses” (Myrdal, 1978: 775), which to others appeared to contribute little to the formation of theory (Coase, 1998). Following World War II therefore, the role of institutional economics was largely marginalized in favour of conventional economics (Hodgson, 2007; Lowndes, 1996).

Widespread appreciation in economics for the role of institutions returned in the 1970s and 1980s, most notably through the work of Douglas North and Oliver Williamson, in the form of new institutional economics. Both old and new institutional economists acknowledge that institutions matter. The *crucial difference* however is that new institutional economists view institutions as *endogenous*, or as adaptable constraints, rather than as conditioning individual choice. As such, individuals are assumed to create and shape institutions independent of cultural preferences, and they are assumed to do so according to the principles of microeconomics (Mayhew, 1989). This permits a detailed analysis of both institutions and their effectiveness. The hallmark definition of institutions in new institutional economics comes from historical economist Douglas North (1990), who states that “institutions are the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interaction” (1990: 3). Although North and others acknowledge the

existence of both formal and informal institutions, in practice new institutional economics is often reflected in a focus on (compliance with) formal rules and regulations (Williamson, 2000).

Current discussions on institutions in economics have moved beyond the simple dichotomy between old and new institutional economics. Aoki (2001), Greif (1998) and others for example, have adopted a largely game-theoretical approach to understanding the emergence of institutions. While *comparative institutional analysis*, as it has become known, remains strongly rooted in new institutional perspectives of institutions, comparative institutional analysts pay particular attention to the interdependence between the outcomes of games in various economic domains (Aoki, 2001). However, perhaps more interesting in the light of the current discussion is the recent revivalism of old institutional economic thought, in particular the evolutionary work of Veblen and the notion of endogenous preferences, in understanding socio-economic evolution (e.g. Brette, 2006; Hodgson, 1998, 2003, 2007; Potts, 2007). A similar trend is that even new institutionalists such as Douglas North increasingly acknowledge the cognitive implications of institutions (Dequech, 2002; Hodgson, 2007).

In international business however, most economics-based approaches to institutions essentially remain new institutional economic perspectives on what institutions are, and on how and why they affect organizations. Therefore, what continues to distinguish economics-based views of institutions from sociological and organization theory-based views of institutions in IB is that saliently, institutions are presumed to constrain the actions of actors in the pursuit of their interests, but institutions are presumed to have no or little effect on the interests which actors pursue, or on the preferences of actors other than what the rules of the game exclude. For example, as Aguilera and Jackson (2003) note, agency-approaches to comparative corporate governance traditionally focus on characterizing different governance mechanisms, but are unable to account for the observed differences in governance. In addition, institutions or institutional characteristics are implicitly assumed to be relatively unrelated; there is at least more concern for the effectiveness of individual institutions than for the idea of coherent institutional configurations. This has translated into what Jackson and Deeg (2008) term a “variable-based approach” to institutions, in which institutions are conceived as factors which quite independently “constrain or impact [...] the cost of IB activity” (Jackson and Deeg, 2008: 542).

This is not necessarily problematic. Within international business, new institutional economical perspectives are most often assumed in studies which focus at the effects of differences in the effectiveness of country-level institutions. Examples are studies on the effect of formal institutions on

trust in business partners (Rao, Pearce, and Xin, 2005), or on the effectiveness of macro-economic institutions in providing the stable institutional environment necessary for the establishment of wholly-owned subsidiaries (as in Meyer, 2001; Meyer and Peng, 2003; and Dikova and Van Witteloostuijn, 2007). For many studies implicitly adopting a new institutional economical perspective on institutions, therefore, the selection of indicators on institutional effectiveness simply suits their research objectives. It becomes problematic however when studies include indicators on institutional effectiveness where a measure of intrinsic institutional differences would be more appropriate.

Table 1 about here

New Organizational Institutionalism

The second dominant variety of institutionalism within international business is new organizational institutionalism (Meyer and Rowan, 1977; DiMaggio and Powell, 1983; Powell and DiMaggio, 1991). Rooted in sociology and organization theory, the focus of new organizational institutionalism is on organizational forms and organizational practices (Powell and DiMaggio, 1991) rather than on ‘the rules of the game’ of new institutional economics. Similar to how new institutional economics is best understood when contrasted with old institutional economics, new organizational institutionalism is best understood in contrast to ‘old’ organizational institutionalism, even if the differences between the two are less pronounced than in the case of old and new institutional economics (Lowndes, 1996).

The use of the phrase ‘old institutionalism’ is somewhat deceptive, as it may suggest that the institutionalisms in sociology and organization science which predated new organizational institutionalism are relatively homogeneous. This is not the case, as for example Scott (1987) illustrates in a seminal review of the “many faces of institutional theory” (1987: 493). The ‘old’ organizational institutionalism against which the ‘new’ positioned itself however, is the strain of organizational institutionalism of which Philip Selznick has been singled out as the main proponent (see Powell and DiMaggio, 1991); not the least because of his hallmark definition of organizational institutions.

The focus of old organizational institutionalists such as Selznick (1949, 1957; Broom and Selznick, 1955) and Clark (1960, 1972) has been on explaining the distinctiveness or ‘character’ of individual

organizations. It was argued that organizations develop such distinctive characters, such as distinctive practices (Clark, 1960) and distinctive competences (Selznick, 1952), because in the interplay between internal interests and the external environment some practices become institutionalized. Such practices persist even when conditions change because they become “*infuse[d] with value* beyond the technical requirements of the task at hand” (Selznick, 1957: 17). Although in current depictions of the old institutionalism conflict, power and influence are often emphasized (e.g. Powell and DiMaggio, 1991; Greenwood and Hinings, 1996), old institutionalists see institutionalization as a neutral adaptive mechanism of organizations (Selznick, 1996) which promotes stability by creating “orderly, stable, socially integrating patterns out of unstable, loosely organized, or narrowly technical activities” (Broom and Selznick, 1955: 238).

The notion of institutionalization in old and new organizational institutionalism differs primarily in whether institutionalization is argued to occur within individual organizations or rather within specific domains or fields. In old institutionalism, institutions are intra-organizational patterns and activities which makes the organization the primary unit of analysis (Greenwood and Hinings, 1996). Instead, in new institutionalism institutionalized elements are part of more widely shared belief systems (Scott, 1987). The implication is that whereas the old organizational institutionalist idea of institutionalization can be applied to explain differences between organizations, the ‘new’ uses institutionalization to explain homogeneity in organizational forms and practices across organizations (Powell and DiMaggio, 1991).

