TRUST AND THE GOVERNANCE OF INTERNATIONAL STRATEGIC ALLIANCES

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Abstract

The aim of this study is to deepen our understanding of the choice of governance mode in international strategic alliances (ISAs) by examining the relationships between opportunism, trust and equity versus non-equity-based governance of ISAs. Previous studies provide ambiguous results regarding the linkages between opportunism, trust and governance form. To resolve this ambiguity, we identify the separate influences of the relational attributes of the partners, host country macro environmental attributes and characteristics of ISA transactional activities on governance choice in ISAs. Empirical estimation using primary data on international strategic alliances involving Danish firms indicate a particularly strong relationship between attributes of alliance partners and ISA governance mode. Specifically, trustworthiness appears to be a substitute for administrative control. In addition, we find attributes of "host country" governance to be relevant to the choice of ISA governance mode, although relational attributes seem far more important

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1. Introduction

The emergence and growth of international strategic alliances (ISAs) has been noted by Dunning (1995) and others as an important development in the organization of international economic activity. A substantial literature has, unsurprisingly, evolved focusing on different aspects of the global alliancing process. One specific focus of research has been the forms of governance for ISAs and, particularly, the circumstances under which alliance partners will prefer equity or contractual governance modes (Das and Teng, 2000, 1997).

Most researchers acknowledge that a critical underlying issue in the choice of governance mode is the degree to which potential opportunistic behavior on the part of one or more alliance partners characterizes the relevant set of transactions in which the partners will engage. The (inverse) analogue to the threat of opportunistic behavior is trust among the partners. When trust among partners is high, the effective threat of opportunistic behavior should be perceived as being low by those partners. Theoretical and empirical research in this area has therefore focused on the relationship between trust (or risks of opportunistic behavior) on the one hand, and the choice of governance structure, on the other (for a review of the literature related to trust in collaboration, see Nielsen, 2004; Inkpen and Currall, 1998).

The most frequent argument one encounters in the literature is that trust reduces the need for control, thus leading to an evolution of governance away from hierarchical arrangements to more flexible, less hierarchical governance forms (Gulati, 1995b). Within this framework, a large portion of the existing research on governance mode in alliances identifies a distinction between equity and non-equity alliances as paralleling the conceptual distinction between greater or lesser hierarchy (Hennart, 1988). Equity-based alliances are seen as most closely replicating the characteristics normally associated with hierarchies, as they entail the creation of a separate administrative structure with formal coordination and control mechanisms. Additionally, equity alliances can 'provide a mechanism for distributing residuals when *ex ante* contractual arrangements cannot be written to specify or enforce a division of returns' (Teece, 1992: 20, italics added). Non-equity alliances, on the contrary, are contractual agreements that lack shared ownership or dedicated administrative structures and are, therefore, seen as more akin to arm's length transactions (Contractor and Lorange, 1988; Pisano, 1989; Osborn and Baughn, 1990 and Oxley, 1997).

The equation of equity ownership to greater administrative control leads to the prediction that alliances characterized by relatively substantial risks of opportunism (or, equivalently, relatively low levels of trust) are more likely to take the form of equity-based alliances, while those characterized by relatively modest risks of opportunism (or a high degree of trust) will likely be non-equity based (Gulati, 1995a). To be sure, the notion that equity arrangements protect collaborators from undesirable partner behavior more effectively than non-equity arrangements has been questioned. Specifically, because equity alliances entail the establishment of an *ad hoc* organizational entity, equity alliances require a higher level of alliance-specific investment than non-equity alliances (Das and Teng, 1998). Alliance-specific investments, in turn, increase the difficulty and cost of exit, thus intensifying the vulnerability of participants to undesirable partner behavior (Bensaou and Anderson, 1999). As a result, some have argued that equity alliances may require a higher level of confidence in a partner than non-equity arrangements (Das and Teng, 1998).

The theoretically ambiguous linkages between opportunism, trust and governance mode put a premium on empirical studies that attempt to identify the choices of governance structure in alliances. In fact, there are relatively few studies focusing on the choice between equity and non-equity based strategic alliances, and the findings of the available studies are somewhat in conflict. The primary purpose of this study is to add to the existing empirical literature identifying the relationships between opportunism, trust and equity versus non-equity-based governance of ISAs.

Our sample consists of a set of Danish companies that formed alliances with a wide range of foreign companies across a number of industries. In this regard, our sample arguably involves wider geographic coverage than many other studies of strategic alliances. We attempt to identify the extent to which trust (or its opportunism counterpart) is determined by country-level governance attributes in addition to the attributes of the individual partners and the characteristics of the underlying transactions. While a number of studies have examined the relationship between host and home country governance attributes and foreign direct investment flows, to our knowledge, there has been no research linking the choice of governance mode for strategic alliances to "macro" governance (or environmental) attributes.[1]

Our paper proceeds as follows. The next section provides a brief summary of the literature concerned with equity and non-equity strategic alliances. Section Three describes the underlying model we use to identify the determinants of equity versus non-equity governance in our sample of strategic alliances. The sample and how the data were collected are discussed in Section Four. Section Five sets out the statistical estimation and its results. A summary and a discussion of limitations are provided in Section Six.

Review of the Literature

As noted in the earlier section, research on the choice of governance mode in alliances has largely been based on the distinction between equity and non-equity arrangements. A number of authors argue that equity alliances provide partners with more control than non-equity alliances by virtue of the establishment of an administrative hierarchy that allows partners to exercise their residual right of control (Pisano, *et. al.*, 1998). Equity ownership is equated to control under the assumption that more equity shares give a partner more voting power (Blodgett, 1991). As well, equity participation generates a governance structure in which the sponsoring companies can monitor the activities of the alliance as they are represented on the board of directors. Equity sharing might also be expected to align the motivation of the partners, thereby creating mutual interests that reduce the likelihood of opportunistic behavior by partners (Oxley, 1997; Pisano, 1999).

Some critics of the argument that equity-based alliances are effective substitutes for trust challenge the basic assumption that equity ownership guarantees control. For example, Geringer and Hebert (1989) suggest that control is far from a necessary consequence of equity alliances and that ownership plays only a limited role in providing control in joint ventures. Mjoen and Tallman (1997) argue that the relative degree of control of partners in a joint venture is determined by a bargaining process based on the importance of the resources that each partner contributes, implying that governance is based on resource-specific control, rather than ownership level. These critics would argue that no systematic relationships should be expected between risks of opportunism, trust and governance mode.

