



Home-Host Country Distance in Offshore Governance Choices

Julien Gooris

SBS-EM, ECARES, Université Libre de Bruxelles

Carine Peeters

SBS-EM, ECARES and CEB Université Libre de Bruxelles

ECARES working paper 2013-13

Home-host country distance in offshore governance choices

Julien GOORIS
(Corresponding author)

Université libre de Bruxelles
Solvay Brussels School of Economics and Management, ECARES
Avenue F.D. Roosevelt, 50 - CP 139 - 1000 Brussels
Tel: +32 (0)2 650 36 88
Email: julien.gooris@ulb.ac.be

Carine PEETERS

Université libre de Bruxelles
Solvay Brussels School of Economics and Management, Centre Emile Bernheim and
ECARES
Avenue F.D. Roosevelt, 50 - CP 114/3 - 1000 Brussels
Tel: +32 (0)2 650 44 62
Email: carine.peeters@ulb.ac.be

ABSTRACT:

This paper studies the effect of home-host country distance on the choice of governance mode in service offshoring. Using a Transaction Cost Economics approach, we explore the comparative costs of the hierarchical and contractual models to show that different dimensions of distance (geographic, cultural and institutional), because they generate different types of uncertainties, impact offshore governance choices in different ways. Empirical results confirm that, on the one hand, firms are more likely to respond to internal uncertainties resulting from geographic and cultural distance by leveraging the internal controls and collaboration mechanisms of a captive offshore service center. On the other hand, they tend to respond to external uncertainties resulting from institutional distance by limiting their foreign commitment and leveraging the resources and local experience of third party service providers. Finally, we find that the temporal distance component (time zone difference) of geographical dispersion between onshore and offshore countries plays a dominant role over the spatial distance component.

Keywords: Offshoring; Home-Host Country Distance; Governance Mode; Global Value Chains; Transaction Cost Economics; Logistic Regression.

1. INTRODUCTION

Offshoring has been described as the fine slicing of firms' value chains to take advantage of factor cost differentials across countries (Beugelsdijk, Pedersen and Petersen, 2009) and realize other efficiency gains that the international reconfiguration of business services enables (Doh, 2005; Lewin and Peeters, 2006; Bunyaratavej, Hahn and Doh, 2008; Lewin, Massini and Peeters, 2009). Also referred to as global sourcing, it reflects firms' growing need and possibility for "proactive management of location and corporate resources on a global basis" (Kotabe and Mudambi, 2009 - p.121). As firms locate portions of their value chains in various countries, they must choose between vertically integrating the business services in captive subsidiaries and outsourcing them to third party providers (Hutzchenreuter, Lewin and Dresel, 2011). According to Kumar, Fenema and von Glinow (2009), the distance between value chain activities that such global reconfigurations impose potentially makes the interaction, communication, coordination and integration of processes more difficult and uncertain. Building on Anderson and Gatignon (1986), this paper studies how these distance-related uncertainties influence the choice between a captive (hierarchical) or outsourced (contractual) offshore governance mode.

Distance has been found to mediate and moderate a series of International Business (IB) phenomena including for instance firms' internationalization process (Johanson and Vahlne, 1977), foreign entry mode choices (Kogut and Singh, 1988), subsidiary control mechanisms (Wilkinson, Peng, Brouthers and Beamish, 2008), and the effectiveness of knowledge transfers in multinationals (Ambos and Ambos, 2009). In this paper, we follow recent recommendations for a differentiated study of the impact of distance in IB (e.g. Nachum and Zaheer, 2005; Ambos and Ambos, 2009; Håkanson and Ambos, 2010; Berry, Guillén and Zhou, 2010). Using a Transaction Cost Economics (TCE) approach, we study how different dimensions of distance (geographic, cultural and institutional) between home and host

countries of offshored services, because they generate different types of uncertainties (internal versus external), impact offshore governance choices in different ways. Internal uncertainty originates from the need for interaction between home and host countries units, whereas external uncertainty originates from the environment of the home and host units. Since the effect of geographic distance may differ whether a business service is moved across different time zones (West-East) or along the same time zone (North-South), the measure of geographic distance is further decomposed into a spatial distance and a temporal distance component.

To test our hypotheses we use original data from the Offshoring Research Network (ORN) on 949 offshoring initiatives by companies based in various countries (the United-States – US –, the Netherlands, Germany, Belgium, Spain and the United Kingdom – UK –), over the period 1995 to 2009. The ORN dataset is complemented with measures of geographic, cultural and institutional distances obtained from independent sources. The empirical results show no significant influence of the spatial distance between onshore and offshore countries on the choice of governance mode. In contrast, time zone differences, cultural distance and institutional dissimilarities all have significant effects. On the one hand, we find that firms are more likely to respond to internal uncertainties resulting from geographic and cultural distance by leveraging the greater controls and collaboration mechanisms of a captive offshore service center (hierarchy). On the other hand, they tend to respond to external uncertainties resulting from institutional distance by limiting their foreign commitment and leveraging the resources and local experience of third party service providers (contract).