Broadly speaking, in the perspective of new organizational institutionalism “institutions are taken for granted ways of acting, which derive from shared regulative, cognitive and normative frames” (Morgan and Kristensen, 2006: 1470). Such beliefs, myths, and symbols are shared across organizational sectors, and institutionalized organizational forms and conventions therefore differ by organizational field rather than by individual organization (Powell and DiMaggio, 1991). Organizations conform to such institutionalized beliefs because it is rewarding: Conformity increases organizational legitimacy, access to resources and, ultimately, organizational survival (Meyer and Rowan, 1977). In contrast with for example new institutional economics, in new organizational institutionalism behaviour is not only restricted through formal institutions, but it is also guided and encouraged by cultural-cognitive systems and normative pressures (DiMaggio and Powell, 1983). It is such isomorphic pressures which explain convergence in organizational structures and practices.

In international business—international management in particular—the notion of new institutional distance has been primarily developed and refined in the work of Kostova and others (Kostova, 1997; 1999; Kostova and Zaheer, 1999; Kostova and Roth, 2002). New organizational institutionalists in international business hold that when the institutional environment of countries in which the MNE operates differ considerably, MNEs face a considerable challenge in establishing and maintaining internal and external legitimacy (Kostova and Zaheer, 1999), and in transferring organizational practices to foreign subsidiaries (Kostova, 1999; Kostova and Roth, 2002). The larger the institutional distance between the home and the host context, the larger the institutional duality experienced by local subsidiaries (Kostova and Roth, 2002), and the larger the complexity faced by MNEs. Various contributions demonstrate how the institutional environment can be decomposed into the respective regulative, normative, and cultural-cognitive elements which affect organizational behaviour in a particular setting (Kostova, 1997; Busenitz et al., 2000; Kostova and Roth, 2002). Subsequently, country institutional profiles can be compiled which reflect the extent to which the institutional environments of countries differ. However, since the institutional elements which guide behaviour in any particular setting are specific to the issue at hand, such profiles and institutional distances cannot be generalized (Kostova, 1997).

The use of new institutional distance in our understanding of international business has become more and more widespread. Xu and Shenkar (2002) for example suggest how the regulative, normative, and cognitive distances between the home and the host country may affect the location and entry mode strategy of MNEs. Others rely on new organizational institutionalist thought to explain expatriate adjustment (Ramsey, 2005), subsidiary staffing strategies (Gaur, Delios, and Singh, 2007), or the organizational identification of subsidiary managers (Vora and Kostova, 2007). However, an important limitation of new institutional distance is that the higher the level of aggregation, the more difficult it becomes to identify and segregate the relevant regulative, normative, and cultural-cognitive institutional elements. This is especially the case when one relies on publicly available data sources rather than on tailor-made surveys (for a telling example, see Xu, Pan, and Beamish, 2004). Therefore, measures of institutional distance which build on new organizational institutionalism are most suited to the analysis of the legitimacy and transferability of particular practices, rather than the analysis of firm-level phenomenon in international business.

Comparative Historical Institutionalism

Comparative historical institutionalism, in various guises (Whitley, 1999; Maurice and Sorge, 2000; Hall and Soskice, 2001), starts from the idea that a country's key institutional elements are reciprocally constituted, in the sense that key institutional and societal features developed interdependently over time. This is a characteristic it shares with old institutional economics (see Table 2), which in similar vein is strongly rooted in the social sciences. Institutions are predominantly conceived as social institutions at the societal level, whose relations with economic actors and with the organization of economic activity are contextually embedded and therefore non-universal. From the perspective of comparative historical institutionalism, it is the reciprocal constitution of institutions and actors which explains the emergence and persistence of intrinsic differences between societies, such as in the organization of work (Maurice et al., 1986) and production systems (Hollingsworth and Boyer, 1997), and, more generally, in the form of economic organization (Whitley, 1999).

Within the domain of international business, comparative historical institutionalist thought has been employed to understand the effect of institutional characteristics of both the country of origin and of the host country on the structure and organizational practices of MNEs (Kristensen and Zeitlin, 2001). For example, Harzing and Sorge (2003) find that the country of origin strongly affects the types of corporate control mechanisms employed. Matten and Geppert (2004) suggest that substantive characteristics of both the home and host institutional context affect subsidiary work-system design, while Saka (2004) relates such differences to the transfer of knowledge. Recent work has emphasized how the institutional duality with which MNE subsidiaries are confronted may lead to micro-political games and power struggles (Dörrenbächer and Geppert, 2006), such as over the standardization of practices and policies (Ferner et al., 2005; Morgan and Kristensen, 2006), or over the internal division of resources (Morgan and Kristensen, 2006).

To characterize such inherent country differences, comparative institutionalists have traditionally relied on 'thick' qualitative descriptions (Maurice, 2000). Though insightful, such descriptions often tend to be relatively particularistic (e.g. Van Iterson and Olie, 1992), and extensive systematic characterizations of large groups of countries are relatively rare. Hall and Soskice (2001) for example rely on the insightful but relatively simple dichotomy between liberal and coordinated market economies to characterize and classify Anglo-Saxon and continental European economies. To date, the most elaborate and systematic attempt to classify countries by institutional characteristics remains to be

found in the work of Richard Whitley (1992, 1994, 1999). Whitley's characterization and classification of distinctive business system types, which culminates in the comparative business systems framework, is therefore often applied to characterize the institutional environment of countries.

The comparative business systems framework builds on the systematic differences in institutional arrangements and economic activity observed in comparative analyses of both European and Asian market economies (e.g. Hamilton and Biggart, 1988; Lane, 1992; Maurice, Sellier, and Silvestre, 1986; Sorge, 1991; Van Iterson and Olie, 1992; Whitley, 1990). The key notion, as in comparative institutionalism in general, is that the way in which economic activities in countries are organized is often internally consistent, and that the characteristics of market economies are closely related to the dominant type of institutions (Whitley, 1994; 1999). Market economies are argued to differ mainly in the dominant type of ownership relations, in how the relations between economic actors are coordinated, and in the form employment relations take (Whitley, 1998). The particular form a market economy takes is assumed to be particularly dependent on four key institutional dimensions: the role assumed by the state, the characteristics of the financial system, the skill development system, and the norms and values which resonate in work relations (Whitley, 1998, 1999). The more specific and coherent the institutions, the more distinctive and cohesive business systems arise. Similarly, substantively more different institutions translate into substantively more different market economies.

Despite the intrinsic interest of IB scholars in the effects of inherent country differences on the nature of the MNE (note for example the considerable literature on the effects of cultural country differences), no measure of institutional distance is currently available which allows for the systematic analysis of the effect of inherent societal-level institutional differences. As a result, while the many qualitative studies which draw on comparative historical institutionalist thought demonstrate the importance of inherent institutional differences in our understanding of the MNE, comparative historical institutionalism is poorly reflected in quantitative studies in IB. In the remainder of this paper we aim to address this major omission from the IB literature by developing a measure of institutional distance which draws on Whitley's business system typology (Whitley, 1999).