The view that trust might actually be a complement to equity ownership is predicated on the previously cited assertion that equity arrangements entail

[1] Globerman and Shapiro (2002 and 2004) provide an extensive review of the literature, as well as original empirical evidence, linking host and home country governance attributes to overall FDI flows at the country level.

relationship-specific sunk costs that create barriers to exit from the alliance. As a result, individual alliance partners can be more, rather than less, subject to opportunistic behavior, as there are potentially large "quasi-economic rents" available to be appropriated that are created by alliance-specific capital investments. Das and Teng (2000) suggest that such economic quasi-rents are likely to be more substantial when both parties contribute knowledge-based resources in an alliance as compared to property-based resources. As a consequence, they argue that contract-based alliances will be preferable to equity-based alliances when both parties have substantial knowledge-based resources in an alliance, while equity-based alliances will be preferable for arrangements where parties primarily commit property-based resources.

Poppo and Zenger (2002) argue that the "right" mix of trust and formal contracting enhances cooperative interactions; however, they fail to specify precisely how this right mix is attained. To this end, studies can be identified showing that more complex alliances tend to be governed through more hierarchical forms, with the nature of complexity being identified by various measures including number of partners, scope of product and/or technology, nature of functional activities covered by the alliance, and technological intensity of industries (Garcia Canal, 1996; Oxley, 1997; Hagedoorn and Narula, 1996; Osborn and Baughn, 1990). Nevertheless, not all of the studies identify a strong linkage between complexity and governance mode. For example, Harrigan (1985) concludes that rapidly changing technological development in sectors of industry induces the formation of somewhat more informal forms of cooperation such as non-equity agreements. This conclusion is echoed in Harrigan's (1988) paper in which she states that non-equity arrangements are more suited to industrial sectors characterized by an uncertain environment, whereas equity joint ventures offer better opportunities for partnering companies in stable environments.

To the extent that the outcomes of transactions are more uncertain in rapidly changing technology environments, and to the extent that risks of opportunistic behavior are accentuated by uncertainty about critical environmental attributes (Williamson, 1975), Harrigan's (1988) conclusions are consistent with the argument that non-equity arrangements are promoted by higher risks of opportunistic behavior. This interpretation is supported by Hagedoorn and Narula's (1996) study of sectoral differences in modes of technological partnering. They find that contractual (non-equity) agreements are significantly more prevalent in "high-technology" industry sectors. High technology industry sectors might be seen as having intrinsically more uncertain environments than other industry sectors. Similarly, Osborn and Baughn (1990) find a statistically significant negative correlation between the use of equity joint ventures and the technological intensity of industries, measured by the R&D to sales ratio. Hennart and Reddy (1992) conclude that (1) wholly owned subsidiaries are more prevalent in low R&D-intensive industries with no learning intent on the part of participants; (2) equity joint ventures are more prevalent in medium R&D-intensive industries with reciprocal knowledge flows and (3) technical agreements (non-equity modes) are more prevalent in high technology industries with reciprocal knowledge flows.

At the same time, studies linking "trust" to governance mode provide direct and indirect evidence in support of a conclusion that low levels of trust encourage a preference for equity ownership. For example, Gulati and Singh (1998) find that alliances in which there is less trust between partners are more likely to be organized with more hierarchical governance structures than those in which there is greater trust. Specifically, trust is negatively related to equity governance forms. Ahmadjian and Oxley (2003), in a sample of Japanese auto assemblers, find that assemblers hold partial equity stakes when contracting hazards are high. In their study, the exchange of implicit or explicit "hostages" conditions the level of trust (or perceived contracting hazards) in the relevant set of transactions with suppliers.[2]

One possible reason for the inconsistent findings noted above is that measures of contracting hazards or trust are inaccurate or incomplete. In particular, available studies tend to focus narrowly on the immediate environment surrounding a set of transactions, such as the experience of the transactors or the technical or economic uncertainty surrounding the activities involved (Inkpen and Currall, 1998). In so doing, existing studies may fail to identify the full range of factors that serve as antecedents of trust and often ignore or understate broader influences on the contracting environment, even when those influences can condition contracting hazards for specific transactions. An obvious example is intellectual property protection. For industries that rely upon legal protection of intellectual property, economic exploitation of intellectual property, say through technology transfer, will be riskier when recourse to legal remedies is more limited. In such cases, it seems more likely that technology transfer will be undertaken among commonly owned affiliates than among independently owned firms. Indeed, Hagedoorn, *et al.,* (2004) demonstrate that international differences in intellectual property rights protection are a significant

[2] Similar sorts of findings are reported in Oxley (1997) and Pisano (1989).

factor influencing the preference of companies for either an equity joint venture or a contractual partnership. Specifically, with less secure protection, firms choose equity joint ventures.

Another possible reason for inconsistent findings is that most studies of governance choice tend to focus on specific attributes of the environment surrounding that choice such as the complexity of the underlying transactions or the degree of trust on the part of the participants. As such, those studies provide an incomplete specification of the broad set of factors influencing governance choice. In particular, most studies of international strategic alliances ignore the potential influence of what might be called the macro governance environment. Public policies contributing to "good" infrastructure governance might be robust substitutes, in some cases, for "private" trust created among parties, either through actions taken by parties, e.g. mutual exchange of economic hostages, or by other private investments such as international ventures undertaken to "learn about" the contracting environment in other countries. As such, infrastructure governance might be seen as providing international companies with greater degrees of freedom to adopt less complex forms of governance when it is economically advantageous to do so.

In summary, the relevant literature is characterized by disagreement surrounding the determinants of governance mode in ISAs. In the remaining sections of this paper, we describe and estimate a model of mode choice that explicitly recognizes the potential importance of firm-level antecedents of trust, infrastructure governance and transactional complexity and uncertainty as the important determinants of equity versus contractual alliances. In this respect, we believe our model is more comprehensive than other studies of ISA governance mode choice. We then apply the model to the international alliances undertaken by a sample of Danish companies.

Considerations in mode choice

The basic logic of the literature addressing governance choice is that transactions offer potential economic benefits to the parties involved in the form of what we might call "economic surplus". In the absence of comprehensive and enforceable property rights assigning the distribution of the expected economic surplus to the parties involved, individual transactors have incentives to engage in behavior (opportunism) that transfers more of the surplus to themselves, even at the cost of reducing the total surplus. Rational participants should be willing to expend resources to prevent opportunism by installing mechanisms (governance) that attenuate incentives to act opportunistically. The goal is presumably to maximize the realized economic surplus associated with a transaction net of all governance costs. The governance structure that achieves this goal is efficient.