With respect to extant knowledge of the role of distance in IB, the present paper offers three main contributions. First, we confirm that distance is not a dead construct (Ghemawat, 2001; Nachum and Zaheer, 2005; Ambos and Ambos, 2009; Berry et al., 2010) but, with the growth of IT-enabled international activities, the relevant dimensions of distance may evolve. It is

therefore critical to complement the measures of spatial distance with other measures that reflect for instance the temporal, cultural and institutional differences between countries. Second, we show that the widely used geographic distance construct is in fact made of at least two dimensions (spatial and temporal), whose importance would vary in function of the type of international activity. While past research has extensively documented the impact of spatial distance on the international production of goods (see for instance the results of widely used gravity equation models; e.g. Bergstrand, 1985; Anderson and van Wincoop, 2003), temporal distance would play a dominant role in the internationalization of business services. Finally, our research shows that different dimensions of distance have diverging effects on offshore governance choices because they generate, on the one hand, internal uncertainty - relational hazard between domestic and offshore units - and, on the other hand, external uncertainty resulting from the unpredictability of the host-country environment and difficulty to deal with multiple host-country stakeholders. Differentiating the dimensions of distance and associated sources of uncertainty therefore allows for a more nuanced understanding of the role of home-host country distance in international governance mode choices.

The next section builds the theoretical background of the paper with a focus on Transaction Cost Economics. Section 3 reviews relevant research on the service offshoring empirical context of the study. In Section 4, we develop the conceptual model with hypotheses pertaining to the effect of each dimension of distance on the choice of a captive or outsourced governance mode. Section 5 presents the dataset and empirical model. The results are discussed in Section 6 before we conclude with the contributions of the paper in Section 7.

2. TCE AND INTERNATIONAL GOVERNANCE CHOICES

The choice to vertically integrate or outsource activities of the value chain has traditionally been studied through the lens of Transaction Cost Economics – TCE (Coase, 1937;

Williamson, 1975). TCE postulates that the decision to vertically integrate an activity ('make') or sourcing it from the market ('buy') depends on the level of transaction costs. It follows that firms choose the governance mode that minimizes organizing costs by comparing the costs of a hierarchy – coordination and shirking costs – to those of a contractual arrangement with a third party provider – controlling costs and opportunistic behavior of the supplier (Williamson, 1991 and Hennart, 1994).

Anderson and Gatignon (1986) first formalized and applied TCE to firms' entry into foreign markets. They argued that the home-host country distance is a source of uncertainty that leads to increased transaction costs for the internationalizing firm. As the review by Zhao, Luo and Suh (2004) shows, Anderson and Gatignon's paper (1986) was followed with numerous, and often conflicting, empirical applications of TCE in research on foreign entry modes. The effect of cultural distance is the most equivocal (see also Hitt, Franklin and Zhu, 2006; Wilkinson et al., 2008). Certain scholars conclude that the higher the cultural distance, the lower the commitment and the level of control (e.g. Kogut and Singh, 1988; Gatignon and Anderson, 1988). Others show the opposite, that cultural distance encourages integration and control to moderate and prevent the culture-related uncertainty (e.g. Anand and Delios, 1997). Moreover, asset specificity often conditions the relationship between the uncertainty and the degree of control (Anderson and Gatignon, 1986). There seems to be a larger consensus on the adoption of low control entry modes in institutionally uncertain host-countries (i.e. with weak formal institutions, see Delios and Beamish, 1999; Arora and Fosfuri, 2000; Meyer, 2001) and in host-countries that are institutionally dissimilar from the home-country (see also Xu and Shenkar, 2002; Eden and Miller, 2004). In those foreign environments, because of the liability of foreignness in managing relationships with local stakeholders, the costs of a hierarchical model would outweigh the transaction costs of a market solution (Meyer, 2001; see also Arora and Fosfuri, 2000). In this paper, we propose that part of the conflicting

evidence is due to different types of distance that generate different types of uncertainties for firms.

3. GLOBALIZATION OF SERVICE SOURCING

Motivated by the exploitation of locational advantages (Doh, 2005, see also Dunning 1981 and 1998) and efficiency gains rather than market-seeking considerations (Lewin and Peeters, 2006), the international sourcing of services has become a more and more widespread internationalization path (Miroudot, Lanz and Ragoussis, 2009). With the progress of Information Technology (IT) and the increasing ability of firms to modularize tasks and processes (e.g. Ernst and Kamrad, 2000; Doh, 2005), a growing number of companies are crossing national frontiers to source intermediate services (UNCTAD, 2005; Manning, Lewin and Massini, 2008). Initially focused on labor arbitrages, offshoring is moving up in the value chain and embrace new forms of locational advantages based on human capital (Graf and Mudambi, 2005), such as the access to skilled human resources and/or innovation capabilities (e.g. Lewin and Peeters, 2006; Manning et al., 2008; Doh, Bunyaratavej and Hahn, 2009).

In order to achieve their global sourcing strategic objectives, firms therefore choose the location that best balances the existence of necessary locational advantages with the need to limit the costs of doing business abroad and the liability of foreignness (Bunyaratavej, Hahn and Doh, 2007; Stringfellow, Teagarden and Nie, 2008). In that context, the host-country environment in terms of infrastructure quality, language, culture and formal institutions determines not only the general attractiveness of offshore locations (Trefler, 2005), but also the reasons for sourcing different services to different countries (Kshetri, 2007; Liu, Feils and Scholnick, 2011), the location decisions, and specific offshoring practices (Doh, 2005; Bunyaratavej et al. 2007; Stringfellow et al., 2008; Dossani and Kenney, 2007).

