

**Equity Versus Non-Equity
International Strategic Alliances:
The Role of Host Country Governance Management**

**Steven Globerman
Bo B. Nielsen**

SMG WP 19/2006

December 2006

SMG Working Paper No. 19/2006
December 2006
ISBN: 87-91815-37-1

Center for Strategic Management and Globalization
Copenhagen Business School
Porcelænshaven 24
2000 Frederiksberg
Denmark
www.cbs.dk/smg

Equity Versus Non-Equity International Strategic Alliances:
The Role of Host Country Governance

Steven Globerman
Kaiser Professor of International Business
Western Washington University
College of Business and Economics
Bellingham, WA USA

and

Bo B. Nielsen*
Assistant Professor
Western Washington University
College of Business and Economics
Bellingham, WA 98225-9075 USA

Tel 360.650.2404 Fax 360.650.4844
Email Bo.Nielsen@wwu.edu

Dec 2006

PLEASE DO NOT QUOTE WITHOUT EXPLICIT PERMISSION FROM AUTHORS.

* Corresponding author

Equity Versus Non-Equity International Strategic Alliances: The Role of Host Country
Governance

ABSTRACT

A substantial literature has evolved focusing on the ownership structure of international strategic alliances (ISAs). Most of the relevant studies are theoretical in nature and concentrate on the conceptual factors that influence the choice between equity and non-equity structures. A smaller number of studies provide some empirical evidence on the importance of some of the conceptual factors. The theoretical literature highlights the potential influence of relational capital and transaction costs as determinants of ISA structure; however, there is little empirical evidence on the relative importance of these potential determinants. Moreover, there is only limited and indirect evidence bearing upon the impact of host country governance attributes on ISA ownership structure. In this study, we provide statistical evidence on the importance of potential determinants of governance mode choice for a sample of ISAs involving Danish firms. Our study documents how the determinants of governance mode choice vary in importance depending upon the “quality” of the governance infrastructure of the host country.

Key words: Relational Capital, Governance, International Strategic Alliance

1. Introduction

Dunning (1995) and others have noted the emergence and growth of international strategic alliances (ISAs) as an important development in the organization of international economic activity. A substantial literature has, unsurprisingly, evolved focusing on different aspects of the ISA 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. In the transaction cost literature, the characteristics of the underlying transactions are the primary determinants of risks of opportunism. In particular, relevant studies highlight the uncertainty and complexity associated with carrying out specific activities as major sources of difficulty in specifying and enforcing contractual agreements. The greater the costs and risks associated with monitoring and enforcing “arms-length” agreements, the greater the advantages of equity ownership structures in ISAs, *ceteris paribus* (Williamson, 1975; Oxley, 1999; Hennart and Zeng, 2005).

A recurring criticism of the transaction cost literature as it has been applied to ISA governance choice is that it fails to acknowledge the role that non-transactional attributes play in influencing the choice of governance mode. In particular, relational capital is suggested to be an important determinant of ISA governance, where relational capital has been defined as encompassing mutual trust, respect, understanding and friendship between individuals in a business relationship (Thuy and Quang, 2005). While there is an extensive literature surrounding the concept of relational capital and its components, few studies have attempted to identify the empirical importance of relational capital components to perceived risks of opportunism and choice of ISA governance mode. Moreover, discussions linking relational capital to ISA structure fail to acknowledge the possibility that the linkage might be sensitive to the property rights regime in the host country. In particular, legal and political institutions in the host country might condition the importance of relational capital by influencing the risks of opportunism perceived by the foreign ISA partner.

The primary focus of this study is to identify whether plausible determinants of relational capital significantly influence the choice of governance mode in a sample of ISAs. A related focus is to assess whether the empirical relevance of specific relational capital attributes is linked to the governance attributes of host country governments. Our sample consists of a set of Danish companies that formed alliances with a wide range of foreign companies across a number of industries. The alliances are characterized as being either equity or non-equity ISAs. The choice of an equity ISA mode is taken to reflect greater perceived risks of opportunism prior to the formation of the ISA. Our study seeks to identify whether partner attributes conceptually contributing to higher levels of relational capital are systematically linked to governance mode, thereby providing indirect evidence of the relevance of those partner attributes to perceived risks of opportunism. In addition to partner attributes, the “riskiness” of the host country surrounding the security of property rights, broadly defined, is also included as an explanatory variable of governance choice, as well as a factor mediating the impact of partner attributes.

While direct measures of transactional determinants of risks of opportunism are unavailable, we include several variables that might proxy relevant determinants. We find that partner attributes are, in fact, the strongest statistical determinant of choice of governance mode for the full sample of ISAs; however, the strength of these attributes depends upon the governance environment of the host country. Specifically, in host countries where political governance and regulation contribute to relatively secure property rights, partner attributes are stronger determinants of governance choice than in countries characterized by relatively weak political governance. These findings may advance our understanding of the underlying determinants of the critical governance choice decision in relation to the relational and environmental characteristics surrounding ISAs, an issue that remains large unexplored in the literature.

Our paper proceeds as follows. The next section provides a brief discussion of how perceived risks of opportunism should be related to the choice of equity versus non-equity ISA. Section Three identifies and evaluates partner attributes that are likely to influence perceived risks of opportunism through their contributions to relational capital. Section Four describes our sample and discusses how the data were collected. Section Five identifies the empirical models that we employ to test the statistical relevance of the conceptual determinants of governance

choice. The statistical estimation of the model and the results of the estimations are discussed in Section Six. A discussion and conclusion is provided in the final section.

2. Choice of governance for ISAs

Research on the choice of governance mode for ISAs has largely been based on a distinction between equity and non-equity arrangements¹. A number of authors argue that equity alliances provide partners with more administrative control than non-equity alliances by virtue of the establishment of an administrative hierarchy that allows partners to exercise a residual right of control (Hennart, 1988; Pisano, *et.al.*, 1998). Equity ownership is equated to greater control under the assumption that more equity ownership gives 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. Shared equity ownership might also be expected to align the incentives of ISA parties, thereby creating mutual interests that reduce the need for control (Oxley, 1997; Pisano, 1999). Non-equity alliances, on the contrary, are contractual agreements that lack shared ownership or dedicated administrative structures, and they 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 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 anticipated 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 set of transactions net of all governance costs. The governance structure that achieves this goal is efficient.