Table 2 about here

METHODOLOGY

Contrary to organizational institutional distance (e.g. Kostova, 1997; Kostova and Roth, 2002), or cultural distance for that matter (Kogut and Singh, 1988), the indicator of comparative institutional distance developed here aims to be indicative of inherent country differences, rather than of differences in latent psychological traits. Whether scales or measures which do not intend to measure a latent psychological trait or construct are meaningful, mainly depends on whether the scores on such indicators correspond with theoretically expected outcomes, and on whether the indicators differ sufficiently from indicators for different concepts. The measure of comparative institutional distance proposed in this paper is therefore developed in the following interrelated steps: the selection of suitable indicators and a suitable data source, an assessment of the validity of these indicators through two-stage cluster analysis, and the subsequent design of the measurement instrument.

Data Source

We selected the Global Competitiveness Report (2000) as our primary data sourceⁱⁱ. The Global Competitiveness Report, based largely on survey responses, is published annually by the World Economic Forum and contains annually collected country data on key institutional and economic characteristics. The advantage of using the Global Competitiveness Report stems both from the wide range of scales on institutional characteristics included in the survey, and from the use of standardized questions which facilitates systematic comparison. For these reasons, the Global Competitiveness Report is a frequent source of reference for institutional data (e.g. Rao, Pearce, and Xin, 2005; Xu, Pan, and Beamish, 2004; Gaur and Lu, 2007). While the questions in the questionnaire of the Global Competitiveness Report are not specifically designed to reflect the institutional features of business systems, the indicators are of use to the present study if the variety in country scores corresponds closely with the theoretically expected variety in inherent institutional differences between countries. In such instances, these indicators can be appropriately used as proxies for the corresponding institutional characteristics. As discussed later on, the extent to which the two-step cluster analysis reproduces Whitley's business system typology is a good indication of the validity of the selected indicators, and, more general, of the Global Competitiveness Report as a suitable data source.

Sample

For the verification of our measure of comparative institutional distance, we selected a sample consisting of all OECD countries from the Global Competitiveness Report. This is done as Whitley's business system typology largely applies to market economies in which stable social institutions have materialized, which mainly applies to the industrialised countries included in the OECD. An additional argument is that the typology of business systems has been developed on the basis of a relatively small set of mostly well-developed countries. This modest set of countries includes (near-)ideal-types which have been frequently characterized in the literature, such as Germany, the UK, and South Korea. In order to assess the validity of our measure, it is therefore considered important to include these countries in our sample. The sample of OECD countries consists of all thirty member states.

Selection of Variables

We matched the key institutional features identified by Whitley (1999) with indicators from the Global Competitiveness Report 2000 which best captured these institutional characteristics (Table 3). Such a 'deductive approach' to the selection of clustering variables (Ketchen and Shook, 1996) is recommended when the clustering variables are strongly tied to extant theory, and tends to produce better results (Punj and Stewart, 1983). Table 4 presents a correlation matrix of the selected indicators. A list of the corresponding questions used in the questionnaire of the Global Competitiveness Report can be found in Appendix A. We identified appropriate indicators for all institutional features, except for the dominant organizing principle of unions, the extent to which bargaining is centralized, and the more specific extent to which communal norms govern authority relations. The rationale for the selection of indicators is explained below by institutional area.

Table 3 and 4 about here

The state. Three characteristics of the role of the state are particularly important in promoting and sustaining different forms of economic organization: the strength of the state, the tolerance of the state

for intermediate associations between the state and firms, and the extent to which the state is involved in the regulation of markets (Whitley, 1999).

The first feature refers both to the strength of the state in relation to special interest groups such as social elites, and to the role of the state in the development of economic activity. While these are essentially two separate features, taken together this institutional characteristic reflects the extent to which firms are dependent on support from the state through state policies. Two indicators were selected to reflect inherent differences in the dominance of the state. The first indicator reflects *the extent to which government policies are independent from elites and special interest groups*. The second indicator is *the extent to which government subsidies promote fair competition*. The assumption here is that states which assume a more developmental role are more selective in granting subsidies. States with an arm's length approach, on the other hand, are assumed to have a greater interest in pursuing policies which promote fair competition. As expected, scores on the two selected indicators are highly correlated ($r = 0.75$).

To reflect the degree of state antagonism to intermediary associations, an indicator was selected from the Global Competitiveness Report which signifies *the pervasiveness of industrial clusters and specialized institutions*. The extent of formal regulation of markets is reflected by *the burden of regulation which firms experience*. The assumption is that the type of regulatory role assumed by the state is reflected in the number of regulations with which businesses have to comply. As would be expected, the burden of regulation correlates strongly with both the extent to which government policies are independent from special interest groups ($r = 0.73$) and with the extent to which subsidies promote fair competition ($r = 0.66$).

Financial systems. Financial systems can differ considerably in how capital is raised. Generally, the distinction is made between financial systems which rely on external capital markets, and financial systems which are credit-based and where borrower and lender are more interlocked. As Monnet and Quintin (2007) illustrate, such differences persist even if fundamental characteristics of domestic financial systems converge. To reflect these differences, two indicators are selected. The first indicator reflects *the general availability of external finance*, while the second indicator reflects *the general use of the stock market*. Considered together, high scores on both reflect financial systems which rely heavily on the capital market. Low scores reflect financial systems where capital markets are tight or weakly developed, and where as a result businesses are reliant on other capital allocation processes,

resulting in more credit-based financial systems. The availability of external funding and the use of the stock market however are two distinct characteristics of domestic financial systems (Bencivenga, Smith, and Starr, 1996; Greenwood and Smith, 1997), and the correlation between these indicators subsequently is low ($r = 0.22$).

Skill development and control system. The dimension on skill development and control system represents both the extent to which practical learning and formal public education are integrated, and the extent to which the development of practical skills is jointly organized and/or certified by the state, unions, and firms. From the perspective of the state, a strong collaborative public training system requires an education system where the aim is not to filter out the failures from the academic high-fliers, but rather to ensure the overall quality of the output of the education system; whether this leads to practical skill training or to the pursuit of higher education. As Maurice, Sellier, and Silvestre (1986) illustrate, in Germany the strength of both university education and professional education—a collaborative effort of both the state, unions, and employers—has the effect that worker placement is less strongly associated with the level of general education than in France, and more strongly with occupational skills. To the contrary, the selective and generalist nature of the French education system parallels a work system in which both occupation and status are more strongly associated with the level of general education which one has attained.