To exploit the offshore locational advantages efficiently, firms must also choose the most appropriate governance mode based on the need for control over the offshore services, the desired level of commitment depending on the efforts and investments they are willing to make (both in terms of tangible assets and human capital), and the level of risks associated with the offshore implementation (Hutzschenreuter, et al., 2011). Therefore, the offshoring of business services gives rise to a global reconfiguration of firms' value chains (Buckley and Ghauri, 2004; Contractor, Kumar, Kundu and Petersen, 2010) not only along a geographic dimension, as portions of value chains are (re)located in various countries around the globe, but also along a governance dimension, as firms decide to vertically integrate (captive offshoring) or outsource (offshore outsourcing) the services (Hutzschenreuter et al., 2011).

4. DEVELOPMENT OF HYPOTHESES

Figure 1 depicts the conceptual model that underlies the hypotheses and empirical study. It reflects how different types of distance create different types of uncertainties, to which firms respond with different governance choices. Internal uncertainty refers to the relational hazard of organizational units that have to communicate, coordinate and collaborate across distance. By contrast, external uncertainty results from environmental factors that make organizational outcomes less predictable when involving distant countries, independently of the relation between onshore and offshore workers. We expect internal uncertainty to increase the probability of captive offshoring, whereas external uncertainty would increase the probability of offshore outsourcing.

INSERT FIGURE 1 ABOUT HERE

Geographic distance

Because services are mostly dematerialized, advances in telecommunication technologies have made their marginal cost of transportation almost insignificant. However, the geographic

distance creates barriers to face-to-face communication and direct interactions (Bell and Kozlowski, 2002; Hinds and Bailey, 2003; Stringfellow and al., 2008) that negatively impact the coordination and collaboration between onshore and offshore entities for the delivery of services. It reinforces the asymmetry of information and the risk of incorrect execution of the tasks. Referring to these difficulties, Kumar et al. (2009) talk about the stickiness of information that increases with the geographical dispersion of tasks and becomes a critical issue for the organization of distant activities. To mitigate the internal uncertainty that results from these relational frictions, firms may want to reinforce the supervision of offshored activities and adopt a governance mode that offers a high level of control. We therefore expect that spatial distance fosters the adoption of a captive offshore governance mode:

H_{1a}: The greater the spatial distance between domestic and offshore operations, the more likely a firm will choose a captive offshore governance mode over an outsourced mode.

Moreover, the nature of services may require the simultaneous production and/or delivery between the offshoring parties (e.g. Brouthers and Brouthers, 2003). Simultaneity in production translates into a need for real-time collaboration (e.g. joint product development activities), while the simultaneity in delivery refers to the offshore front-office activities (e.g. contact centers) that require the synchronized execution of the task with the customer. Therefore, although certain categories of services, such as software coding or certain administrative tasks, may have low simultaneity requirements, time zone differences may be a more central issue in service offshoring (Stringfellow and al., 2008; Kumar et al., 2009) than in manufacturing. Time zone differences constrain the information flow and create communication frictions because real-time communication calls for work time overlaps between the offshoring partners. Consequently, the synchronization and collaboration difficulties cause relational uncertainties in the conduct of time zone distant operations (Bell

and Kozlowski, 2002; Hinds and Bailey, 2003; Stringfellow and al., 2008). These operational barriers go beyond the face-to-face communication constraints of spatial distance as they affect all forms of real-time communication. The temporal distance also exacerbates asymmetries of information, and the resulting internal uncertainty aggravates the issue of bounded rationality because communication frictions may accentuate misinterpretation problems.

To prevent time zone induced uncertainty, firms may want to setup internal coordination, communication and monitoring mechanisms (Hinds and Bailey, 2003; Kumar et al. 2009) through a captive offshore governance mode. This would help integrate the onshore and offshore activities and restore operational efficiency. We therefore formulate the following hypothesis 1b:

H_{1b}: The greater the temporal distance between domestic and offshore operations, the more likely a firm will choose a captive offshore governance mode over an outsourced mode.

Although correlated, the two dimensions of geographic distance generate different issues for firms (see Bell and Kozlowski, 2002; O'Leary and Cummings, 2007). For instance, two companies based in Europe and offshoring to South Africa and the Philippines respectively face similar barriers to face-to-face communication due to the geographical remoteness. But the company offshoring to the Philippines suffers from additional challenges to coordinate activities across several time zones. However, in both cases the source of uncertainty lies in the relational hazard between onshore and offshore units and we expect firms to favor the captive governance mode that allows for tighter control and coordination mechanisms.

Cultural distance

In its broad definition, cultural distance refers to “the extent to which the shared norms and values in one country differ from those in another” (Drogendijk and Slangen, 2006; see also Hofstede, 2001; Kogut and Singh, 1988). Like differences of language, religion, and political systems, the cultural distance is a central component of psychic distance (Håkanson and Ambos, 2010) that raises the uncertainty of the internationalization process and encourages low resource commitment entry modes (Johanson and Vahlne, 1977). Several scholars have validated empirically the negative relationship between cultural distance and foreign commitment (e.g. Shenkar, 2001; Gatignon and Anderson, 1988; Kogut and Singh, 1988; Chang and Rosenzweig, 2001; Hutzschenreuter et al., 2011) and showed that it was further moderated by the attributes of the foreign entry, the nature of the foreign activities and the experience of the company (see Erramili and Rao, 1993; Chang and Rosenzweig, 2001; Brouthers and Brouthers, 2003).