¹ This is due to the lack of clear alternative typologies and resulting empirical confusion. For a review of alliance types, see Das and Teng (2001).

The 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 should 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.

There is certainly some controversy surrounding the strength of the linkage between administrative governance and the attenuation of opportunistic behavior. For example, Geringer and Hebert (1989) suggest that ownership plays only a limited role in providing control of partners in a joint venture, while 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 the ownership level. Similarly, Contractor and Ra (2002) argue that factors other than appropriation concerns are important determinants of choice of alliance governance mode. These factors are thought to be absorptive capacity of the knowledge recipient and the nature of the knowledge being exchanged, though qualitative empirical test of this thesis yielded little support (O'Dwyer and O'Flynn, 2005). Indeed, some have argued that 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 from the arrangement, thus intensifying the vulnerability of participants to undesirable partner behavior (Bensaou and Anderson, 1999). As a result, it might be argued that equity alliances require a higher level of confidence in a partner than non-equity arrangements.

In fact, the majority of empirical studies relating governance mode to risks of opportunism suggest that control or administrative hierarchy associated with ownership is positively related to risks of opportunism (Garcia Canal, 1996; Oxley, 1997; Hagedoorn and Narula, 1996; Osborn and Baughn, 1990). Similar conclusions are suggested in studies that link limited trust between transacting parties to risks of opportunism. For example, Gulati and Singh (1998) find that alliances in which there is less trust between parties 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. 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

In short, the general consensus in the literature is that the potential net benefits of administrative governance will be higher, the higher the perceived risks of opportunistic behavior. In the following section, we review and assess the determinants of risks of opportunism that are discussed in the literature.

3. Correlates of perceived risk of opportunism

As noted earlier, numerous studies relate the characteristics of the transactions underlying an ISA to the underlying risks of opportunism. This literature, as distilled by Oxley (1999), highlights the uncertainty and complexity associated with carrying out specific activities as major sources of difficulty in specifying and enforcing arms-length agreements. In particular, the more uncertain and complex an underlying set of transactions, the greater the *ex ante* risks of opportunism.

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. That is, trust is negatively related to equity governance.

There is an abundance of studies focusing on the sources of relational or trust capital (Nielsen, 2004; Kale, *et.al.*, 2000; Pearce, 2001; Poppo and Zenger, 2002 and Thuy and Quang, 2005).³ One source frequently cited is the duration of the interaction between ISA partners prior to the formation of a new ISA (Granovetter, 1985; Gulati, 1995; Inkpen and Currall, 1998). As the duration of interaction increases, transactions become embedded within the social relations of

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

³ Thuy and Quang (2005) identify trust as a component of relational capital. Some other studies effectively use the terms “trust” and “relational capital” interchangeably. The distinction in terminology is relatively immaterial to our study. Hence, we employ the term relational capital.

the partners. This, in turn, should help establish greater trust between the parties and reduce the perceived risks of opportunism (Larson, 1992; Arino, *et. al.*, 2001).

A second major contributor to the formation of relational capital is the degree of interdependence between the parties as measured by the level of resource commitment made by the parties. All other things constant, a greater degree of interdependence should increase the willingness of parties to resolve disputes in a harmonious fashion in order to avoid the breakup of the alliance (Madhok, 1995; McAllister, 1995; Moore, 1998). 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 (Hennart and Zeng, 2005).

Similar competencies of alliance partners are a related factor that has been identified as contributing to greater relational capital. Specifically, similar competencies should better equip each partner to evaluate the behavior of other partners and to determine when those partners are engaging in opportunistic behavior (Harrigan, 1985; Parke, 1991). This enhanced ease of monitoring opportunistic behavior should discourage efforts to engage in opportunistic behavior within an alliance, thereby mitigating perceived risks of opportunism. In a comparable manner, collaborative know-how of the alliance partners enhances their abilities to understand and adopt proper procedures and mechanisms for alliance management, including conflict resolution (Powell, *et. al.*, (1996); Simonin (1997, 2002). Hence, greater collaborative know-how should facilitate more effective monitoring and management of the alliance relationship, thereby enhancing relational capital and reducing perceived risks of opportunism.

Besides attributes of the ISA partners, several studies identify possible linkages between relational capital and characteristics of the host and home country environments. For example, Contractor and Kundu (1998) argue that indicators of host country conditions such as greater country risk and greater cultural distance between the host and home countries signal that lower levels of relational capital are shared between alliance participants. The adverse impact of cultural differences between ISA partners on alliance relationships has also been suggested in Lane and Beamish (1990) and Barkema and Vermeulen (1997).⁴

The literature linking relational capital to perceived risks of opportunism tends to be primarily theoretical rather than empirical in nature, and the empirical application of the concept

⁴ Empirical findings on the relationship between cultural distance and alliance relationships is mixed owing to differences across studies in the cultural distance construct (Shenkar, 2001).

of relational capital has been restricted to a limited number of studies of ISAs (Hersch and Styles, 2001). Several recent studies have attempted to identify correlates of relational capital through statistical analysis. They highlight the relevance of the correlates identified to learning and protection of proprietary assets in alliances (Kale, *et. al.*, 2000), to management perceptions of risks in alliances (Das and Teng, 2001) and to various aspects of perceived performance of alliances (Thuy and Quang, 2005). While these studies suggest a link between relational capital and choice of governance mode, there is no study, to our knowledge, that directly tests the strength of the linkages between attributes of relational capital and choice of equity versus non-equity governance mode. By extension, we are aware of no study that evaluates the importance of environmental characteristics such as host country governance relative to the importance of partner attributes in the choice of ISA governance structure. A notable exception is Luo (2001); however, while this study considers the influence of environmental attributes for a sample of Chinese JVs, it relies on perceptual measures of environmental dynamism, complexity and hostility, of which only hostility exhibits a significant (negative) relationship with equity sharing.

In this study, we specify and estimate a model of ISA governance mode (i.e. equity versus non-equity) in which a range of partner and environmental attributes are included as independent variables. We also evaluate whether the estimated impacts of ISA partner attributes and host country governance on mode choice vary across our sample of ISAs. Holding traditional sources of transaction risk constant (Hennart, 1991; Williamson, 1985), host country legal and regulatory institutions are arguably a critical determinant of the security of private property rights, both with respect to opportunistic behavior on the part of host governments, as well as with respect to such behavior on the part of host country firms.