The reasonable presumption typically made is that administrative governance is more costly than governance through contractual or other forms of agreement, other things constant. Hence, for any set of transactions, administrative governance will be chosen only if it is commensurately more effective at mitigating opportunistic behavior. That is, parties would presumably choose administrative governance only if the expected net benefits were higher than those associated with contractual or non-contractual agreements. Given that administrative governance will be more costly to implement, the relevant issue is whether it will have more than commensurately large benefits in the form of effective attenuation of opportunistic behavior. As discussed in the preceding section, there is disagreement in the literature about whether equity ownership attenuates opportunistic behavior sufficiently so as to justify the higher associated managerial and related costs.

Within this framework, the potential net benefits of administrative governance will be higher, the higher the perceived risks of opportunistic behavior. Such risks, in turn, will depend upon a number of factors. One is the underlying degree of trust that the relevant parties bring to the transaction. Trust can be thought of as a form of capital that conditions economic participants to forego opportunities to redistribute income to themselves at the expense of others in favor of achieving greater overall economic surplus. It can be potentially created through actions taken by the economic participants themselves, perhaps in the past, or through public policy initiatives that are "trust-promoting."

Sources of trust capital are cited abundantly in the literature. For example, Gulati highlights the alliance partners' historical interaction as a major promoter of trust. Granovetter (1985) also identifies repeated interactions as providing firms with more information about each other, thereby reducing uncertainty and creating more solid bases for future interaction. On the other hand, Mjoen and Tallman (1997) associate trust with control of critical resources. If an alliance partner has secure control over the critical assets creating economic surplus, it has *de facto* confidence that other partners have attenuated incentives to act opportunistically, since the threat of the withdrawal of the critical assets from the alliance is both credible and ensures that no surplus can be gained from acting opportunistically. Indeed, the apparent disagreement in the literature between "resource-based" models of governance choice and "transaction cost-based" models can be seen as largely an implicit disagreement surrounding the practical importance of the control of critical assets.[3] Specifically, those emphasizing the importance of more conventional measures of trust arguably view the transfer of assets into an alliance as inevitably putting the economic value of those assets at risk to at least some extent.

Substantial direct and indirect attention has been paid to the creation of trust capital through public policy initiatives including laws and regulations. Direct linkages with respect to governance of ISAs have primarily focused on the legal regime protecting intellectual property rights; however, Contractor and Kundu (1998) consider broader indicators of "host country" conditions, notably country risk and cultural distance between the host and home countries.[4] Both characteristics imply that there would be less trust capital shared by alliance participants. In the case of country risk, trust, particularly on the part of the foreign party, would be weakened by factors such as instability of the legal regime, lack of transparency and fairness on the part of the judiciary and so forth. Cultural distance might weaken trust by contributing to greater uncertainty about factors affecting country risk. Poorly informed, risk-averse investors are more likely to overestimate than to underestimate country-specific risks.[5] The theoretical considerations in mode choice discussed to this point can be summarized as follows. Trust associated with the attributes of ISA partners, or created by public policy initiatives, mitigates risks of opportunism that are inherent in any given set of transactions. As a consequence, trust increases the net benefits of contractual governance relative to administrative (or equity) governance to the extent that equity governance is an effective means to control behavior in ISAs.

The characteristics of the transactions underlying the ISA create greater or lesser degrees of risks of opportunistic behavior. The literature on transaction costs as they are distilled by Oxley (1999) identify the broad transactional attributes that condition the *ex ante* risks of opportunism surrounding any set of transactions. The literature particularly highlights the uncertainty and complexity associated with carrying out specific activities as major sources of difficulty in specifying and enforcing contractual terms. These underlying risks of opportunism should exert an independent influence on the choice of governance mode holding the degree of trust capital constant.

In short, characteristics of the transactions undertaken by an alliance pose larger or smaller risks of opportunism to participants in the alliance. Trust, however created, helps mitigate those risks. Consequently, an empirical model of ISA governance mode choice should include the influence of the potential determinants of trust (both private and public) on choice of governance mode. If equity ownership does provide for greater administrative control, one would expect to observe that greater underlying risks of opportunism and lower antecedent levels of trust capital encourage the use of equity governance in ISAs.

Sample of Alliances

The sample consists of Danish firms in international strategic alliances with partner firms located in countries in Europe, North America and Asia. A list of potential Danish firms to include in the sample was generated from the KOB database.[6] Through a targeted reduction of the initial database, we created a sample base of 1851 private firms. The reduction criteria were based on interviews with firms engaged in international strategic alliances, press announcements and research on how the KOB database was constructed. Criteria used for reduction included size (at least 20 employees) and a high degree of internationalization (evidenced by activities in more than one foreign country). Consequently, the sample consisted of a large subset of firms for whom the survey was not relevant.

However, the idea behind this sampling method was to capture as many of the firms engaged in international strategic alliances as possible. The first question on the survey was designed to identify membership of the desired sample (i.e. "has your firm engaged in an international strategic alliance – as defined..?").

The KOB database provides financial and industry information; however, detailed information on strategic and managerial issues surrounding the alliances required information from the Danish companies. In order to generate data from a fairly large sample and given tight resource constraints, a Web-based survey was undertaken. Since over 90 percent of private Danish enterprises with more than 10 employees are reported to have access to the Internet, the survey was conducted

[3] This interpretation is consistent with the comparison between the two schools of thought as described by Das and Teng (1998).

[4] Hill (1990) also argues that the choice of alliance form is bound by nationally based socio-economic constraints such as legal and political constraints.

[5] In this regard, international experience might contribute to greater trust, other things constant, to the extent that it primarily "corrects" the exaggerated perceived country risks of risk-averse investors; however, Johanson and Vahlne (1977) find that international experience is positively related to equity alliances, while Contractor and Kundu (1998) show that companies with longer international experience operating in the international hotel sector prefer higher equity control modes.

[6] The KOB database is a comprehensive database of all registered Danish firms. It is updated by Kobmandstandens OplysningsBureau A/S, Denmark's largest credit agency. Information comes from a variety of public and private sector sources. In addition, KOB conducts more than 200,000 interviews per year and co-operates with large international credit agencies. Additional information can be found at www.kob.dk.

through a secure Web site with the survey instrument being in English. Early testing indicated that language was not a significant deterrent to responses. As well, early respondents indicated that the convenience and time efficiency of a Web-based survey were appreciated. A key informant design was used, since organizational direction and strategies of smaller firms tend to be determined by their key decision-makers (Lumpkin and Dess, 1996).

Therefore, the survey was addressed to the managing director or the alliance manager of each sample firm.