Anderson and Gatignon (1986) argue that the cultural distance between home and host countries is at the origin of differences in operating procedures, routines and knowledge bases that generate internal uncertainty. The coordination of foreign activities becomes more complicated and transactions require additional monitoring to reduce the effect of bounded rationality and opportunism between the partners (Williamson, 1991). Roth and O’Donnell (1996) further claim that the agency costs (differences of alignment in agents’ interests) caused by bounded rationality and opportunism increase with cultural distance because “complete and accurate information on agents’ performance becomes more difficult and costly to attain” (p. 680).

According to Brouthers and Brouthers (2003), the people-intensive nature of services (Bowen and Jones, 1986; Erramilli and Rao, 1993) would modify the determinants of transaction costs by reinforcing behavioral uncertainty in operations. In that respect, Kshetri (2007) noted that

because service offshoring entails a higher degree of interaction between workers of different origins than with other forms of international trade and investments, cultural distance is likely to have an even greater effect. Informational frictions between agents are a critical issue in service sourcing activities (Stratman, 2008) and remedying the internal uncertainty from cultural distance requires a high degree of communication and coordination. Moreover, because cultural differences aggravate bounded rationality problems, the risk of ill-defined tasks resulting from the difficulty to fully specify intangible service outputs in contracts would be even greater (Ellram, Tate and Billington, 2008). Finally, the performance of the supplier may be more difficult to verify (source of opportunism) in culturally distant countries (Kshetri, 2007). As a result, high levels of cultural distance would make outsourcing less likely because of the internal uncertainty resulting from the difficulty to specify, monitor and manage contractual arrangements. This yields the following hypothesis 2:

H₂: The greater the cultural distance between domestic and offshore operations, the more likely a firm will choose a captive offshore governance mode over an outsourced mode.

Formal institutions distance

In his seminal work, North (1990) defines institutions as the *rules of the game* that guide and structure actions of the *players of the game* (i.e. organizations). Scott (1995) identified three fundamental layers of institutions: regulative, normative and cognitive dimensions. Since the last two dimensions largely overlap with cultural distance (Hofstede and Bond, 1988: 6; Eden and Miller, 2004), our conceptualization of institutional distance refers only to the regulative layer, also called *formal institutions*. Formal institutions cover many components of the country environment such as the legal framework, property rights, their enforcement, legal information systems and regulatory regimes (Meyer, Estrin, Bhaumik and Peng, 2009). They offer mechanisms that reduce the transaction and information costs by limiting agents'

uncertainty and providing a stable environment that facilitates interactions (Anderson & Gatignon, 1986; Hoskinson et al. 2000; Meyer, 2001).

Following North's terminology (1990), the institutional distance, or institutional gap, reflects the extent to which the 'rules of the game' in home and host countries are similar or different (Kostova and Zaheer, 1999). Greater institutional distance calls for greater local adaptation since, in order to operate in the host-country, firms must learn and adopt the local regulative practices (see also Xu and Shenkar, 2002). The transfer of routines and replication of home-country organizational structure in a wholly-owned subsidiary operating in an institutionally distant environment may be difficult and hazardous (Eden and Miller, 2004). Greater institutional distance may also generate more conflicts and regulative frictions with local stakeholders (including host-country authorities) to comply with the host institutional system. In order to mitigate the external uncertainty resulting from dissimilar institutional environments, firms would therefore favor low commitment - low control entry modes (Xu and Shenkar, 2002; Eden and Miller, 2004).

In addition, because Western companies are typically not used to deal with institutional voids (Khanna and Palepu, 1997; 2004), choosing a contractual offshore governance mode may be a way to leverage the country-specific knowledge and capabilities of local outsourcing partners or international providers experienced in the host location (Manning et al., 2011), thereby moderating the institutional uncertainty (Lu and Beamish, 2001). We therefore make the following hypothesis:

H₃: The greater the institutional distance between domestic and offshore operations, the less likely a firm will choose a captive offshore governance mode over an outsourced mode.

5. DATA AND METHOD

To test our hypotheses we use survey data from the Offshoring Research Network (ORN) collected from 2005 to 2009 (see Lewin and Peeters, 2006, for a description of the ORN). The observation unit is the offshore implementation, defined as a particular function offshored in a given year. The sample we use in this study contains 949 implementations launched between 1995 and 2009 by firms located in the US, the Netherlands, Germany, Belgium, Spain and the UK (see Appendix - Table A). Surveyed firms operate in both manufacturing and services industries, with no host-country or company size restrictions, but they were asked to report only the offshoring of *service* functions (denoted FUNC, see details of functions in Table 1 and their distribution in Appendix - Table A).

For the purpose of the study, the ORN database provides the governance mode of each offshoring implementation (captive versus outsourced service center), the home and host locations, launch year, the type of function offshored, and the number of employees in the home-country. We combine the ORN survey data with independent measures of geographic, cultural and institutional distance, and our own computations of time zone differences. Being external to the ORN data collection, these quantitative data limit the potential impact of survey measurement problems - in particular the problem of common method variance (Chang, Van Witteloostuijn and Eden, 2010).