Hence, one might expect that when there are relatively large differences in host country governance characteristics across countries, such governance differences will have a relatively large impact on mode choice relative to other potential determinants such as relational capital surrounding specific ISAs. Conversely, when host country governance attributes are quite similar, as they tend to be for developed countries, partner attributes will have a relatively large influence on mode choice compared to host country governance. To the extent that this is true for our sample, it might help explain mixed findings in the literature regarding the linkage between relational capital and ISA performance.⁵ Namely, partner attributes are more likely to be

⁵ The weak empirical findings regarding this linkage are highlighted in Hennart and Zeng (2005).

perceived as important determinants of risks of opportunism in ISA samples that are located in countries characterized by very similar types of host country governance.

4. Method

4.1 Sample and procedure

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 ISAs, 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. Since the idea behind this sampling method was to capture as many of the firms engaged in ISAs 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 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).

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.

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

4.2 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 a secure 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).

4.3 Response assessment

A total of 1,851 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 nationality.

----Insert Table 1 here----

5. Specification of model

Potential determinants of relational capital in international business alliances were identified in an earlier section. The greater the amount of relational capital surrounding an ISA, the less should be the perceived need for administrative control given any set of activities. Similarly, the “better” the host country’s political and regulatory (henceforth “governance”) regime, the smaller should be the perceived advantages of equity ownership. Our empirical model therefore specifies two broad sets of factors, one pertaining to the attributes of the alliance partner and the other identifying the quality of governance of the host country. The former set of factors can be viewed as attributes of an ISA that determine the relational capital surrounding the ISA. The quality of host country governance can be viewed as social capital surrounding an ISA that conditions perceived risks of opportunism. A third set encompasses the underlying risks of opportunism surrounding an ISA that are related to the characteristics of the relevant transactions.

5.1 Attributes of alliance partners

A number of potentially relevant attributes of the alliance partners were identified in our survey that was mentioned in an earlier section. 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,

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.

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 had prior experience with the Danish firm.

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, and the possibility of either party trying to advantage itself at the other partner's expense given unanticipated changes in the operating environment. Therefore, prior experience should be associated with greater relational 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 production). Hence, higher values of both measures should be associated with greater amounts of relational 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. Lower values of cultural distance should therefore be associated with greater amounts of relational 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. 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). Hence, higher values of interdependency 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. As noted earlier, 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. 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. This potential would be recognized as increasing the risks of opportunistic behavior within the ISA, thereby encouraging equity ownership. Consequently, although prior research recognizes the positive relationship between similarity of competencies and ISA performance, the influence of competency similarity 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.

5.2 Host country governance infrastructure

A set of indicators of the macro (governance) environment constructed by Kaufmann, et.al., (1999a) for different countries is used to develop an overall measure of host country governance for our sample of ISAs. 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.⁹

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

⁹ 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).

of illegal or unethical conduct towards foreign alliance partners on the part of host country partners.

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 ownership in international strategic alliances.

5.3 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. According to Granovetter (1985): 'The widespread preference for transacting with individuals with known reputation implies that few are actually content to rely on either generalized morality *or* institutional arrangements to guard against trouble... [Instead] social relations, rather than

institutionalized arrangements or generalized morality, are mainly responsible for the production of trust in economic life' (pp. 490-491; emphasis in original).

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 reputation 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 (1994) note: a firm with a reputation for being honest, fair, and trustworthy gives one the first piece of evidence to take some initial risk. Consequently, we might observe empirically that reputation 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 (*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 of risk of opportunism using factor analysis. The potential for opportunistic behavior is a major source of transaction costs in alliances, since firms perceiving the threat of opportunism are faced with a greater need for screening, negotiating, and monitoring partner's behavior (Das and Teng, 1998; Williamson, 1985). Shirking, free-riding, and withholding full cooperation are examples of potential opportunistic behavior that would increase the perceived transactional risk associated with an alliance.

To be sure, the construct used here 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 of opportunism 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.

5.4 Control variables

Finally, two control variables are specified that are potentially related to choice of governance mode. 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 larger and more idiosyncratic than investments in non-manufacturing alliances. Since a substantial portion of the relevant investments are likely to be characterized by sunk costs, manufacturing ISAs may well embody greater *ex ante* risks of opportunistic behavior than non-manufacturing alliances. 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, the manufacturing ISAs indeed required more capital investment than non-manufacturing ISAs. Hence, our expectation with respect to the performance of this variable is speculative.

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 employees¹⁰ working in the parent organization (*EMPLOY*).

6. 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. Tables 3 -5 report the results of our estimations.

----Insert Tables 2 and 3---

¹⁰ The number of employees was chosen as indicator of size due to a lack of consistency and missing data in the turnover data set.

The first model (Table 3) reports the results of regressing the dependent variable against various combinations of the main independent variables, as well as the two control variables. Model 1 effectively evaluates the statistical robustness and accuracy of the trust creating attributes of the ISA partners. Specifically, it excludes the *GOV* variable while including the various ISA partner attribute measures, along with the *REPUT* variable and the control variables. Model 1 is statistically 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's sign could be made has the expected sign, and most are statistically significant. Specifically, prior experience conducting business via international strategic alliances (*ISAEXP*) is associated with a significantly 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 significant positive relationship is observed between cultural distance and equity ownership. Competency similarity (*SIM*) is positively and significantly related to equity ownership suggesting that unique partner skills may actually enhance the risk of opportunism and thereby make equity ownership more attractive. 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. Only the *PEXP* coefficient has the opposite sign from its hypothesized value, although the variable is statistically insignificant, as are the two control variables.

Model 2 focuses on the explanatory power of our macro-governance measure described earlier in the paper and listed in Appendix A. Thus, the various ISA attribute variables are excluded from the model. As noted earlier, high intercorrelations among the specific indexes militated 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 governance environment of the host country. 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 host country 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 host country 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 specific to ISA partners 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 traditional determinants of transaction costs on choice of ISA governance mode, excluding the influence of relational capital and macro governance. While the *REPUT* variable is statistically significant, the *RISK* variable 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 costs.