It is presumed here that the overall strength of the public education system is reflected in *the extent to which the quality of schools available to children from rich and poor families differs*, with stronger educational systems resulting in less difference in the quality of education available to the rich and the poor. This seems reasonable. Maurice *et al.* (1986) find that in France, the probability of the child of a senior manager attaining a baccalaureate is nearly six times higher than that of the child of an agricultural or industrial worker. This is not surprising. In countries where job placement, wage, and social standing correlate more strongly with the level of general education, parents have a greater incentive to pursue access for their children to schools of higher standing and quality. In countries where professional success is based on progress through the educational system rather than on occupational skill, children of rich families are therefore even more likely to attend schools of higher quality, and are even more predisposed to attain a degree of higher education, than in countries with a strong collaborative education system. We therefore select the indicator on educational equality from the Global Competitiveness Report to reflect the overall strength of the public training system.

To reflect the strength of independent trade unions, we select the Global Competitiveness Report indicator on *the extent of union power and influence*. As Whitley (1999) argues, strong unions affect the strategic orientation of domestic firms, the adoption of technologies, and even the structure of markets. Strong unions, however, are not necessarily reflected in an egalitarian or more professionally oriented education system. For example, whereas unions in Australia have traditionally exerted reasonable influence, especially in some industries (Hampson and Morgan, 1999), the education system continues to be largely generalist in nature (Bagnall, 2000)². And whereas the Swiss education system is characterized by a dual system of higher education in which vocational colleges feature prominently (Hanhart and Bossio, 1998), the certification of skills is largely in the hands of the state and sees little involvement of the traditionally weak (Höpflinger, 1981) labour unions. The modest correlation between equality of schooling and union power ($r=0.34$) reflects this.

Trust and authority relations. Prevailing norms and values regarding trust and authority affect the structuring of employer-employee relationships as well as the structuring of exchange relations between firms (Whitley, 1999).

While trust comes in different forms (Couch, Adams, and Jones, 1996), key for understanding differences in both socio-economic order and in authority relationships is the type of generalized trust individuals put in both unknown others and in the social institutions which promote and guarantee such trust. Generalized trust is a rather homogeneous construct, affecting for example both social capital (Paxton, 1999) and superior-subordinate relations (Payne and Clark, 2003). We therefore assume that the extent to which formal institutions are able to generate and guarantee trust is—at least in part—associated with the trust people put in the politicians which shape and govern these institutions. Accordingly, we include the indicator on *public trust in politicians* as a proxy for the general trust in formal institutions.

Whitley (1999) characterizes differences in employer-employee relations according to the distinction between paternalistic and formal cultures. Differences between the two essentially pertain to i) the scope of superior discretion, which is limited to the work context in formal cultures but which extends well into the personal sphere in paternalistic cultures, and ii) to whether subordinates can be entrusted with the responsibilities of decision-making. The implications of these differences extend to other characteristics of work relations, such as to the extent to which managerial decisions require

² This despite efforts since the late 1990s to propagate vocational training and to reduce the difference in status associated with general and vocational education paths (Bagnall, 2000).

further justification (Whitley, 1999) and the extent of post-employment care and benefits (Pellegrini and Scandura, 2008). Here, the nature of employer-employee relations, or rather the predominance of paternalism, is reflected in two related indicators ($r = 0.61$): *the willingness to delegate authority to subordinates*, and *the extent to which management-worker relations are cooperative*. The assumption is that in more paternalist cultures the willingness to delegate is lower, and that management-worker relations are less cooperative. Instead, in more formal political cultures, trust in subordinates is presumed to be higher, resulting in a higher willingness to delegate tasks and more cooperative superior-subordinate relations.

This association of paternalism with the readiness to delegate finds support in the recent international management literature on paternalistic leadership. What paternalistic leadership entails, however, has become subject of debate; in particular the question whether paternalistic acts are performed with benevolent intent (Pellegrini and Scandura, 2008). Many—mostly western—authors tend to associate paternalism with patronizing and authoritarian leadership styles. Whitley (1999) for example characterizes paternalistic leadership styles by the tendency to “treat subordinates as children who cannot be expected to know their own best interests and act accordingly” (1999: 52). Others tend to describe paternalism as the personal concern and involvement with the well-being of subordinates which goes beyond the interests of the superior (Pellegrini and Scandura, 2006; Gelfand, Erez, & Aycan, 2007, Pasa, Kabasakal, and Bodur, 2001). But while there is debate over what leadership constructs are associated with paternalism, there appears to be agreement on the view that “[e]mployees in high-power distance cultures may expect the leader to take charge and give orders, rather than delegate decision-making authority to the subordinate” (Pellegrini and Scandura, 2006: 274). Both paternalism and the associated high power distance have been used to explain why delegation is not a universally accepted element of effective management (Pellegrini and Scandura, 2006; 2008), and our association of paternalism with the willingness to delegate therefore appears supported. Furthermore, the willingness to delegate authority to subordinates correlates strongly with the indicator on trust in politicians ($r = 0.80$). This correctly reflects the notion that in addition to situational factors, the structure of superior-subordinate work relations is strongly affected by the level of generalized trust (Payne and Clark, 2003).

All scores on the selected indicators identified above ranged between one and seven. We inverted the scores on union power for interpretive purposes.

Cluster Analysis

We applied cluster analysis to our sample of OECD countries in order to assess the validity the selected institutional indicators. Cluster analysis is a statistical method used for the classification of empirical data on the basis of pre-defined cluster variables. Clusters are defined such that the within-group variance is minimized and between-group variance is maximized. Cluster analysis relies extensively on a researcher's judgement, and hence the validity of obtained solutions are susceptible to critique (Ketchen and Shook, 1996). To obtain the best results we therefore largely follow the recommendations of Punj and Stewart (1983) and Ketchen and Shook (1996) by performing a two-stage clustering procedure, which increases the validity of the cluster solutions (Punj and Stewart, 1983). In the first stage, a hierarchical clustering method is used to identify the most suitable number of clusters. In the second stage, an iterative clustering method is used to derive the optimal clustering solution. The extent to which the results of the cluster analysis reproduce Whitley's business system typology is a good indication of the validity of the selected indicators.

RESULTS

The first step in our cluster analysis was to empirically determine the appropriate number of clusters. Using SPSS, we therefore first performed a hierarchical cluster analysis using Ward's minimum variance method, based on squared Euclidean distance. Ward's method is recommended when the cluster sizes are expected to be approximately equal, and when there are no outliers (Ketchen and Shook, 1996). We identified five clusters on the basis of the resulting dendrogram, and on the basis of our expectation that the fragmented business system type—largely reserved for countries with unreliable formal institutions (Whitley, 1999)—would not be present in our sample of OECD countries.