We also account for the risk of reverse causality. Extant literature provides limited insight on that matter, but Mudambi and Venzin (2010) suggest that this risk may occur if what drives the global reconfiguration of the value chain is not the possibility to leverage a host-country comparative advantage, but the fact that the firm has lost its competitive edge in performing a given activity, and consequently wants to modify its organizational mode. We therefore only consider the implementations motivated by the exploitation of locational advantages (i.e.

projects that are rated 4 or 5 on 5 points Likert scale for the importance of labor cost savings or access to qualified personnel offshore as driver of offshoring).

We use a binary logistic regression model that estimates the probability of choosing the captive mode (dependent variable = “1”) versus its alternative – the outsourcing mode (dependent variable = “0”) – conditional on the distance variables. We use cluster-robust standard errors (see Rogers, 1994) by company to correct for the positive correlation of governance mode choices between different offshoring implementations of a same company (i.e. intra-group correlation).

Since certain functions are less likely to be outsourced than others (for instance investment bank research – Grote and Taube, 2007 – and R&D services – Martinez-Noya Garcia-Canal and Guillén, 2011), we control the regressions for the type of function offshored (FUNC). Also, as firms accumulate experience with offshoring (Jensen, 2009) the comparative costs of hierarchical and contractual governance modes may change. We therefore include firm past experience with offshoring via the EXPERIENCE variable that reports the logarithmic value of the number of past offshoring implementations of the firm¹. Following Manning et al.’s (2011), we further account for the launch year of the offshoring implementation using three year ranges, each covering approximately one third of the observations (using two binary variables: YEAR04-05 for projects launched in 2004 or 2005 and YEAR06-09 for those launched between 2006 and 2009). Among other things, the dummies capture the growth of the service providers’ industry in recent years. Moreover, since company size is suspected to positively influence foreign commitment (Ghosal and Loungani, 2000; Lskavyan and Sparatareanu, 2008), we control for the size of the company, measured as the number of employees (in logarithm) working for the firm in the home-country. Finally, the home-

¹The use of the logarithm of previous offshoring projects assumes a decreasing marginal effect of experience.

country has been shown to affect entry-mode decisions (e.g., Hennart and Larimo, 1998; Henisz and Delios, 2001) and we therefore control for the home-country of the firm through a series of binary variables denoted HOME. Table B in Appendix reports descriptive statistics of the variables as well as correlation coefficients.

The measure of home-host country spatial distance is given by the number of kilometers (in natural log) that separate the most populated cities of the two countries (CEPII, 2006, denoted SPATIAL_DIST). TEMPORAL_DIST is the squared difference between the time zones of home and host locations (in fraction of day). The measure quadratically increases as the number of hours separating the home and host countries' time zones grows².

The variable measuring the cultural distance is the index of Kogut and Singh (1988) derived from Hofstede's (2001) four dimensions of culture (i.e. power distance, individualism, masculinity and uncertainty avoidance), improved by using the Mahalanobis distance instead of the Euclidian one. This methodology removes the effect of correlation between the different cultural dimensions, such that each of them contributes to cultural distance separately (see also Berry et al., 2010; Kandogan, 2012). Kogut and Singh's measure (1988) received severe critics (see Shenkar, 2001; Harzing, 2003; Shenkar, Luo and Yeheskel, 2008), but Drogendijk and Slangen (2006) show that it remains a reliable measure for IB studies and offers strong explanatory power in entry mode analysis. Using Hofstede's indexes has also the critical advantage of offering larger country coverage, in particular compared to the GLOBE dimensions³ and Schwartz'indexes (1994).

² The quadratic form of this measure assumes an increasing marginal effect of an additional hour of time zone difference. In other words, the lower the work time overlap between the home and host countries (i.e. the higher the time zone difference), the higher the marginal communication/coordination difficulties of an additional hour of difference.

³ In addition to Hofstede's indexes, we tried to implement GLOBE dimensions (House, Hanges, Javida and Dorfman, 2004), but since they do not cover three of our six home countries (Germany, Great Britain and Belgium), it resulted in a too drastic reduction of the sample.

Finally for the institutional distance, we use the World Bank Governance indexes (Kaufmann et al., 1999). They developed six meta-indices commonly used in the IB literature, especially to study FDI flows (e.g. Globerman and Shapiro, 2003; Buckley, Clegg, Cross, Liu, Voss and Zheng, 2007; Slangen and Beugelsdijk, 2010; Venaik and Brewer, 2010). In the present study, we use two indices – “political stability and absence of violence” and “government effectiveness”, which are the most relevant dimensions to characterize the home-host country differences in institutional environment. In order to have bilateral distance measures, we take the absolute home-host country difference for each index and obtain two indicators of distance (denoted POL_STAB_DIST and GOVT_EFF_DIST respectively). The higher their value, the more dissimilar the institutional environments are.

Table 1 summarizes the construction of the different variables.