Survey development and design

The questionnaire was developed in several stages. First, a series of semi-structured interviews was conducted with key managers of several Danish partner firms over a period of four months in order to identify relevant issues pertaining to the formation and management of international strategic alliances.

Next, a comprehensive literature review of strategic alliances and international joint ventures was undertaken to identify relevant questions and issues. Following these two efforts, a suitable questionnaire was designed and published on the Web page. Most questions required answers using a 7-point Likert-type scale with a few questions allowing open-ended answers. Prior research indicates that ordinal classification of perceptions is a more realistic task for respondents than interval or ratio measurement (Geringer, 1991).

Response assessment

A total of 1851 letters was sent out in the spring of 2001. After two follow-up letters, a total of 362 firms filled out the online survey of which 119 were usable, i.e. the firms indicated an involvement in an international strategic alliance. To assess whether and to what extent our survey was subject to non-response bias, we contacted 50 (randomly selected) firms among the non-respondents.

Respondents and non-respondents were compared in terms of size and turnover. No statistically significant differences were identified. Furthermore, fully 84 percent of the contacted firms indicated that they did not belong to the sample since they did not engage in international strategic alliances.

Another 16 percent indicated that they did engage in international strategic alliances but could not fill out the survey due to time constraints or company policies toward information disclosure. A single firm engaged in international strategic alliances agreed to complete a survey after the contact telephone call. Hence, the final number of usable responses was 120. Assuming that 84 percent of all non-respondents did not engage in international strategic alliances, our net response rate is 33 percent (120 respondents from a sample of 364 firms engaged in international strategic alliances). Of the responding firms, 83 (around 69 percent) were engaged in manufacturing with the remainder engaged in service sector activities.[7] The data set comprises 73 alliances (60.8% of total) with partners in Western Europe, predominantly with EU members (94.5%); 15 alliances (16.7% of total) with North American, mostly United States, partners; and 10 alliances (8.3% of total) with Asian, primarily Indian and Chinese, partners. The rest of the alliances were formed with partners from Australia, Eastern Europe, the Baltic States or South America. Table 1 shows the breakdown of partner nationalit

Table 1: Nationality of Partner Firm

	# of cases
Sweden	19
Norway	4
Finland	9
Poland	7
Czech Republic	1
Germany	21
U.S.A	15
China	3
Australia	2
U.K.	3
Netherlands	6
Belgium	3
Luxemburg	1
France	4
Spain	2
Greece	1
Brazil	1
Argentina	1
Canada	3
Mexico	2
Peru	1
Columbia	1
Latvia	2
Lithuania	1
India	6
Bangladesh	1
	120
Western Europe	73
Eastern Europe (including Baltic States)	11
European Union	69
Scandinavia	32
Asia	10
North America	20
South America	4

[7] Censoring is a generic problem in surveys (Morita, *et. al.,* 1993). Hence, it should be acknowledged that even though the characteristics of respondents and non-respondents appear similar, responses might reflect sample characteristics. For example, it may be that firms involved in successful alliances were more likely to complete questionnaires than less successful firms, since less successful alliances may have been terminated prior to the survey; however, the fact that respondents typically engaged in numerous alliances suggests that there is unlikely to be a dichotomy in the population of firms between successful and unsuccessful international strategic alliances.

Empirical Model and Results

Potential determinants of trust in international business alliances were identified in an earlier section. The greater the degree of trust surrounding an ISA, the less the need for administrative control given the relevant activities and the associated risks of opportunism. Our empirical model specifies two broad sets of factors that should be associated with the amount of trust capital surrounding an ISA. A third set identifies the underlying risks of opportunism related to the characteristics of the relevant transactions.

The first set of factors is related to the perceived trustworthiness of the alliance partners, which, in turn, conditions the amount of "trust capital." Specifically, if the parties to an alliance have predetermined attributes that reduce the risks of either party acting in an opportunistic fashion, or if relevant risks of opportunism can be mitigated because the parties can readily identify opportunism and take effective action, an alliance is characterized by a relatively high degree of trust capital.

A second set of factors is related to the socio-political environment external to the relevant transactions. In particular, if the country in which an alliance is established to do business is characterized by governance features that protect the property rights of foreign companies and has a relatively transparent and efficient legal system in which contractual disputes can be impartially resolved, even when the partner is a government entity, trust in the alliance should be greater, other things constant.

The relevance of the set of activities underlying the ISA is as follows. To the extent that an alliance is established in order to undertake an activity in which relatively large sunk costs are required on the part of a partner, and where the activity can be characterized as unpredictable and complex, the risk of opportunistic behavior on the part of other parties to the alliance is elevated, all other things constant, including the amount of trust capital.

Attributes of Alliance Partners

A number of potentially relevant attributes of the alliance partners were identified in our survey that might condition the amount of trust capital surrounding a specific alliance. One attribute is whether the Danish company had experience with the alliance partner at any time in the past (PEXP).[8] To the extent that it did, both parties to the alliance should know more than they otherwise would about the likely behavior of the other party in the anticipated circumstances surrounding the alliance, as well as about the competencies of the other party. Such knowledge should reduce the potential for unanticipated conflict due to misunderstandings given unforeseen circumstances in the environment, or to either party trying to advantage itself at the other partner's expense given unanticipated changes in the operating environment. As the duration of the interaction between partners increases, the economic and informational transactions become increasingly embedded within the social relations of the partners, which helps establish trust and deter opportunism (Granovetter, 1985; Inkpen and Currall, 1998). Larson (1992), from her field study, found that individuals who made the decisions were predisposed to connections with particular firms and people because of their histories. It was these histories and the webs of trusted connections that reduced uncertainty and improved the likelihood of new transactions moving from arms-length relations to close collaborative alliances. Similarly, Arinõ *et al.* (2001) found prior experiences to be a critical determinant of future levels of relational quality. These direct experiences are likely to influence the parties' views of each other's capabilities and trustworthiness in the face of internal or external challenges (Lewicki & Bunker, 1996). Therefore, prior experience should be associated with greater trust capital and, hence, a reduced incentive for equity governance:

Hypothesis 1: Prior experience with the alliance partner is negatively related to equity governance in international strategic alliances.