Next, we performed a K-Means cluster analysis to optimize the results. The resulting cluster centroids and country groupings are displayed in Tables 5 and 6. To see whether the obtained clusters were meaningful, we made our cluster scores comparable with Whitley's (1999) characterization of the institutional features associated with the various business system types. The highest and lowest cluster centroids of each variable were labelled 'high' and 'low'. Intermediate scores were labelled 'limited',

'some', and 'considerable', depending on their relative closeness to the highest and lowest scores. We averaged the labels of the institutional features for which we used two indicators. We then matched the identified clusters with business system types from Whitley's (1999) comparative business systems framework; the results of which are presented in Table 7.

Tables 5, 6, and 7 about here

DISCUSSION

As Table 7 illustrates, clusters 2, 3, and 4 correspond closely with the collaborative, state organized, and compartmentalized business system types respectively. The most notable differences are that cluster 3 scores somewhat lower on both the strength of state coordination and the extent of market regulation, and higher on union strength than the state-organized ideal type. Cluster 4 displays slightly higher levels of state involvement than the compartmentalized business system type, and somewhat lower levels of trust in formal institutions. Cluster 5 corresponds reasonably well both with the highly coordinated and with the coordinated industrial district business system types. The main differences here are that cluster 5 scores markedly lower on the incorporation of intermediaries than either the highly coordinated or the coordinated industrial district ideal type. Cluster 1, scoring low on direct state involvement and high on strength of the public training system and on trust in formal institutions, could not be clearly associated with any of the business system types of Whitley's typology.

When we take cluster membership into consideration (Table 6), we see that the composition of the clusters generally corresponds with characterizations in the literature. The inclusion of both Germany and Sweden in cluster 2, which corresponds most closely with the collaborative business system type, is according to expectations (Whitley, 2000; Almond, Edwards, and Clark, 2003). Cluster 3 includes both France and South Korea, which in the literature are frequent examples of state organized economies (Whitley, 2000). Cluster 4, which corresponds most closely with the compartmentalized business system, only includes Anglo-Saxon countries, which is also in line with characterizations in the literature (Whitley, 2000). A notable exception to the group of Anglo-Saxon countries is Canada,

which is included in the cluster corresponding most closely with the collaborative business system type (cluster 2). We see that Cluster 5 contains both Japan and Italy, which are generally associated with the highly coordinated (Whitley, 1994; Saka, 2004) and coordinated industrial district (Trigilia, 1990; Whitley, 1998) business systems respectively. This may suggest that these two business system types cannot be clearly distinguished based on the selected indicators. Alternatively, this may be due to the properties of the applied clustering method. For example, Ward's clustering method, as used in the hierarchical cluster analysis, tends to produce comparatively similar-sized clusters.

The small open economies of Northern Europe emerge as a separate group in cluster 1. Both the results of the cluster analyses and the particular scores of cluster 1 suggest that this group of countries represents a distinctive business system type, characterized by low direct state involvement combined with high trust levels, the considerable incorporation of intermediaries, and a strong public training system. The institutional features of this cluster suggest strongly developed informal institutions, which may to some extent reflect pre-industrial values and relations, as suggested earlier for both the Netherlands (Van Iterson and Olie, 1992) and Denmark (Kristensen, 1996). The clustering of these countries in a separate group is noteworthy as it provides a counter-argument to suggestions that some of the smaller economies in northern Europe may be examples of hybrid business systems (e.g. Whitley, 2000), combining for example characteristics of the compartmentalized and collaborative ideal types. While this cluster indeed seems to share characteristics of both, the results of the cluster analysis suggest that the variation in institutional characteristics is systematic. This suggests that the institutional structuring of the countries in cluster 1 is both distinctive and coherent, rather than a combination of institutional features of countries with ostensibly more distinctive national business systems.

Overall, we see that the clusters formed on the basis of the selected institutional indicators correspond considerably well with Whitley's business system typology. This lends support to our institutional indicators as well as to the distinctiveness of the business system types. What must be kept in mind is that Whitley characterizes ideal types, and that the institutional contexts of countries may naturally show some variation in their correspondence with such a theoretically defined typology. Given the relatively broad sample used here, covering four continents, we conclude that the outcome of the two-step cluster analysis lends sufficient support to our institutional indicators.

A MEASURE OF COMPARATIVE INSTITUTIONAL DISTANCE

The final step in the development of our measure of comparative institutional distance is the design of the actual measure. The key decision here is how the various institutional indicators should relate to each other, and how institutional distances between countries should be calculated based on the indicators at hand. We largely follow Kogut and Singh (1988) in the design of their widely applied measure of cultural distance based on Hofstede's cultural dimensions (Hofstede, 1980), except for that we do not to correct for differences in variance. As Kogut and Singh concur, correcting for variance imposes certain weights on the indicators included in a composite index. When the original scores are scaled similarly, as is the case in the Global Competitiveness Report, correcting for variance would inflate relatively small institutional differences between countries, while it would marginalize more considerable institutional differences. In such instances, the resulting institutional distances would be unnecessarily distorted. Ultimately, our measure of comparative institutional distance therefore takes the form of:

$$ID_{jk} = \sum_{i=1}^{11} (I_{ij} - I_{ik})^2 / 11$$

where ID_{jk} is the institutional distance between countries j and k , and $(I_{ij} - I_{ik})$ is the difference in scores of countries j and k on institutional feature i . The resulting institutional distances between the countries in our sample of OECD member states are included in Appendix Bⁱⁱⁱ.

CONCLUSION

On the outset, the objective of this paper was to develop and validate a measure of institutional distance which captures the qualitative institutional differences in economic organization between countries. Building on the comparative work of Richard Whitley (1999), we identified and validated appropriate institutional indicators which can be used in a composite index of comparative institutional distance. The results of the two-step cluster analysis largely replicated Whitley's typology of business systems, which adds support to the selection of the institutional indicators.

The main contribution of this paper is in that it addresses the under-representation of comparative historical institutional thought in currently available measures of institutional distance. It has been illustrated that for two out of three dominant strands of institutionalism in IB, namely new institutional economics and new organizational institutionalism, measures of institutional distance are available. Although the third strand of institutionalism, which Morgan and Kristensen (2006) labelled comparative historical institutionalism, has contributed significantly to our understanding of the effects of inherent institutional differences between societies on the nature of MNEs, it is poorly reflected in quantitative studies in IB due to the lack of a measure of comparative institutional distance. The measure proposed in this paper may help address the lack of comparative historical thought in quantitative analyses.