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 regulatory and legal governance. With the inclusion of the macro-governance (*GOV*) variable in the estimation model, this component of cultural distance, as it influences equity ownership choice, loses its statistical relevance

In short, relational antecedents of trust specific to individual ISAs, as well as host country governance, determine the choice of equity versus non-equity governance regimes for our sample of ISAs; however, the explanatory power of Model 4 primarily reflects the inclusion of the relational capital variables. Indeed, the statistical significance of host country governance decreases slightly when it is included in the same model with the ISA partner attribute variables.

It seems plausible that ISA partner attributes will be relatively more important in influencing the equity ownership decision for individual alliances when the choice of host country has been pre-determined or when small governance differences exist among potential host countries. On the other hand, host country governance is likely to be a more important determinant of ISA governance mode when substantial differences exist among host country governance attributes. To evaluate the differential importance of the ISA attribute variables and the *GOV* variable across our sample, we divided our sample into a group of “high *GOV*” host countries and a group of “low *GOV*” host countries. The division was made by first arraying the sample alliances by their values of the *GOV* variable. By visual inspection, a breakpoint was identified consistent with a clear separation between relatively low and relatively high values for the *GOV* variable. There were 52 alliances falling into the category of low governance and 65 falling into the category of high governance. Three observations that fell between the two sub-samples in value were excluded to give greater statistical separation between the two sub-samples. Levene’s test for homogeneity of variance was significant at better than the .01 level indicating that the sample separation is reliable. Table 4 reports the results of estimating Model 4 (Table 3) for each sub-sample.

----Insert Table 4 here----

The results reported in Table 4 show that significant differences exist between sub-samples with regard to the influence of specific determinants of equity ownership in ISAs. As expected, for the low governance sample, the *GOV* variable is significantly and negatively related to the likelihood of equity ownership. On the other hand, the *GOV* variable is negative but statistically insignificant in the high governance sample. This latter result suggests that, above a certain threshold of host country governance “quality”, regulatory, legal and related features of the host country governance regime have a limited influence on perceived risks of opportunism for foreign investors.

For the most part, the ISA partner attribute variables are statistically insignificant in the low governance sample regression. Only the collaborative know-how variable is statistically

significant.¹¹ Even the partner reputation variable is statistically insignificant at any acceptable confidence level. These results suggest that equity ownership decisions in relatively poorly governed host countries are dominated by macro governance characteristics. The inference one might draw is that ISA partner attributes have a relatively modest influence on perceived risks of opportunism in poorly governed countries because investment risk is primarily associated with potential actions on the part of host government and regulatory officials. Conversely, in relatively well-governed countries, the risks associated with adverse actions taken by the host government are relatively low. Hence, evaluations of the net benefits of equity ownership are primarily influenced by ISA-specific attributes and “conventional” transaction cost considerations. Thus, for the sample of high governance countries in Table 4, the *ISAEXP*, *CULT*, *SIM*, *REPUT* and *RISK* variables are all statistically significant with signs that are consistent with our prior hypotheses.

7. Discussion and conclusion

In this study, we specify and estimate a model of equity versus non-equity governance of a sample of ISAs involving Danish firms. The model builds upon the notion that the choice of equity ownership reflects perceived risks of opportunism, which, in turn, potentially reflect the relational capital (or partner attributes) surrounding an ISA, the political and regulatory environment of the host country, and the underlying attributes of the relevant transactions within an alliance, particularly as they are characterized by uncertainty and complexity. A key assumption is that equity ownership enhances management control, and that the net benefits of enhanced managerial control increase as perceived risks of opportunism increase.

The empirical evidence across our entire sample of ISAs indicates that the probability of equity ownership indeed increases when the underlying risks of opportunism increase. In this regard, our results are consistent with the body of literature documenting incentives for integrated ownership when contracting is a costly or impractical mode for governing a set of transactions; however, for our entire sample, the most important determinant of underlying risks of opportunism appears to be the relational capital surrounding the specific ISA. The political and regulatory regime of the host country is also important, but apparently less so than relational

¹¹ The RISK variable is statistically significant at the .15 level. Hence, conventional transactions cost factors play a weak role in determining the probability of equity ownership in the low governance sample.

capital. Our proxy measures of conventional transactions cost considerations do not figure as prominent influences on the equity decision in our full sample.¹²

At the same time, our findings provide evidence of the differential importance of specific determinants of equity ownership depending upon the quality of the political and regulatory environment of the host country. Specifically, we find that when the macro governance environment is relatively good, relational capital and conventional transaction cost factors play dominant roles in determining the likelihood of equity ownership. Conversely, differences in the macro-governance environment are the dominant determinant of the likelihood of equity governance for ISAs established in poorly governed countries. Our results therefore suggest that, above a threshold of host country governance quality (or below a threshold of macro environmental risk), the marginal influence of improved host country governance on the probability of equity ownership in ISAs is statistically insignificant. Rather, managers appear to emphasize the relational capital and transaction costs surrounding an ISA when evaluating the equity ownership option.

Several possible limitations of our model might be mentioned. First, while we employ several indirect measures of transaction cost characteristics of the underlying ISA activities, it would be clearly preferable to have direct measures of the uncertainty, complexity and specificity of the relevant activities. Second, information about attributes such as prior ISA experience and other proxies for relational capital was obtained from the survey responses of the Danish company managers. This focal-firm perspective is a basic feature of strategic alliance research and makes it possible to view the situation from the standpoint of a participant in the decision-making process; however, it could limit the reliability of our attribute measures to the extent that the perspectives of the ISA partners differ with respect to the chosen attributes (Gillespie and Teegan, 1995; Luo and Park, 2004). In fact, as argued earlier, we believe that most of the attribute variables should be symmetric, i.e., foreign partners should hold similar views as Danish managers. In this regard, Geringer (1991) finds significant positive correlations between the two parent firms' assessments and perceptions of IJV performance in his samples. Thus, reliance on a single parent company respondent as a data source is arguably a justifiable option, particularly when the respondent is the managing director of the parent company. Finally,

¹² It might be noted that our findings contradict the predictions of Shan (1991) and Luo (2001) to the effect that MNEs may favor lower levels of equity ownership as environmental risks increase.

while this study utilizes a dichotomous measure of governance (equity versus non-equity), managers face a more complex set of options when structuring ISA governance arrangements. Hence, future research might benefit from modeling a finer classification of ISA governance mode as a function of the sets of independent variables employed in this study.