A second attribute of the Danish company is the extent of its international business experience. Two proxies of international business experience are relevant here. One is the overall experience the company has with all different modes of international business activities (INTEXP). A second proxy is whether the company has engaged in international strategic alliances in the past (ISAEXP). Similar to the PEXP variable, higher values for both measures of international business experience signal greater knowledge of and familiarity with the risks of operating internationally, which should assist the Danish firm to anticipate and mitigate the potential for an alliance partner to take advantage of local circumstances in order to extract quasi-rents from the ISA. This argument is consistent with Johanson and Vahlne (1977), who posit a relationship between international experience and foreign investment behavior. Further, Nielsen (2003) finds empirical evidence for a positive relationship between international strategic alliance experience and task-related partner selection criteria associated with later stages of internationalization (i.e. joint R&D or

[8] A precise definition of this variable and all others used in our model is reported in Appendix A. Obviously, this variable also measures whether the partner has had prior experience with the Danish firm.

production). Hence, higher values of both measures should be associated with greater amounts of trust capital and a lower likelihood of equity governance.

Hypothesis 2A: The greater the overall experience of the focal firm with different modes of international business, the lower the likelihood of equity governance in subsequent international strategic alliances.

Hypothesis 2B: The more international strategic alliance experience the focal firm possesses, the lower the likelihood of equity governance in subsequent international strategic alliances.

A third and related attribute is cultural distance (CULT). This variable measures the degree to which Danish managers perceive the socio-cultural environment in which the alliance will operate as being different from the home country environment. A smaller perceived difference should contribute to a greater sense of confidence on the part of both the Danish managers and their foreign counterparts that disagreements between them are less likely to arise through misunderstandings about alliance objectives or strategies, and that expeditious resolution of disagreements will be easier to achieve. The adverse impact of cultural differences between IJV partners on alliance relationships has been suggested by several scholars (e.g. Lane and Beamish, 1990; Barkema and Vermeulen, 1997; Mjoen and Tallman, 1997)[9]. Lower values of CULT should therefore be associated with greater amounts of trust capital and less incentive for equity governance.

Hypothesis 3: The lower the perceived cultural distance between alliance partners, the lesser the likelihood of equity governance in international strategic alliances.

Several other indicators of the trust capital that parties bring to an alliance are potentially important. One is the degree of interdependency (COMINT), which is measured as the level of resource commitment in terms of financial, physical and human resources. All else constant, a greater degree of interdependency should increase the willingness of parties to resolve unanticipated disputes in a harmonious fashion in order to prevent the break-up of the alliance. Also, by serving as mutual hostages, resource commitments by the parties should discourage opportunistic behavior lest other parties to the exchange identify such behavior and retaliate. A high level of commitment provides the context in which both parties can achieve individual and joint goals without raising the specter of opportunistic behavior (Cummings, 1984; Moore, 1998). Therefore, commitment by both parties leads to interdependency and reduces the risk of failure in international strategic alliances (Madhok 1995; McAllister 1995). Hence, higher values of COMINT should reduce the perceived need for equity governance.

Hypothesis 4: The greater the degree of interdependency among partners, the lesser the likelihood of equity governance in international strategic alliances.

A second measure is the similarity of competencies of the alliance partners (SIM) from the perspective of the Danish company. In this regard, there is no reason to believe that the alliance partner's perspectives of similarities should be different from the Danish partner's. Similar competencies should better equip each partner to evaluate the behavior of other partners and determine when those partners are engaged in behavior designed to extract undue advantages at the expense of other parties in the alliance (Parkhe, 1991; Harrigan, 1985). This enhanced ease of monitoring opportunistic behavior should itself discourage opportunistic behavior within the alliance. On the other hand, to the extent that the competencies held are not widely accessible in other firms, each alliance partner might see itself as relatively irreplaceable in the alliance. This perception, in turn, might encourage opportunistic behavior with a view that, even if such behavior were detected, the victimized party would accept the financial loss (up to a point) rather than search for a new partner. Consequently, although prior research recognizes the positive relationship between complementarity and IJV performance, the influence of SIM on the choice of equity versus non-equity alliance is uncertain.

Hypothesis 5: The greater the similarity in competencies among partners, the higher/lower the likelihood of equity governance in international strategic alliances.

A third measure is the collaborative know-how of the Danish partner (CKNOW), which measures the ability of the firm to manage complex inter-organizational relationships. As suggested by Simonin (1997; 2002) and others (e.g. Powell *et al.*, 1996), collaborative know-how affects the ability of firms engaged in strategic alliances, to understand and adopt proper procedures and mechanisms for alliance management, including conflict resolution. Hence, greater collaborative know-how should facilitate more effective monitoring and management of the alliance relationship, thereby enhancing trust capital and reducing incentives for equity governance.

Hypothesis 6: The greater the collaborative know-how of the focal firm, the lower the likelihood of equity governance in international strategic alliances.

[9] Empirical findings are inconsistent due to the methodological and theoretical confusion related to the cultural distance construct (see Shenkar, 2001). Despite the mixed results of prior research, empirical as well as anecdotal evidence suggests that cultural distance is an important component of IJV success, although the relationship can be debated.

Macro Environment

A set of indicators of the macro (governance) environment constructed by Kaufmann, et.al. (1999a) for different countries is used to develop a measure of the macro environment for trust surrounding an alliance. The indicators encompass six broad areas of host country governance and were collected for all of the host countries in which our sample of Danish firms established alliances. The areas include: 1. voice and accountability; 2. political instability; 3. government effectiveness; 4. regulatory quality, 5. rule of law and 6. control of corruption. All six measures are, in turn, aggregations of other indicators.[10]

Voice and accountability measures civil liberties, political rights, free press, fairness of the legal system and related factors. Political instability measures armed conflict, social and ethnic tensions and threats of terrorism. Government effectiveness focuses on factors such as waste in government, red tape and bureaucracy in the public sector and the like. Regulatory quality is an index comprising factors such as the extent of government intervention and host country barriers to international trade and investment. Rule of law encompasses factors related to contract enforcement and the protection of property rights. Finally, the control of corruption is an index that measures corruption among public and private officials, extent of bribery and related circumstances.

In considering these indicators of political governance, it would seem that rule of law would be most directly related to the choice of alliance governance structure. Specifically, to the extent that a host country's legal system provides a relatively efficient and reliable source of redress for opportunistic behavior that violates the terms of a joint venture agreement, or perhaps even the spirit of the agreement, administrative fiat associated with equity ownership should be seen as a less important constraint on opportunism on the part of alliance partners. Put differently, trust in the performance of alliance partners is likely to be stronger in countries characterized by rule of law holding the nature of the alliance and the attributes of the alliance partners constant. In this regard, the control of corruption might also be seen as a governance feature of host countries that should encourage greater trust in the performance of alliance partners, since government bureaucrats and politicians are less likely to be enlisted as supporters of illegal or unethical conduct towards foreign alliance partners on the part of host country partners.