The second contribution of this paper is in that, to the best of our knowledge, this is the first study to provide quantitative support for the distinctiveness of several of the business system types that make up the business systems framework (Whitley, 1992; 1999). As indicated earlier, the business systems framework emerged from detailed but relatively particularistic socio-economic accounts and comparisons of both Asian and European market economies (e.g. Hamilton and Biggart, 1988; Van Iterson and Olie, 1992; Redding, 1990) rather than from the systematic comparison of a wide set of countries from the outset. This makes the business systems framework susceptible to criticism that the ideal types reflect idiosyncrasies of the countries considered—such as Japan and Korea—rather than of aggregated business system types. The results of the cluster analysis clearly suggest that Whitley's characterization holds even when a wider set of developed economies is considered.

A third contribution of this paper is in the identification of an unnamed yet distinctive business system type which appears characteristic of some of the small open economies of Northern Europe. In

particular, this group of countries displays relatively low direct state involvement, combined with high trust levels, the considerable incorporation of intermediaries, and a strong public training system. While the institutional characteristics of these economies show similarities with several other business system types, such as with the collaborative and compartmentalized ideal types, the results of the cluster analyses suggest that the variation in institutional features is systematic. This suggests that the business systems framework may have to be complemented with a more consociational business system type, where the diverse interests of economic actors are reconciled through inclusion and coordinated on the basis of strong informal institutions.

However, the indicators incorporated into our measure of institutional distance are proxies rather than direct measures of the key institutional elements identified by Whitley. As such, one may argue that public trust in politicians does not fully reflect the trust of the public in formal institutions, or that the difference in the quality of schools available to rich and poor children does not correspond fully with the over-all strength of the public training system. Yet, for the calculation of a measure of institutional distance, such proxies do suffice as long as the variation on the indicators used corresponds sufficiently with the variation in institutional characteristics (see Cronbach, 1971). The results of the two-step cluster analysis demonstrate that on the basis of the indicators used in our measure of institutional distance, Whitley's business system typology can be reproduced, which builds a strong case for the appropriateness of these indicators.

Another potential limitation is that we were unable to identify appropriate indicators for three institutional characteristics: the dominant organizing principle of unions, the extent to which bargaining is centralized, and the extent to which communal norms govern authority relations. Possibly as a result of this, we were unable to distinguish between the highly coordinated and the coordinated industrial cluster business system types, although alternative explanations should also be considered. For example, the share of countries in our sample which have been characterized as dominated by coordinated industrial clusters is relatively small. A close inspection of the calculated distances between the countries in our sample (see Appendix B) learns that the omission of these institutional features does not result in counter-intuitive institutional distances.

Paradoxically, perhaps the most important limitation of our institutional indicator is that essentially, the idea of capturing intrinsic institutional country differences in a single measure of institutional distance runs counter to the very idea of comparative institutionalism with its emphasis on thick

description. But does that imply that we should leave out and ignore inherent institutional country differences from quantitative analyses altogether? The central jest of this paper has been that *if* we are to include country variables on inherent differences into our analyses, then at least let us include indicators which have some theoretical substance, and which have been proven to correspond at least reasonably well with the theoretically and empirically expected variation in institutional characteristics.

We recommend the use of our indicator of comparative institutional distance in the quantitative analysis of IB phenomena where inherent country-level differences may potentially matter. Examples are studies on subjects where the effects of national cultural differences have traditionally been considered, such as in studies on internationalization sequence, subsidiary performance, or international joint venture dissolution. We imagine that comparative institutional distance can also be employed as an alternative or complement to economic institutional distance indicators in the analysis of e.g. location decisions (cf. Treviño and Mixon, 2004) or entry and establishment mode selection (cf. Meyer, 2001; Dikova and Van Witteloostuijn, 2007). Finally, we recommend the use of comparative institutional distance as an alternative to organizational institutional distance (Kostova, 1997; Kostova and Roth, 2002) in studies where the level of analysis does not easily allow for the decomposition of the institutional environment into distinctive regulative, normative, and cultural-cognitive components. Attempts to include narrowly compiled cognitive institutional profiles in the analysis of IB phenomena which transcend single cognitive domains occurs far too often.

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Table 1: Illustration of the recent use of institutional indicators

<i>Variety of institutionalism</i>	<i>Author</i>	<i>Definition of institutions or institutional context</i>	<i>Dependent variable</i>	<i>Institutional variable(s)</i>	<i>Source</i>
New institutional economics	Delios and Beamish (1999)	North (1990)	Entry mode ownership position	Host country risk Host country restrictiveness Intellectual property protection	Country Risk Ratio: Euromoney World Competitiveness Report World Competitiveness Report
	Meyer (2001)	North (1990)	Entry mode	Institutional development	EBRD transition indices
	Wan and Hoskisson (2003)	North (1990)	Return on assets	Political institutions Legal institutions Societal institutions	World Competitiveness Report / International Country Risk Guide World Competitiveness Report / International Country Risk Guide World Values Survey
	Treviño and Mixon (2004)	North (1990)	Inward FDI	Political risk	Institutional Investor
	Rao, Pearce, and Xin (2005)	North (1990)	Inter-personal trust	Facilitative government index	World Bank Governance Indicators World Competitiveness Report Transparency International

	Dikova and Van Witteloostuijn (2007)	North (1990)	Entry mode Establishment mode	Institutional advancement	World Bank Governance Indicators
New organizational institutionalism	Kostova (1997)	Scott (1995)	Quality management	Regulative, normative, and cognitive dimensions	Institutional profile (survey)
	Busenitz, Gómez, and Spencer (2000)	Scott (1995)	Entrepreneurship	Regulative, cognitive, and normative dimensions	Institutional profile (survey)
	Kostova and Roth (2002)	Scott (1995)	Practice adoption	Regulative, normative, and cognitive dimensions	Institutional profile (survey)
	Jensen and Szulanski (2004)	Scott (2001)	Knowledge transfer	Normative and cognitive institutional distance	Hofstede indices/Kogut and Singh (1988)
	Gaur, Delios, and Singh (2007)	Scott (1995)	Subsidiary staffing strategy	Normative distance Regulative distance Cultural distance	World Competitiveness Yearbook Country Risk Ratings: Euromoney Hofstede / Kogut and Singh (1988)
	Gaur and Lu (2007)	North (1990), Scott (1995)	Subsidiary survival	Regulative distance Normative distance	World Competitiveness Yearbook Country Risk Ratings: Euromoney

Table 2: Classification of Varieties of Institutionalism

			Nature of institutions	
			Endogenous	Exogenous
	Institutions		New institutional economics	Old organizational institutionalism New organizational institutionalism
Focus of analysis				
	Institutional interdependencies		Comparative institutional analysis	Old institutional economics Comparative historical institutionalism

Note: Given the distinctive nature of the various varieties of institutionalism, several alternative classifications are imaginable, such as by level of analysis, or by disciplinary origins.