INSERT TABLE 1 ABOUT HERE

6. DISCUSSION OF THE RESULTS

We estimated the logistic model for three different configurations. Model (1) includes only the controls. Models (2) and (3) estimate the effect of the distance factors. They include simultaneously the two types of geographic distance –spatial and temporal – and the indicator of cultural distance, and use alternatively the institutional distance measures of “Political stability” (model 2) and “Government effectiveness” (model 3). Table 2 reports the estimation results for the three different econometric configurations. The results are very stable across all configurations⁴. Despite the significant correlation between certain variables, the variance inflation factors indicate that our estimations do not suffer from multicollinearity. The highest

⁴ Interactions both between the different dimensions of distance and between distance and past experience variables have also been tested (using the appropriate method for non-linear models developed by Norton, Wang and Ai, 2004), but no coefficient was significant.

variance inflation factor (associated with the TEMPORAL_DIST variable) does not exceed 1.8, well below the accepted limit of 10 (see Neter, Wasserman and Kutner, 1983).⁵

INSERT TABLE 2 AROUND HERE

Internal uncertainty

Our first hypothesis (H_{1a}) does not receive empirical support. We find that the spatial distance between home and host countries does not significantly affect the choice of offshore governance mode⁶ (see Models (2) and (3)). In contrast, hypothesis H_{1b} postulating that captive offshoring is preferred in time zone distant offshore locations is empirically confirmed (with p-values respectively at 3% and 7%). Service activities tend to require a higher degree of simultaneity and coordination between the home company and the offshore entities compared to the manufacturing of goods (Brouthers and Brouthers, 2003; Stringfellow et al., 2008). Therefore, the higher the time zone difference, the more constrained the information flow and the stronger the relational frictions between onshore and offshore partners. In line with Hinds and Bailey (2003) and Kumar et al. (2009), our empirical results suggest that, to cope with the internal uncertainty associated with time zone differences, firms prefer tighter coordination and more control over the services they offshore.

Moreover, when the indicator of spatial distance is removed from the equation, the effect of temporal distance remains positive and significant (see model (iii) and (iv) Appendix – Table C). But the reverse is not true: the effect of the spatial distance variable is not significant even

⁵ Nevertheless, because spatial distance and time zone differences, as well as the two institutional variables, are correlated, we built two additional pairs of models in Appendix – Table C. The first pair – models (i) and (ii) – includes separately each of the two institutional variables with the spatial distance. The second pair – models (iii) and (iv) – replicate models (i) and (ii) with the variable of time zone difference instead of the spatial distance. Since they all confirm the results of the complete models (2) and (3), Table 2 reports only the models that include spatial and temporal distance variables simultaneously.

⁶ For all the regression models, we implemented the distance variable not only in logarithm of kilometers separating the home and host countries but also using non-transformed linear values and quadratic forms. These alternative measures of spatial distance show even lower significance levels and reduce the overall model fit. The regression results for these models are available from the authors on request.

when tested without the temporal distance (see model (i) and (ii) Appendix – Table C). Temporal distance therefore brings additional information compared to the measure of spatial distance alone, which confirms the relevance of the construct in the study of globally dispersed service operations.

The empirical results also validate hypothesis H₂ that cultural distance increases the propensity to choose a captive governance mode (in Table 2 the p-values associated with the variable CULTURAL_DIST in models (2) and (3) do not exceed 4%)⁷. Firms facing important cultural differences tend to increase the coordination and control over offshored services by vertically integrating the activities. Compared to contractual arrangements, this strategy offers stronger coordination means and more control possibilities to moderate the cultural uncertainty, for instance by facilitating the transfer of personnel between home and host countries (i.e. see Harvey, Speier and Novicevic, 1993; Duvivier and Peeters, 2011). These practices lead to more integrated and narrower patterns of onshore-offshore interactions, and eventually to a higher degree of internal embeddedness (see Yamin and Andersson, 2011).

Both time zone differences that are a vector of informational asymmetries and misunderstanding, and cultural distance with the related communication and coordination difficulties, raise the internal uncertainty between distant onshore-offshore units. Given the importance of communication and coordination in service activities (Stringfellow et al., 2008; Kumar et al., 2009), the uncertainty raises transaction costs more rapidly than the additional coordination costs of the captive model. Hence, the captive model becomes more likely the greater the time zone and cultural differences.

External uncertainty

⁷ The measure of cultural distance following the methodology of Kogut & Singh (1988), i.e. Euclidian distance instead of Mahalanobis distance, provides similar results for both estimated coefficients and significance.

Hypothesis 3 of greater likelihood of contractual governance mode in institutionally distant environments is empirically validated too, with both the “Political stability” and the “Government effectiveness” institutional distance variables. The coefficients are reported in models (2) and (3) respectively, with significance above the 99% confidence level (see also the additional models in Appendix – Table C).

The “Political instability and violence” index reflects the potential for political and governmental instability (caused by non-democratic processes) whereas the “Government effectiveness” distance reflects differences in the effectiveness of public service provision and the quality of national authorities. Our results therefore suggest that home-host country similarity in these particular institutional dimensions reduces the investment risk and fosters long-term resource commitment (Xu and Shenkar, 2002; Eden and Miller, 2004)⁸. Putting it differently, when home and host country institutions strongly differ, the regulatory issues, human resource management challenges, and risk of physical asset investments (see Meyer, 2001), increase the likelihood that firms contract out with an external provider based on the control of the output (i.e., the correct execution of the contractual clauses), instead of having to monitor multiple stakeholders (e.g., local providers for the infrastructure, local procurement, and host authorities) that are inputs of the hierarchical model (Hennart, 1994). This is because the increase in organizing costs for vertically integrating services offshored to externally uncertain countries outweighs the transaction costs of contracting out the services to an external provider.