[10] More detailed information on exactly how each measure was constructed, as well as its interpretation, is provided in Kaufmann, et.al. (1999) and Globerman and Shapiro (2002).

In fact, research using the Kaufmann, *et al.* (1999) indicators shows that the indicators tend to be highly inter-correlated, and that each tends to be positively and significantly related to overall foreign direct investment flows into the host country (Globerman and Shapiro, 2002). As a consequence, it seems more appropriate to create an overall index of public governance through factor analysis of the individual indices. In our own empirical results, to be reported in the next section, we use principal component analysis to create an integrated measure of governance (GOV) in the host country. Thus:

Hypothesis 7: The better the political governance of the host country, the lower the likelihood of equity governance in international strategic alliances.

Activities of the Alliance

Available data contain several statistical measures that characterize the activities of the alliance. Unfortunately, we do not have direct measures of the degree of uncertainty and complexity surrounding the relevant set of transactions for our sample of ISAs. Nor do we have estimates of the sunk cost investments made by alliance partners; however, a possible indirect measure of underlying transaction risk is the importance of the foreign partner's business reputation (REPUT) to the Danish firm. The concept of reputation is closely related to Mayer *et al.*'s (1995) concept of integrity, since among the biggest concerns of firms entering into alliances is the predictability of their partner's behavior. Moreover, reputational considerations play an important role in a firm's potential for future alliances, because social affiliations (or structural embeddedness) determine the firm's perceived status and serve as a source of legitimacy (Gulati, 1998; Uzzi, 1996). Hill (1990) suggests that parties will try to avoid entering an exchange with another party that has a questionable reputation, and if the reputation is questionable, additional security may be required before additional risks are taken.

Business reputation will presumably be a more important consideration in choosing an alliance partner when the underlying activities contemplated for the alliance pose a greater risk of opportunism. Therefore, a higher value of REPUT might be taken as an indirect indicator of the underlying incentives for greater equity governance; however, to the extent that the Danish firm successfully allies with a "highly reputable" foreign partner, the resulting level of trust capital should be increased, all other things constant. As Barney and Hansen note: a firm with a reputation for being honest, fair, and trustworthy gives one the first piece of evidence to take some initial risk (Barney and Hansen, 1994). Consequently, we might observe empirically that

REPUT is associated with a lower likelihood of equity governance.

Hypothesis 8: The more positive the foreign partner's business reputation, the higher/lower the likelihood of equity governance in international strategic alliances.

A second measure of transactional risk is the response of firms in our sample to two questions regarding the perceived risk of the foreign partner using the alliance to further its own gains while taking advantage of the focal firm. The two items were combined into a single measure using factor analysis. To be sure, this construct might be an indirect measure of "lack of trust" rather than the intrinsic riskiness of the transaction. Moreover, it might also be asymmetrical, inasmuch as the foreign partner might perceive risk differently from the Danish firm. Nevertheless, we would expect greater perceived risk to increase the likelihood of equity governance.

Hypothesis 9: The greater the focal firm's perceived risk of being taken advantage of, the greater the likelihood of equity governance.

Control Variables

Finally, two control variables are specified that are potentially related to the focal firm's concerns about opportunistic behavior. One is the industry to which an alliance is classified. Specifically, we use a dichotomous industry classification (IND), i.e. a manufacturing or non-manufacturing alliance. Our belief is that investments in manufacturing alliances are likely to be more idiosyncratic than investments in non-manufacturing alliances. Hence, sunk costs are likely to be relatively more important in manufacturing alliances, and sunk costs are a source of economic "quasi-rents" that, in turn, encourage opportunistic behavior on the part of parties to the relevant transactions. Consequently, we expect equity ownership to be more prevalent in manufacturing alliances. To be sure, we cannot verify from the information available whether, in fact, manufacturing ISAs involve more sunk-cost investments than non-manufacturing ISAs. Hence, we have no strong hypothesis with respect to this variable.

A second control variable that might influence the choice of alliance form is the size of the Danish partner. A larger partner is more likely to be able to mobilize the financial resources (through retained earnings) to invest in an equity alliance, as well as enjoy an enhanced ability to withstand financial losses in the event that an equity alliance proved unprofitable. In our survey, the size of the Danish company was measured as the number of employees (the number of employees was chosen as indicator of size due to a lack of consistency and missing data in the turnover data set) working in the parent organization (EMPLOY).

Estimation Results

A full description of the variables used in our models is provided in Appendix A, while Pearson correlation coefficients for the variables are reported in Table 2. Table 3 reports the results of our estimations.

Table 2. Pearson Correlation Matrix

Variable	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	
1. Alliance form		0.41	0.49												
2. Number of employees	194.91	426.75		- 0.05											
3. Industry	0.69	0.46	0.04	0.19*											
4. Partner reputation		5.29	1.14	- 0.27**	0.01	- 0.04									
5. Prior experience with partner		0.75	0.44	- 0.11	- 0.18	0.03	0.17								
6. Prior ISA experience		0.62	0.49	- 0.18	0.17	0.16	0.08	- 0.23*							
7. Cultural distance	3.86	1.78	0.22**	0.05	- 0.07	- 0.05	- 0.18	0.26*							
8. Interdependency	5.01	0.96	- 0.02	- 0.11	- 0.03	- 0.12	0.04	- 0.08	0.24*						
9. Competency similarity	3.94	1.66	0.11	0.10	0.17	0.14	0.21*	- 0.05	- 0.26**	- 0.29**					
10. Collaborative know-how	4.46	1.08	- 0.27**	0.20*	0.02	- 0.11	0.04	- 0.08	- 0.20*	- 0.20*	0.19*				
11. Governance infrastructure	0.07	0.07	- 0.28**	- 0.11	0.02	0.14	0.22*	- 0.11	- 0.37**	- 0.02	0.16	- 0.03			
12. Risk of opportunism		4.50	1.56	0.09	0.08	- 0.01	- 0.06	0.17	- 0.23*	- 0.09	0.02	0.19*	0.07	0.02	
13. International exp.		0.53	0.40	0.09	- 0.26	0.09	0.42	- 0.31	0.14	0.04	0.23	- 0.37	0.34	0.27	0.17

* $p < 0.05$, one-tailed test; ** $p < 0.01$, one-tailed test.