Table 3: Institutional indicators

Key institutional features	Indicators^a
The state	
Dominance of the state and its willingness to share risk	Independence of government policies from elites and special interest groups (3.05) The extent to which government subsidies promote competition (3.03)
State antagonism to collective intermediaries	The pervasiveness of industrial clusters and specialized institutions (10.16)
Extent of formal regulation of markets	The burden of regulation (3.01)
Financial systems	
Capital market or credit based	Access to external finance (8.04) The use of the stock market (8.11)
Skill development and control system	
Strength of public training system	The difference in quality of schools available to rich and poor children (6.02)
Strength of independent trade unions	The extent of union power and influence (6.10)
Trust and authority relations	
Trust in formal institutions	Public trust of politicians (4.16)
Predominance of paternalist authority relations	The willingness to delegate authority to subordinates (11.3) The extent to which management-worker relations are cooperative (6.09)

^a Corresponding items in the Global Competitiveness Report 2000 are in parenthesis

Table 4: Correlation matrix

<i>Variables</i>	<i>Mean</i>	<i>s.d.</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>
1. Independence of government policies	3.65	0.58										
2. Subsidies promote competition	3.99	0.78	0.75**									
3. Pervasiveness of intermediaries	4.51	0.59	0.27	-0.02								
4. Burden of regulation	3.68	0.61	0.73**	0.66**	-0.02							
5. Access to external finance	4.04	0.31	0.61**	0.40*	0.33	0.26						
6. Use of stock market	5.19	0.76	0.25	0.18	-0.12	0.23	0.26					
7. Equality schooling	4.90	1.34	0.35	0.25	0.36	0.26	0.19	-0.15				
8. Union power	4.32	0.91	-0.05	-0.02	0.11	-0.19	-0.00	-0.29	0.34			
9. Trust in politicians	3.95	1.27	0.72**	0.59**	0.21	0.60**	0.50**	0.18	0.55**	0.03		
10. Delegation of authority	4.68	0.95	0.56**	0.53**	0.46*	0.43*	0.42*	0.07	0.54**	0.11	0.80**	
11. Management worker relations	5.06	0.75	0.45*	0.37*	0.31	0.41*	0.20	-0.26	0.43*	-0.12	0.64**	0.61**

* p<0.05

** p<0.01

Table 5: Final cluster centres

<i>Final cluster centres</i>					
<i>Dimension</i>	<i>Clusters</i>				
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
Independence of state policies	4.5	3.5	3.6	3.8	2.9
Subsidies promote competition	4.8	3.7	3.8	4.5	3.1
Pervasiveness of clusters	4.7	4.9	4.1	4.7	4.3
Market regulation	4.4	3.4	3.5	4.0	3.2
Access to stock market	5.9	5.2	5.1	5.2	4.5
Access to external finance	4.0	3.9	4.1	4.3	3.9
Difference in quality of schools	6.4	5.8	3.5	4.0	5.2
Union power	4.3	5.3	4.2	3.5	4.3
Trust of politicians	5.8	4.3	3.1	4.0	2.6
Management/worker relations	5.9	5.3	4.4	5.1	4.8
Delegation of authority	5.6	5.4	3.7	5.2	3.7

Table 6: Cluster membership

Cluster membership	
<i>Cluster 1</i>	<i>Cluster 4</i>
Netherlands	United Kingdom
Iceland	Australia
Denmark	New Zealand
Luxembourg	United States
Switzerland	Ireland
Finland	
<i>Cluster 2</i>	<i>Cluster 5</i>
Sweden	Slovakia
Austria	Czech Republic
Canada	Italy
Belgium	Poland
Germany	Japan
Norway	
<i>Cluster 3</i>	
Portugal	
Turkey	
Hungary	
Greece	
Spain	
Korea	
France	
Mexico	

Ranked according to distance to cluster
centre

Table 7: Matching clusters and business system types

Institutional features	Cluster 1	Cluster 2	Collaborative	Cluster 3	State organized	Cluster 4	Compartmental ized	Cluster 5	Highly coordinated	Coordinated industrial district
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The state										
Strength of state coordination ^a	Low	Considerable	Considerable	Considerable	High	Limited	Low	High	High	Considerable locally
Incorporation of intermediaries	Considerable	High	High	Low	Low	Considerable	Low	Limited	High	Considerable locally
Strength of market regulation	Low	Considerable	High	Some	High	Limited	Low	High	High	Considerable locally
Financial system										
Capital market or credit based ^a	Mixed	Credit to Mixed	Credit	Mixed	Credit	Capital market	Capital market	Credit	Credit	Some local bank risk-sharing
Skill development and control										
Strength of public training system	High	Considerable	High	Low	Limited	Limited	Low	Some	Limited	High
Union strength	Some	High	High	Some	Low	Low	Low to some	Some	Some	High
Trust and authority										
Trust in formal institutions	High	Considerable	High	Limited	Limited	Some	High	Low	Some	Some
Paternalist authority ^a	Low	Limited	Low	High	High	Limited	Low	Considerable to High	High	Variable

^a Based on combining two measures

APPENDIX A: INSTITUTIONAL INDICATORS AND CORRESPONDING QUESTIONS

Institutional indicators in the Global Competitiveness Report 2000 ^a	Corresponding questions in the Executive Opinion Survey ^b
<i>The state</i>	
Independence of policies (3.05)	Government economic policies are independent of pressure from special interest groups.
Government subsidies (3.03)	Government subsidies are directed towards improving the competitive environment.
Pervasiveness of clusters (10.16)	Clusters are present in most international industries and include not only suppliers, but specialized institutions such as university research programs and training providers.
Burden of regulation (3.01)	Burdensome administrative regulations are not pervasive.
<i>Financial systems</i>	
Access to external finance (8.04)	Companies typically obtain outside financing for investments from banks or the bond market.
Stock market (8.11)	Companies can raise money by issuing shares on the local stock market.
<i>Skill development and control system</i>	
Difference in quality of schools (6.02)	The difference in the quality of schools available to rich and poor children is small.
Union power (6.10)	Union power and influence is low.
<i>Trust and authority relations</i>	
Public trust of politicians (4.16)	Public trust in the financial honesty of politicians is very high.
Delegation of authority (11.13)	Willingness to delegate authority to subordinates is high.
Management/worker relations (6.09)	Management/worker relations are generally cooperative.

^aCorresponding items in the Global Competitiveness Report 2000 are in parentheses.

^bRespondents were asked to indicate their agreement with each statement using a seven-point Likert scale (1=strongly disagree; 7=strongly agree).