⁸ Following the methodology of Globerman and Shapiro (2003), we also created an aggregate measure of institutional distance using the first principal component of the six institutional measures developed by the World Bank. This new measure and the four other indexes provide similar empirical effects than the indexes of political instability and government ineffectiveness, but the effects have lower significance. This suggests that differences in political stability and government effectiveness are specific institutional determinants of offshore governance mode choices.

The empirical confirmation of hypothesis H₃ also suggests that firms offshoring to less predictable institutional environment tend to transfer the institutional risk to local third party suppliers or experienced international providers to take advantage of their country specific knowledge and capabilities (Lu and Beamish, 2001).⁹ In addition to the comparative cost advantage argument, the access to local expertise therefore provides another explanation for why the institutional distance between the host and home environments affects foreign commitment decisions with an increase in the likelihood of outsourcing.

Complementary findings

The coefficients of the functional control dummies suggest that the balance between the costs of a hierarchical model and the costs of a contractual model depends also on the type of function offshored. In our sample, administrative tasks, marketing and sales support as well as product development activities have a higher propensity to be offshored through captive centers than the IT baseline function. The level of service specificity may modify governance mode choices depending on the function (see Anderson and Gatignon, 1986, and Ellram et al., 2008). Specificity is observed when services are highly proprietary (see Oxley, 1999), unstructured, ill-defined or highly customized (Ellram et al., 2008). The offshoring of R&D (included in our product development functional category) may be subject to this effect (Martinez-Noya et al., 2011). The combination of intellectual property and data security issues with deficient host public institutions (providing low intellectual property protection) therefore tend to encourage the adoption of high control modes.

In addition, the empirical results pertaining to the launch year dummies confirm a decreasing propensity to opt for captive offshore centers over time. The co-evolution of firm capabilities

⁹ Note that since offshoring projects in our sample concern primarily services that are offshored from institutionally stronger to institutionally weaker countries, our measure of institutional distance captures not only the difference between home and host institutional environments but to a large extent also the challenges of institutionally weak offshore countries for firms not used to institutional voids (Khanna and Palepu, 2010).

and industry dynamics may contribute to explain this trend (Jacobides and Winter, 2005). Over time, with the growing availability of competent external service providers, firms may be increasingly attracted by the possibility that outsourcing offers to rely on external capabilities (Ellram et al., 2008; Manning et al., 2011), unless they have already accumulated significant experience with offshoring (see EXPERIENCE control variable).

The regression estimates also allow predicting, for each home-host country pair, the likelihood of choosing a particular governance mode. Using the odd ratios, we can compare specific sourcing options to illustrate the individual and/or joint effects of the different dimensions of distance. We can first take the example of a US-based firm of 500 employees launching a second offshoring implementation in 2010. In case of administrative tasks, Model (2) predicts that the firm is 55% more likely to opt for a captive structure if China is selected as host destination compared to Brazil. This result isolates the effect of internal uncertainty resulting from greater time zone differences in the case of China compared to Brazil, since the other dimensions of distance remain comparable between the two potential destinations. In the same scenario but for product development offshoring, predictions indicate that the captive model is 48% more likely to be chosen when China hosts the activity rather than India. The prediction results from a twofold effect: 1) greater internal uncertainty brought by the relatively higher cultural distance of China with the US, and 2) the greater external uncertainty driven by the weak Indian institutions. We can also consider the illustrative case of a firm based in the UK (with 500 employees / second offshoring implementation / launch year in 2010) that considers two destinations for the transfer of a call center – Malaysia and South Africa. Both offer a good English proficiency and low labor costs. But while the spatial and political stability distances with the UK are almost identical for the two candidate countries, the combination of a much higher time zone difference and cultural distance between the UK and Malaysia compared to those related to the UK-South Africa pair raises

the internal uncertainty related to Malaysia, relative to South Africa. As a result, the captive model will be preferred by an additional 160% margin when Malaysia hosts the call center rather than South Africa.

Finally, although this paper brings new light to extant knowledge of the impact of distance in international operations, it also bears a number of limitations that open avenues for extending this line of research. In particular, we showed that the impact of home-host country distance on offshore governance choices may depend on the type of function offshored. But to avoid important complications to the model and difficulties of interpretation, we left for further research the systematic study of these potential moderating effects. In addition, due to data limitation, it was not possible to complement past offshoring experience with broader measures of internationalization experience (e.g. number of foreign subsidiaries or years of experience in the location). Doing so could provide additional insight on firms' international learning process.

7. CONCLUDING REMARKS

The paper focuses on the comparative organizational costs of vertical integration and outsourcing to study the influence of home-host country distance on the governance mode chosen when firms reorganize their value chains to source services from foreign countries. We distinguish three main dimensions of distance between home and host countries (geographic, cultural and institutional) and further disentangle the spatial and temporal components of the geographic distance. We argue that the distance between home and host countries produces additional costs for each governance mode, and the balance of these costs – between the coordination of internal operations and the control and transaction costs of externally sourced services – steers the choice of governance mode. We hypothesize and find support for the fact that, because they give rise to different types of uncertainties – namely

internal and external, the different dimensions of distance generate unbalanced additional governance costs between the captive and the outsourcing models.