It is also worth briefly considering the managerial implications of this study. Perhaps most important, our findings that Danish managers apparently do not place great importance on relational capital in making equity ownership choices when forming ISAs in poorly governed host countries does not mean that this practice is justified. While it might be reasonable to *emphasize* host country legal and regulatory conditions when evaluating risks of opportunism in poorly governed countries, this does not mean that other sources of risk should be ignored or minimized. A second, and related, managerial implication is that international managers are arguably well served by adopting a broad perspective of the determinants of risks of opportunism when evaluating the net benefits of equity ownership. The literature tends to compartmentalize the determinants of organizational governance structure by virtue of the specialized focus of the relevant studies. That is, available studies tend to focus on individual sets of determinants of risk, particular the transaction cost characteristics of the underlying activities, rather than acknowledging the different sets of variables that are likely to influence the organizational governance choice. Specifically, relational capital, host country governance and conventional transaction cost characteristics are all likely to be relevant determinants of risk, to a greater or lesser extent, thereby influencing organizational governance choices.

Table 1: Nationality of Partner Firm

Nationality	# 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
TOTAL	120
Western Europe	73
Eastern Europe (including Baltic States)	11
European Union	69
Scandinavia	32
Asia	10
North America	20
South America	4

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	

* $p < 0.05$, 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	
	Partner Attributes		Macro Governance.		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)
10. Risk of opportunism (RISK)					0.119	(0.131)	-0.177	(0.389)
11. # of employees (EMPLOY)	0.001	(0.001)	0.000	(0.000)	0.000	(0.001)	0.001	(0.001)
12. 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; ^bEquity = 1

* p<0.1, one-tailed test; ** p<0.05, one-tailed test, *** p<0.01, one-tailed test

TABLE 4: Results of Logit Models for Sub-samples^a

Variable	Low Governance Countries ^b		High Governance Countries ^b	
	(Coefficient)	(SE)	(Coefficient)	(SE)
Constant	20.453*	(11.360)	4.205	(8.961)
1. Prior exp. with partner (PEXP)	2.244	(2.026)	0.604	(1.467)
2. Int. business exp. (INTEXP)	-0.038	(0.041)	0.056	(0.040)
3. Prior ISA exp. (ISAEXP)	1.021	(1.537)	-2.293*	(1.229)
4. Cultural distance (CULT)	1.594	(1.026)	1.077**	(0.459)
5. Interdependency (COMINT)	-2.608	(1.997)	0.609	(0.566)
6. Competency similarity (SIM)	0.868	(0.794)	1.027***	(0.331)
7. Coll. know-how (CKNOW)	-4.455**	(1.813)	-0.232	(0.722)
8. Governance (GOV)	-5.808**	(2.497)	-2.302	(4.687)
9. Partner reputation (REPUT)	-0.691	(0.651)	-2.922***	(0.928)
10. Risk of opportunism (RISK)	1.583	(1.012)	0.888**	(0.377)
11. # of employees (EMPLOY)	-0.011	(0.010)	0.001	(0.001)
12. Industry (IND)	3.715	(2.310)	0.369	(0.963)
Cox & Snell R ²	0.59		0.51	
Nagelkerke R ²	0.79		0.69	
X ²	45.845***		48.318***	
Log likelihood	25.007		43.047	

^a; N=52 for low country governance, N=65 for high country governance;^b Equity = 1
* p<0.1, one-tailed test; ** p<0.05, one-tailed test, *** p<0.01, one-tailed test

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 negotiations, 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

REFERENCES

- Ahmadjian, C. & Oxley J., 2003. Using Hostages to Support Exchange: Dependence Balancing & Partial Equity Stakes in Japanese Automotive Supply Relationships, *Journal of Law, Economics and Organization*, forthcoming.
- Arinõ, A., de la Torre, J. & Ring, P. S., 2001. Relational Quality, *California Management Review*, 44(1): 109-131.
- Barkema, H.G. & Vermeulen, F., 1997. What differences in the cultural background of partners are detrimental to international joint ventures? *Journal of International Business Studies*, 28(4): 845-864.
- Barney, J.B. & Hansen, M.H., 1994. Trustworthiness and competitive advantage. *Strategic Management Journal*, 15: 175-190.
- Bensaou, M, & Anderson, E., 1999. Buyer-supplier relations in industrial markets: When do buyers risk making idiosyncratic investments? *Organization Science*. Jul/Aug. Vol. 10, Iss. 4: 460.
- Blodgett, L. L., 1991. Partner contributions as predictors of equity share in international joint ventures. *Journal of International Business Studies*, 22: 63-78.
- Chen, H. & Chen, JY., 2003. "Governance Structures in Strategic Alliances: Transaction Cost Versus Resource-Based Perspective," *Journal of World Business*, 38 (1) 1-14.
- Contractor F.J. & Lorange, P., 1988. *Cooperative Strategies in International Business*, Lexington, MA: D.C. Heath.
- Contractor, F. J & Kundu, S. K., 1998. Modal choice in a world of alliances: Analyzing organizational forms in the international hotel sector, *Journal of International Business Studies*. Second Quarter, Vol. 29, Iss. 2: 325
- Contractor, F.J. & Ra, W., 2002. How knowledge attributes influence alliance governance choices: a theory development note, *Journal of International Management*, 8(1): 11-27.
- Cummings, T., 1984. Transorganizational Development, *Research in Organizational Behavior*, 6: 367-422.
- Das T.K. & Teng, B-S., 1997. Between trust and control: Developing confidence in partner cooperation in alliances. *Academy of Management Review*, 23(3): 491-512.
- Das T.K. & Teng, B-S., 1998. Resource and risk management in the strategic alliance making process, *Journal of Management*, 24: 21-42.