Table 3. Results of Logit Models[a]

Variable	Model 1[b]		Model 2[b]		Model 3[b]		Model 4[b]	
	Relational Antecedents		Macro Envir. Antec.		Transactional Risk		Full Model	
	(Coefficient)	(SE)	(Coefficient)	(SE)	(Coefficient)	(SE)	(Coefficient)	(SE)
Constant	22.569***	(6,507)	0.261	(0.406)	1.836	(2.551)	46.630***	(13.257)
1. Prior exp. with partner (PEXP)	0.527	(0.926)	1.151	(1.484)				
2. Int. business exp. (INTEXP)	-0.004	(0.023)					-0.003	(0.032)
3. Prior ISA exp. (ISAEXP)	-3.663***	(1.039)					-6.170***	(1.799)
4. Cultural distance (CULT)	0.732***	(0.274)					0.238	(0.388)
5. Interdependency (COMINT)	-1.207**	(0.498)					-1.915**	(0.798)
6. Competency similarity (SIM)	0.625**	(0.243)					1.227***	(0.425)
7. Coll. know-how (CKNOW)	-1.689***	(0.574)					-2.854***	(0.870)
8.Governance (GOV)			-8.670***	(2.940)			-40.267**	(17.534)
9. Partner reputation (REPUT)	-2.371***	(0,626)			-0.540***	(0.181)	-4.297***	(1.190)
9. Risk of opportunism (RISK)					0.119	(0.131)	-0.177	(0.389)
10. # of employees (EMPLOY)	0.001	(0.001)	0.000	(0.000)	0.000	(0.001)	0.001	(0.001)
11. Industry (IND)	0.509	(0.801)	0.098	(0.413)	0.119	(0.074)	-0.107	(1.142)
Cox & Snell R^2	0.52		0.09		0.09		0.62	
Nagelkerke R^2	0.70		0.11		0.12		0.83	
X^2	59.228***		10.612**		10.967**		77.054***	
Log likelihood	51.475		151.687		149.528		33.649	

[a] ; N=120; [b] Equity = 1
* p<0.1, one-tailed test; ** p<0.05, one-tailed test, *** p<0.01, one-tailed test

The first model reports the results of regressing the dependent variable against what we have called "antecedents of trust" measures as well as the two control variables. Model 1 might therefore be viewed as an indication of the statistical robustness and accuracy of the trust-creating attributes of the ISA partners. In the event, the model is extremely robust. The R^2 coefficients are quite high, especially for a cross-section model, and the Chi-Square statistic is significant at the .01 level. Virtually every variable for which a relatively unambiguous prediction of the coefficient sign could be made had the expected sign. Specifically, prior experience conducting business via international strategic alliances ((ISAEXP) is associated with a lower likelihood of equity ownership. The greater the interdependency of the alliance partners (COMINT), the lower the likelihood of equity ownership. The same negative relationship is observed between collaborative know-how (KNOW) and the likelihood of equity ownership. A positive relationship is observed between cultural distance and equity ownership. All of the variables are statistically significant at the .05 level or higher. Only the variable we identify as PEXP, prior experience with the ISA partner, has an unpredicted relationship to equity ownership, although the variable is not statistically significant. Partner reputation (REPUT) is strongly and negatively related to equity ownership indicating that choice of a reputable partner endows the relevant transactions with trust capital. Competency similarity (SIM) is positively and significantly related to equity ownership suggesting that unique partner skills may actually enhance the risk of opportunistic behavior and thereby make equity ownership more attractive.

Model 2 focuses on the explanatory power of our macro-environment measure, i.e. a composite construct of host country governance, estimated through a factor analysis of the specific governance indices described earlier in the paper and listed in Appendix A. High intercorrelations among the specific indexes mitigated against employing the individual governance measures as independent variables in the same equation. Hence, factor analysis was undertaken to create a reliable composite indicator of the macro (governance) environment surrounding an ISA. The result was a one factor solution fit and 90% of the variance is explained by the single factor. Each individual index loaded into the composite with a resulting Eigenvalue of 5.4 and an Approximate Chi-Square (Bartlett's Test of Sphericity) that was statistically significant at better than a .01 level. In short, the construct is very reliable. Equation 2 therefore includes our composite governance measure (GOV) and the two control variables as explanatory variables. The governance variable has the expected negative sign and is highly significant. That is, good macro-governance enhances trust surrounding an ISA; however, the overall goodness of fit for Model 2 is distinctly weaker than for Model 1 suggesting that relational antecedents of trust may be empirically more important than macro environmental influences on trust. As in Model 1, the control variables are both statistically insignificant.

Model 3 focuses on partner reputation and our transactional risk construct as the main independent variables with the two control variables also included. Model 3 can therefore be seen as an effort to estimate the impact of transactional risk alone on choice of ISA governance mode. While the REPUT variable is statistically significant, the construct for risk of opportunism is not. Clearly adding the RISK variable adds little to the model's explanatory power perhaps signaling the need for more focused measures of *ex ante* transaction risk.

Model 4 incorporates all of the independent variables utilized in the preceding models. In effect, it identifies the influence of the various sets of factors holding the influence of other sets constant. The "pooling" of the variables from the three separate models improves the overall statistical results as indicated by the overall goodness of fit statistics for Model 4 compared to Models 1-3. The individual regression coefficients reported in Model 4 are similar to earlier models in terms of signs and significance levels. One notable difference is cultural distance (CULT), which is statistically significant in Model 1 but statistically insignificant in Model 4. A possible explanation for this result is that an implicit but important component of cultural distance is contractual and legal governance. With the inclusion of the macro-governance (infrastructure) variable in the estimation model, this component of cultural distance, as it influences alliance governance choice, loses its statistical relevance

In short, relational antecedents of trust and macro-environmental attributes both determine the choice of ISA governance structure. The explanatory power of Model 4 primarily reflects the inclusion of the antecedents of trust variables. Indeed, the statistical significance of the governance infrastructure variable decreases slightly when it is included in the same model with the trust variables. It is plausible to argue that antecedents of trust will be relatively more important in influencing the choice of governance for individual alliances when the choice of host country has either been pre-determined or when large differential advantages exist among potential host countries. On the other hand, governance attributes of the host country may be more important in models of overall FDI flows where the primary decision involves the choice of geographic location of an investment.

Summary and Conclusions

This paper specifies and estimates a model of strategic alliance governance choice for a sample of international alliances involving Danish firms. The model builds upon the notion that governance choice for ISAs reflects the perceived risks of opportunism, which, in turn, reflect the trustworthiness attributes of partners, the political and economic governance environment in the host country and the underlying attributes of the relevant transactions within the alliance, particularly as they are characterized by their complexity and uncertainty. A key assumption is that equity ownership enhances management control, which is of greater net benefit when the perceived risks of opportunism surrounding an ISA are greater. We do not directly test the assumption that equity ownership conveys more effective control in our sample of ISAs. Nevertheless, our empirical results indirectly support the assumption, since the pattern of results makes sense in the context of that assumption.