APPENDIX B: CALCULATED INSTITUTIONAL DISTANCES

<i>Institutional distances</i>	<i>Australia</i>	<i>Austria</i>	<i>Belgium</i>	<i>Canada</i>	<i>Czech Republic</i>	<i>Denmark</i>	<i>Finland</i>	<i>France</i>	<i>Germany</i>	<i>Greece</i>
Austria	0.80									
Belgium	0.43	0.53								
Canada	0.19	0.65	0.46							
Czech Republic	1.71	1.69	1.42	1.40						
Denmark	0.95	0.71	1.20	0.91	3.32					
Finland	1.60	1.29	1.86	1.69	4.77	0.86				
France	0.55	1.29	0.66	0.42	0.92	2.29	3.10			
Germany	0.96	0.47	0.48	0.57	1.08	1.68	2.22	0.78		
Greece	1.03	2.26	1.75	1.37	1.51	3.32	4.60	0.85	1.95	
Hungary	0.78	1.70	1.29	1.04	0.76	2.54	3.95	0.78	1.64	0.49
Iceland	0.67	0.53	0.88	0.64	2.12	0.49	0.84	1.56	1.22	2.64
Ireland	0.68	0.97	0.64	0.89	0.92	1.66	2.62	1.13	1.11	1.55
Italy	1.29	1.07	0.74	1.15	0.79	2.92	3.80	0.55	0.59	1.22
Japan	1.16	0.99	1.02	0.82	0.62	2.05	3.18	0.87	0.61	1.66
South Korea	0.68	1.32	0.63	0.85	0.77	2.66	3.20	0.32	0.86	0.74
Luxembourg	1.43	1.52	1.93	1.71	4.30	0.54	0.85	3.18	2.81	3.98
Mexico	1.86	2.84	2.39	2.18	1.47	4.37	5.91	1.58	2.28	0.43
Netherlands	0.58	0.56	0.86	0.56	2.28	0.22	0.92	1.57	1.21	2.57
New Zealand	0.46	1.48	1.28	0.75	2.02	1.07	2.29	1.39	2.00	1.47
Norway	0.97	0.59	0.98	0.67	2.16	0.56	1.62	1.71	1.03	2.81
Poland	1.37	1.91	1.35	1.33	0.64	3.51	4.89	0.68	1.28	0.65
Portugal	0.61	1.38	1.14	0.75	0.80	2.24	3.42	0.48	1.30	0.39
Slovakia	1.17	1.27	0.90	1.03	0.18	2.60	3.86	0.77	0.93	1.43
Spain	0.26	1.05	0.83	0.45	1.15	1.76	2.36	0.48	1.02	0.51
Sweden	0.80	0.35	0.58	0.60	1.89	0.64	1.60	1.56	0.63	2.52
Switzerland	1.05	1.14	1.62	0.81	2.40	0.68	1.61	1.84	1.73	2.90
Turkey	1.17	2.09	1.75	1.29	0.98	3.41	4.66	0.85	1.52	0.26
United Kingdom	0.71	1.84	1.68	0.87	2.06	1.94	3.08	1.30	1.84	1.08
United States	0.74	1.75	1.43	0.69	1.75	2.14	3.35	0.99	1.37	1.10

<i>Country</i>	<i>Hungary</i>	<i>Iceland</i>	<i>Ireland</i>	<i>Italy</i>	<i>Japan</i>	<i>Korea</i>	<i>Luxem- bourg</i>	<i>Mexico</i>	<i>Netherlands</i>	<i>New Zealand</i>
Austria										
Belgium										
Canada										
Czech Republic										
Denmark										
Finland										
France										
Germany										
Greece										
Hungary										
Iceland	1.79									
Ireland	0.51	1.05								
Italy	1.18	2.16	1.23							
Japan	1.06	1.36	1.04	1.04						
South Korea	0.52	1.72	0.64	0.43	0.95					
Luxembourg	3.15	0.59	2.23	4.15	2.82	3.32				
Mexico	0.64	3.72	1.57	1.45	2.06	1.05	5.47			
Netherlands	1.66	0.26	0.99	2.27	1.18	1.75	0.64	3.45		
New Zealand	0.74	0.86	0.80	2.48	1.34	1.45	1.26	2.24	0.57	
Norway	2.13	0.59	1.37	2.01	1.63	2.12	1.66	3.53	0.64	1.38
Poland	0.77	2.49	1.31	0.54	1.50	0.62	4.58	0.83	2.82	2.23
Portugal	0.17	1.49	0.80	0.96	0.71	0.45	2.85	0.89	1.39	0.71
Slovakia	0.63	1.51	0.51	0.69	0.74	0.57	3.53	1.53	1.75	1.53
Spain	0.43	0.99	0.70	1.01	1.05	0.42	2.21	1.12	1.13	0.71
Sweden	1.79	0.75	0.84	1.54	1.41	1.63	1.71	2.82	0.66	1.41
Switzerland	1.91	0.57	1.61	2.94	1.08	2.34	0.99	3.97	0.28	0.66
Turkey	0.38	2.65	1.21	1.05	1.25	0.63	4.44	0.21	2.49	1.56
United Kingdom	0.75	1.79	1.19	2.31	1.19	1.39	2.50	1.48	1.23	0.50
United States	0.86	2.01	1.22	1.85	1.02	1.22	3.09	1.36	1.45	0.89
<i>Country</i>	<i>Norway</i>	<i>Poland</i>	<i>Portugal</i>	<i>Slovakia</i>	<i>Spain</i>	<i>Sweden</i>	<i>Switzerland</i>	<i>Turkey</i>	<i>UK</i>	

Austria										
Belgium										
Canada										
Czech Republic										
Denmark										
Finland										
France										
Germany										
Greece										
Hungary										
Iceland										
Ireland										
Italy										
Japan										
South Korea										
Luxembourg										
Mexico										
Netherlands										
New Zealand										
Norway										
Poland	2.21									
Portugal	1.84	0.78								
Slovakia	1.48	0.57	0.69							
Spain	1.33	0.76	0.27	0.80						
Sweden	0.34	1.96	1.77	1.34	1.24					
Switzerland	1.12	3.34	1.48	2.10	1.49	1.38				
Turkey	2.56	0.59	0.37	1.00	0.54	2.19	2.76			
United Kingdom	2.15	2.16	0.67	1.87	0.79	1.78	1.18	0.92		
United States	1.99	1.79	0.77	1.62	0.84	1.53	1.47	0.78	0.16	

ⁱ Comparative institutionalism here refers to the varieties of capitalism approach rather than Aoki's and others game-theoretic approach to macro-economic institutional diversity and change.

ⁱⁱ We selected the 2000 edition of the Global Competitiveness Report because in later editions the wording of many questions was altered, which obscured substantive differences in, for example, the role of the state, skill development, or trust and authority relations.

ⁱⁱⁱ Both the institutional distance indicator developed here and the cultural distance index by Kogut and Singh (1989) are based on (averaged) squared Euclidean distances. This method imposes progressively greater weight on objects (e.g. countries) that are more different.