- Das T.K. & Teng, B-S., 2000. A Resource – Based Theory of Strategic Alliances, *Journal of Management*, 26, 1, 31-61.
- Das, T.K. & Teng, B.-S., 2001. A risk perception model of alliance structuring. *Journal of International Management*, 7: 1-29.
- Dunning, John H., 1995. Reappraising the eclectic paradigm in an age of alliance capitalism. *Journal of International Business Studies*. Third Quarter Vol. 26, Iss. 3: 461.
- Garcia Canal, E., 1996. Contractual Form in Domestic and International Strategic Alliances, *Organization Studies*, 17: 773-794.
- Geringer, J.M. & Hebert, L., 1989. Control and Performance of International Joint Ventures, *Journal of International Business Studies*, 20, 235-254.
- Geringer, J.M., 1991. Strategic determinants of partner selection criteria in international joint ventures. *Journal of International Business*, 22, 1: 41-62.
- Gillespie, K. & Teegan, H.J. 1995. Market liberalization and international alliance formation: the Mexican paradigm. *The Columbia Journal of World Business*, Winter: 58-69.
- Globerman, S. & Shapiro, D., 2002. Global Foreign Direct Investment Flows: The Role of Governance Infrastructure, *World Development*, 30 (11), 1899-1919.
- Granovetter, M.S., 1985. Economic Action and Social Structure: The Problem of Embeddedness. *American Journal of Sociology*, 91: 481-510.
- Gulati, R., 1995. Does familiarity breed trust? The implications of repeated ties for contractual choice in alliances. *Academy of Management Journal*, 38: 85-112.
- Gulati, R., 1998. Alliances and networks. *Strategic Management Journal*, 19(4): 293-317.
- Gulati R. & Singh, H., 1998. The Architecture of Cooperation: Managing Coordination Costs and Appropriation Concerns in Strategic Alliances, *Administrative Science Quarterly*, 43, 781-814.
- Hagedoorn, J., 2002. Inter-firm partnerships: an overview of major trends and patterns since 1960. *Research Policy*, 31(4): 477-492.
- Hagedoorn J. & Narula, R., 1996. Choosing Organizational Modes of Strategic Technology Partnering: International and Sectoral Differences, *Journal of International Business Studies*, 27 (2), 265-284.
- Harrigan, K.R., 1985. *Strategies for Joint Ventures*, Lexington, MA.: Lexington Books.

- Harrigan K.R., 1988. Joint Ventures and Competitive Strategy, *Strategic Management Journal*, 9 (2), 141-158.
- Hennart, J.-F., 1988. A transaction cost theory of equity joint ventures. *Strategic Management Journal*, 9(4): 361-374.
- Hennart, J. F. 1991. The transaction costs theory of joint ventures: An empirical study of Japanese subsidiaries in the United States. *Management Science*, 37, 483-497.
- Hennart, J.F. and Zeng, M., 2005. Structural Determinants of Joint Venture Performance, *European Management Review*, 2, 105-115.
- Hill, C.W., 1990. Cooperation, opportunism and the invisible hand: implications for transaction cost theory, *Academy of Management Journal*, 15: 500-513.
- Inkpen, A. & Currall S. C., The Nature, Antecedents and Consequences of Joint Venture Trust, *Journal of International Management*, Vol. 4, 1998.
- Johanson, J. & Vahlne, J-E., 1977. The internationalization process of the firm - A model of knowledge development and increasing foreign market commitments, *Journal of International Business Studies*, 8(1): 23-32.
- Kaufmann, D., Kraay A. & Zoido-Lobaton, P., 1999. Aggregating Governance Indicators, World Bank Working paper 2195, available at: <http://www.worldbank.org/wbi/governance>.
- Lane, H.W., & Beamish, P., 1990. Cross-cultural Cooperative Behavior in Joint Ventures in LDCs. *Management International Review*, 30: 87-102.
- Larson, A., 1992. Network dyads in entrepreneurial settings: A study of the governance of exchange relationships. *Administrative Science Quarterly*, 37: 76-104.
- Lumpkin, G T, Dess, & Gregory G., 1996. Clarifying the entrepreneurial orientation construct and linking it to performance, *The Academy of Management Review*. Jan Vol. 21, Iss. 1; 135-173.
- Luo, Y., 2001. Equity sharing in international joint ventures: an empirical analysis of strategic and environmental determinants, *Journal of International Management*, 7: 31-58.
- Luo, Y. & Park, S.H., 2004. Multiparty cooperation and performance in international equity joint ventures. *Journal of International Business Studies*, 35(2): 142-160.
- Madhok, A., 1995. Revisiting multinational firms' tolerance for joint ventures: A trust-based approach, *Journal of International Business Studies*, 26: 117-137.
- Mayer, R. C., Davis, J.H.& Schoorman, F.D., 1995. An Integrative Model of Organizational Trust. *Academy of Management Review*, 25(2): 294-311.

- McAllister, D. J., 1995. Affect- and cognition-based trust as foundations for interpersonal cooperation in organizations, *Academy of Management Review*, 38: 24-59.
- Mjoen, H. & Tallman, S., 1997. Control and performance in international joint ventures. *Organization Science*, 8: 257-274.
- Moore, K.R., 1998. Trust and Relationship Commitment in Logistic Alliances: A Buyer Perspective, *Journal of Supply Chain Management*, 34(1): 24-37.
- Morgan, R.B. & Hunt, S.D., 1994. The Commitment-Trust Theory of Relationship Marketing, *Journal of Marketing*, 58(July): 20-38.
- Morita, J.G., Lee, T.W. & Mowday, R.T., 1993. The regression-analog to survival analysis: A selected application to turnover research. *Academy of Management Journal*, 36(6): 1430-1465.
- Nielsen, B.B., 2003. An Empirical Investigation of the Drivers of International Strategic Alliance Formation, *European Management Journal*, Vol. 21, Issue 3.
- Nielsen, B.B., 2004. The role of trust in collaborative relationships, *Management*, 7(3), Special Issue, 239-256.
- O'Dwyer, M. & O'Flynn, E., 2005. MNC-SME strategic alliances – A model framing knowledge value as the primary predictor of governance mode, *Journal of International Management*, 11(3): 397-416.
- Osborn, R.N. & Baughn, C.C., 1990. Forms of Interorganizational Governance for Multinational Alliances, *Academy of Management Journal*, 33(3): 503-519.
- Oxley, J. E., 1997. Appropriability Hazards and Governance in Strategic Alliances: A Transaction Cost Approach, *Journal of Law, Economics and Organization*, 13 (3), 387-409.
- Oxley, J.E., 1999. Institutional Environment and the Mechanism of Governance: The Impact of Intellectual Property Protection on the Structure of Inter-Firm Alliances, *Journal of Economic Behavior and Organization*, 38(3): 283-309.
- Parkhe, A., 1991. Interfirm diversity, organizational learning, and longevity. *Journal of International Business Studies*, 22(4): 579-602.
- Pisano, G. P., 1989. Using Equity Participation to Support Exchange: Evidence from the Biotechnology Industry, *Journal of Law, Economics and Organization*, 5, no. 1, spring: 109-126.
- Poppo, L. & Zenger, T., 2002. Do formal contracts and relational governance function as substitutes or complements? *Strategic Management Journal*, 23(8): 707-725.