We find strong evidence that specific trustworthiness attributes play a critical role in the choice of equity versus non-equity governance for our sample of ISAs. In this respect, our findings are consistent with other studies of governance mode choice for international alliances (e.g., Child and Faulkner, 1998; Powell, 1996); however, our study is arguably more comprehensive than other studies in its specification of trustworthiness attributes, as well as its inclusion of host country macro-environmental factors.

Empirically important measures of trustworthiness include: partner's reputation, prior experience with international strategic alliances, level of resource commitment, similarity of competencies of alliance partners, and collaborative know-how. Each measure is statistically highly significant, and the signs of the coefficients are in accordance with predictions, i.e. greater trustworthiness reduces the likelihood of equity governance. A reasonable inference is that trustworthiness is a substitute for administrative control in ISAs.

Our evidence with respect to the empirical importance of host country governance is suggestive of a modest relationship in the direction of "better" governance serving as a substitute for administrative control. That is, better host country governance acts in the same way as alliance partner trustworthiness, only the effect of host country governance seems statistically less important. In this regard, our findings with respect to the role of host country governance might seem at odds with studies of foreign direct investment which show a strong relationship between host country governance and inward FDI flows (Globerman and Shapiro, 2002); however, as noted above, FDI flows are usually modeled at a country level where the importance of national differences should be of primary importance. Furthermore, a significant portion of traditional FDI takes the form of reinvestment of profits within foreign affiliates where considerations of firm-level trust are less relevant than in the case of ISAs. Our results also suggest that ISAs are a "unique" mode of international business. Specifically, we find that trustworthiness is strongly related to international strategic alliance experience, *per se,* as opposed to international business experience broadly defined.

Several potential limitations of the study should be acknowledged. One is the absence of direct measures of transactional attributes underlying individual ISAs in our sample. While our measure of risk of opportunism attempts to capture characteristics such as uncertainty and complexity, it would clearly be preferable to have more direct measures of those characteristics. Nevertheless, the strong and consistent results obtained for the trust-related variables gives us confidence that employing direct measures of transaction characteristics would not fundamentally alter our conclusions with respect to the importance of trust as a determinant of ISA governance mode.

A second possible limitation is the fact that information about alliance attributes and trust antecedents was obtained from the responses of Danish managers solely. One might argue that the perceptions of the Danish managers are idiosyncratic and are not necessarily shared by managers of the ISA partners. Since the choice of governance of an ISA is presumably jointly determined (in some proportion) by the partners, a specific concern is that our antecedent measures of trust, as well as the perceived risk of opportunism variable, do not fully describe the perceived negotiating environment surrounding the ISAs comprising our sample. In fact, as noted earlier, it seems reasonable to believe that most of the antecedent variables are symmetric, i.e. foreign partners should hold similar views as Danish managers. Moreover, Geringer (1991) finds significant positive correlations between the two parent firms' assessments and perceptions of the IJV performance. Thus, reliance on a single parent company respondent as a data source appears to be a justifiable option, particularly when the respondent represents one of the key stakeholders (i.e. the managing director of the parent company).

A third potential limitation is that our sample encompasses a relatively small number of ISAs for many of the individual countries covered by our sample (see table 1). By pooling our data, we have implicitly assumed that the importance of trust capital to governance choice is identical from country to country. While we have no strong reasons for suspecting that this may not be true, it would nevertheless be worth exploring whether it is true in the context of a larger number of observations.

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Appendix A

VARIABLES AND MEASUREMENT

Likelihood of Equity Joint Venture

Logit(p) = log[p/(1-p)] = $\alpha + \beta' X$, where α is the intercept parameter, β is the vector of slope parameters, and X is a vector of explanatory variables.

Number of Employees

The raw score of employees in the parent (Danish) organization; measures firm size.

Industry

Dummy variable coded 1 if manufacturing alliance and 0 if non-manufacturing alliance; a crude measure of the level of sunk costs based on the reasonable assumption that manufacturing alliances are more R&D intensive and thus involve more idiosyncratic investments than non-manufacturing alliances (Hagedoorn, 2002; Harrigan, 1988).

Partner Reputation

Ordinal scale from 1-7 according to importance of (business) reputation (to the Danish firm) when selecting the foreign partner; measures both the *ex ante* intent of the alliance in terms of the underlying perception of risk as well as the *ex post* importance of allying with a reputable partner.

Prior Experience with Partner

Dummy variable coded 1 if prior relationships between the two firms existed; measures the history of interaction between firms.

Prior International Alliance Experience

Dummy variable coded 1 if the Danish firm had prior experience conducting business via international strategic alliances; measures the international business experience pertaining to this specific mode of activity.

International Business Experience

Number of years of international experience, calculated as the first year of international experience (export, foreign subsidiary and international alliance) subtracted from the year of the survey (2001).

Cultural Distance

Based on Lyles and Salk (1996) and Simonin (1999a), cultural distance was measured as a multi-item construct on ordinal scales from 1-7. Attempting to overcome some of the criticism of this construct (see Shenkar, 2001) the items measure several dimensions of cultural distance; national cultural distance, communicative distance, and organizational cultural distance. Cronbach's alpha for this construct is 0.83.

Appendix A (Continued)

VARIABLES AND MEASUREMENT

Interdependency

Two items on ordinal scales from 1-7 of the level of resource commitment to the alliance in terms of (1) human resources and (2) physical and financial resources. Cronbach's alpha for this construct is 0.65.

Competency Similarity

Ordinal scale 1-7 of the level of similarity of competencies from the Danish firm's perspective.

Collaborative Know-How

Following Simonin (1997, 2000) the focal firm was asked to assess itself in terms of level of *know-how* in various alliance-related tasks, such as identifying and selecting a partner, experience with international partnerships, and alliance management. Cronbach's alpha for this construct is 0.77.

Governance Infrastructure

Following Kaufmann, et.al. (1999) and Globerman and Shapiro (2002), a set of indicators of the political governance of a host country constructed by was used to develop a composite measure of the external governance environment surrounding an alliance. The indicators encompass six broad areas of host country governance and were collected for all of the host countries in which our sample of Danish firms established alliances. The areas include: 1. voice and accountability; 2. political instability; 3. government effectiveness; 4. regulatory quality, 5. rule of law and 6. control of corruption. Cronbach's alpha for this construct is 0.97.

Risk of Opportunism

Two items on ordinal scales 1-7 of the perceived risk of the partner using the alliance to further own gains while purposely taking advantage of the focal firm. Cronbach's alpha for this construct is 0.77