Powell, W.W., Koput, K.W. & Smith-Doerr, L., 1996. Interorganizational collaboration and the locus of innovation: Networks of learning in biotechnology. *Administrative Science Quarterly*, 41: 116-145.

Shan, W., 1991. Environmental risks and joint venture sharing arrangements, *Journal of International Business Studies*, 22(4): 555-578.

Shenkar, O. & Zeira, Y., 1992. Role Conflict and Role Ambiguity of Chief Executive Officers in International Joint Ventures. *Journal of International Business Studies*, 23(1): 55-75.

Simonin, B.L., 1997. The importance of developing collaborative know-how: An empirical test of the learning organization. *Academy of Management Journal*, 40(5): 1150-1174.

Simonin, B.L., 2002. The Nature of Collaborative Know-How, in *Cooperative Strategies and Alliances*, Contractor, F.J. & Lorange, P. (Eds.). Elsevier Science, Ltd. Killington, Oxford: UK: 237-263.

Simonin, B. L., 2000. Collaborative know-how and collaborative advantage. *Global Focus*, 12(4): 19-34.

Styles, C. and Hersch, L., 2005. Relationship Formation in International Joint Ventures: Insights from Australian-Malaysian International Joint Ventures, *Journal of International Marketing*, 13(3): 105-134.

Thuy, L.X. & Quang, T. 2005. Relational Capital and Performance of International Joint Ventures in Vietnam. *Asia Pacific Business Review*, 11(3): 389-410.

Uzzi, B., 1996. The sources and consequences of embeddedness for the economic performance of organizations: The network effect. *American Sociological Review*, 61: 674-698.

Williamson O.E., 1975. *Markets and Hierarchies: Analysis and Antitrust Implications*, New York: Free Press.

SMG - Working Papers

www.cbs.dk/smg

2003

- 2003-1:** Nicolai J. Foss, Kenneth Husted, Snejina Michailova, and Torben Pedersen: Governing Knowledge Processes: Theoretical Foundations and Research Opportunities.
- 2003-2:** Yves Doz, Nicolai J. Foss, Stefanie Lenway, Marjorie Lyles, Silvia Massini, Thomas P. Murtha and Torben Pedersen: Future Frontiers in International Management Research: Innovation, Knowledge Creation, and Change in Multinational Companies.
- 2003-3:** Snejina Michailova and Kate Hutchings: The Impact of In-Groups and Out-Groups on Knowledge Sharing in Russia and China CKG Working Paper.
- 2003-4:** Nicolai J. Foss and Torben Pedersen : The MNC as a Knowledge Structure: The Roles of Knowledge Sources and Organizational Instruments in MNC Knowledge Management CKG Working Paper.
- 2003-5:** Kirsten Foss, Nicolai J. Foss and Xosé H. Vázquez-Vicente: "Tying the Manager's Hands": How Firms Can Make Credible Commitments That Make Opportunistic Managerial Intervention Less Likely CKG Working Paper.
- 2003-6:** Marjorie Lyles, Torben Pedersen and Bent Petersen: Knowledge Gaps: The Case of Knowledge about Foreign Entry.
- 2003-7:** Kirsten Foss and Nicolai J. Foss: The Limits to Designed Orders: Authority under "Distributed Knowledge" CKG Working Paper.
- 2003-8:** Jens Gammelgaard and Torben Pedersen: Internal versus External Knowledge Sourcing of Subsidiaries - An Organizational Trade-Off.
- 2003-9:** Kate Hutchings and Snejina Michailova: Facilitating Knowledge Sharing in Russian and Chinese Subsidiaries: The Importance of Groups and Personal Networks Accepted for publication in *Journal of Knowledge Management*.
- 2003-10:** Volker Mahnke, Torben Pedersen and Markus Verzin: The Impact of Knowledge Management on MNC Subsidiary Performance: the Role of Absorptive Capacity CKG Working Paper.
- 2003-11:** Tomas Hellström and Kenneth Husted: Mapping Knowledge and Intellectual Capital in Academic Environments: A Focus Group Study Accepted for publication in *Journal of Intellectual Capital* CKG Working Paper.
- 2003-12:** Nicolai J Foss: Cognition and Motivation in the Theory of the Firm: Interaction or "Never the Twain Shall Meet"? Accepted for publication in *Journal des Economistes et des Etudes Humaines* CKG Working Paper.
- 2003-13:** Dana Minbaeva and Snejina Michailova: Knowledge Transfer and Expatriation Practices in MNCs: The Role of Disseminative Capacity.
- 2003-14:** Christian Vintergaard and Kenneth Husted: Enhancing Selective Capacity Through Venture Bases.

2004

- 2004-1:** Nicolai J. Foss: Knowledge and Organization in the Theory of the Multinational Corporation: Some Foundational Issues
- 2004-2:** Dana B. Minbaeva: HRM Practices and MNC Knowledge Transfer
- 2004-3:** Bo Bernhard Nielsen and Snejina Michailova: Toward a Phase-Model of Global Knowledge Management Systems in Multinational Corporations
- 2004-4:** Kirsten Foss & Nicolai J Foss: The Next Step in the Evolution of the RBV: Integration with Transaction Cost Economics
- 2004-5:** Teppo Felin & Nicolai J. Foss: Methodological Individualism and the Organizational Capabilities Approach
- 2004-6:** Jens Gammelgaard, Kenneth Husted, Snejina Michailova: Knowledge-sharing Behavior and Post-acquisition Integration Failure
- 2004-7:** Jens Gammelgaard: Multinational Exploration of Acquired R&D Activities
- 2004-8:** Christoph Dörrenbächer & Jens Gammelgaard: Subsidiary Upgrading? Strategic Inertia in the Development of German-owned Subsidiaries in Hungary
- 2004-9:** Kirsten Foss & Nicolai J. Foss: Resources and Transaction Costs: How the Economics of Property Rights Furthers the Resource-based View
- 2004-10:** Jens Gammelgaard & Thomas Ritter: The Knowledge Retrieval Matrix: Codification and Personification as Separate Strategies
- 2004-11:** Nicolai J. Foss & Peter G. Klein: Entrepreneurship and the Economic Theory of the Firm: Any Gains from Trade?
- 2004-12:** Akshey Gupta & Snejina Michailova: Knowledge Sharing in Knowledge-Intensive Firms: Opportunities and Limitations of Knowledge Codification
- 2004-13:** Snejina Michailova & Kate Hutchings: Knowledge Sharing and National Culture: A Comparison Between China and Russia

2005

- 2005-1:** Keld Laursen & Ammon Salter: My Precious - The Role of Appropriability Strategies in Shaping Innovative Performance
- 2005-2:** Nicolai J. Foss & Peter G. Klein: The Theory of the Firm and Its Critics: A Stocktaking and Assessment
- 2005-3:** Lars Bo Jeppesen & Lars Frederiksen: Why Firm-Established User Communities Work for Innovation: The Personal Attributes of Innovative Users in the Case of Computer-Controlled Music
- 2005-4:** Dana B. Minbaeva: Negative Impact of HRM Complementarity on Knowledge Transfer in MNCs
- 2005-5:** Kirsten Foss, Nicolai J. Foss, Peter G. Klein & Sandra K. Klein: Austrian Capital Theory and the Link Between Entrepreneurship and the Theory of the Firm

- 2005-1:** Nicolai J. Foss: The Knowledge Governance Approach
- 2005-2:** Torben J. Andersen: Capital Structure, Environmental Dynamism, Innovation Strategy, and Strategic Risk Management
- 2005-3:** Torben J. Andersen: A Strategic Risk Management Framework for Multinational Enterprise
- 2005-4:** Peter Holdt Christensen: Facilitating Knowledge Sharing: A Conceptual Framework
- 2005-5** Kirsten Foss & Nicolai J. Foss: Hands Off! How Organizational Design Can Make Delegation Credible
- 2005-6** Marjorie A. Lyles, Torben Pedersen & Bent Petersen: Closing the Knowledge Gap in Foreign Markets - A Learning Perspective
- 2005-7** Christian Geisler Asmussen, Torben Pedersen & Bent Petersen: How do we Capture "Global Specialization" when Measuring Firms' Degree of internationalization?
- 2005-8** Kirsten Foss & Nicolai J. Foss: Simon on Problem-Solving: Implications for New Organizational Forms
- 2005-9** Birgitte Grøgaard, Carmine Gioia & Gabriel R.G. Benito: An Empirical Investigation of the Role of Industry Factors in the Internationalization Patterns of Firms
- 2005-10** Torben J. Andersen: The Performance and Risk Management Implications of Multinationality: An Industry Perspective
- 2005-11** Nicolai J. Foss: The Scientific Progress in Strategic Management: The case of the Resource-based view
- 2005-12** Koen H. Heimeriks: Alliance Capability as a Mediator Between Experience and Alliance Performance: An Empirical Investigation Into the Alliance Capability Development Process
- 2005-13** Koen H. Heimeriks, Geert Duysters & Wim Vanhaverbeke: Developing Alliance Capabilities: An Empirical Study
- 2005-14** JC Spender: Management, Rational or Creative? A Knowledge-Based Discussion

2006

- 2006-1:** Nicolai J. Foss & Peter G. Klein: The Emergence of the Modern Theory of the Firm
- 2006-2:** Teppo Felin & Nicolai J. Foss: Individuals and Organizations: Thoughts on a Micro-Foundations Project for Strategic Management and Organizational Analysis
- 2006-3:** Volker Mahnke, Torben Pedersen & Markus Venzin: Does Knowledge Sharing Pay? An MNC Subsidiary Perspective on Knowledge Outflows
- 2006-4:** Torben Pedersen: Determining Factors of Subsidiary Development

- 2006-5** Ibuki Ishikawa: The Source of Competitive Advantage and Entrepreneurial Judgment in the RBV: Insights from the Austrian School Perspective
- 2006-6** Nicolai J. Foss & Ibuki Ishikawa: Towards a Dynamic Resource-Based View: Insights from Austrian Capital and Entrepreneurship Theory
- 2006-7** Kirsten Foss & Nicolai J. Foss: Entrepreneurship, Transaction Costs, and Resource Attributes
- 2006-8** Kirsten Foss, Nicolai J. Foss & Peter G. Klein: Original and Derived Judgement: An Entrepreneurial Theory of Economic Organization
- 2006-9** Mia Reinholt: No More Polarization, Please! Towards a More Nuanced Perspective on Motivation in Organizations
- 2006-10** Angelika Lindstrand, Sara Melen & Emilia Rovira: Turning social capital into business? A study of Swedish biotech firms' international expansion
- 2006-11** Christian Geisler Asmussen, Torben Pedersen & Charles Dhanaraj: Evolution of Subsidiary Competences: Extending the Diamond Network Model
- 2006-12** John Holt, William R. Purcell, Sidney J. Gray & Torben Pedersen: Decision Factors Influencing MNEs Regional Headquarters Location Selection Strategies
- 2006-13** Peter Maskell, Torben Pedersen, Bent Petersen & Jens Dick-Nielsen: Learning Paths to Offshore Outsourcing - From Cost Reduction to Knowledge Seeking
- 2006-14** Christian Geisler Asmussen: Local, Regional or Global? Quantifying MNC Geographic Scope
- 2006-15** Christian Bjørnskov & Nicolai J. Foss: Economic Freedom and Entrepreneurial Activity: Some Cross-Country Evidence
- 2006-16** Nicolai J. Foss & Giampaolo Garzarelli: Institutions as Knowledge Capital: Ludwig M. Lachmann's Interpretative Institutionalism
- 2006-17** Koen H. Heimriks & Jeffrey J. Reuer: How to Build Alliance Capabilities
- 2006-18** Nicolai J. Foss, Peter G. Klein, Yasemin Y. Kor & Joseph T. Mahoney: Entrepreneurship, Subjectivism, and the Resource - Based View: Towards a New Synthesis
- 2006-19** Steven Globerman & Bo B. Nielsen: Equity Versus Non-Equity International Strategic Alliances: The Role of Host Country Governance