Internal uncertainties result from the interaction between geographically dispersed and culturally different onshore and offshore units. Our results suggest that they would be best mitigated by the greater control and coordination mechanisms that vertical integration in a captive subsidiary offshore offers, compared to a contractual arrangement. In other words, in line with Anderson and Gatignon (1986), to respond to internal uncertainties due to the difficulty to collaborate with foreign agents and control them, a hierarchical model would be more efficient in terms organizing costs. In contrast, our findings concerning the external uncertainty resulting from the unpredictability of institutionally distant environments conflict with Anderson and Gatignon's (1986) predictions. Whereas the risks for firm-specific assets due to external uncertainties could lead firms to adopt a high control model, external uncertainties also generate unfavorable conditions for high commitment in the offshore destination. As a result, we find that, because of difficulties dealing with multiple stakeholders, dissimilar home-host environments discourage foreign investment and the governance of offshore services through wholly-owned subsidiaries.

Our results further suggest that services follow a particular internationalization pattern where time zone differences would play a more important role than spatial distance in determining the choice of governance mode, and hence the level of offshore resource commitment. Given the almost dematerialized nature of services, the internal uncertainty resulting from the geographical dispersion would mainly be due to the difficulty to meet the need for interaction between temporally distant units. As a result, the interaction and synchronization needs would supplant the transportation and face-to-face collaboration issues associated with spatial distance.

In addition to the interest of differentiating between various dimensions of home-host country distance, the significant but opposite effects of internal and external sources of uncertainties stress the importance of not overlooking the role of host-country conditions and the specific challenges associated with the hierarchical model (see also Meyer, 2001; Hennart, 2009). While well-explained for the contractual mode using the transaction cost theory, the impact of external uncertainty on the hierarchical mode has been neglected, in particular the liability of dealing with host-country stakeholders and aligning their interests to those of the parent company (see Buckley and Strange, 2011). It follows that the additional governance costs of a foreign subsidiary in an institutionally distant country do not only lie in extra coordination and shirking costs, which derive from internal uncertainties, but also from environmental complexity and unfamiliarity with the host-country that generate external uncertainties. Our differentiation of the two types of uncertainties – internal versus external – in addition to the attention given to the specific challenges of the captive model, offers unequivocal predictions of offshore governance choices.

REFERENCES

- Ambos, B., Ambos, T.C., 2009. The impact of distance on knowledge transfer effectiveness in multinational corporations. *Journal of International Management* 48, 24-41.
- Anand, J., Delios, A., 1997. Location Specificity and the Transferability of Downstream Assets to Foreign Subsidiaries. *Journal of International Business Studies* 28 (3), 579-604.
- Anderson, E., Gatignon, H., 1986. Modes of Foreign Entry: A Transaction Cost Analysis and Propositions. *Journal of International Business Studies* 17 (3), 1-26.
- Anderson, J., van Wincoop, E., 2003. Gravity with Gravitas: A Solution to the Border Puzzle. *American Economic Review* 93, 170-92.
- Arora, A., Fosfuri, A., 2000. Wholly owned subsidiary versus technology licensing in the worldwide chemical industry. *Journal of International Business Studies* 31 (4), 555-572.
- Bell, B.S., Kozlowski, S.W.J., 2002. A typology of virtual teams. *Group and Organization Management* 27(1), 14-49.
- Bergstrand, J.H., 1985. The Gravity Equation in International Trade: Some Microeconomic Foundations and Empirical Evidence. *Review of Economics and Statistics* 67, 474-481.
- Berry, H., Guillén, M.F., Zhou, N., 2010. An institutional approach to cross-national distance. *Journal of International Business Studies* 41, 1460-1480.
- Beugelsdijk, S., Pedersen, T., Petersen, B., 2009. Is there a trend towards global value chain specialization? - An examination of cross border sales of US foreign affiliates. *Journal of International Management* 14 (3), 126-141.
- Bowen, D.E., Jones, G.R., 1986. Transaction Cost Analysis of Service Organization-Customer Exchange. *Academy of Management Review* 11 (2), 428-441.
- Brouthers, K.D., Brouthers, L.E., 2003. Why service and manufacturing entry mode choices differ: the influence of transaction cost factors, risk and trust. *Journal of Management Studies* 40 (5), 1179-1204.
- Buckley, J.P., Clegg, L.J., Cross, A.R., Liu, X., Voss, H., Zheng, P., 2007. The determinants of Chinese outward foreign direct investment. *Journal of International Business Studies* 38 (4), 499-518.
- Buckley, J.P., Ghauri, P., 2004. Globalisation Economic Geography and the Strategy of Multinational Enterprises. *Journal of International Business Studies* 35(2), 81-98.
- Buckley, P.J., Strange, R., 2011. The Governance of the Multinational Enterprise: Insights from Internalization Theory. *Journal of Management Studies*, 48(2), 460-470.
- Bunyaratavej, K., Hahn, E.D., Doh, J.P., 2007. International offshoring of services: A parity study. *Journal of International Management* 13, 7-21.
- Bunyaratavej, K., Hahn, E.D., Doh, J.P., 2008. Multinational investment and host country development: Location efficiencies for services offshoring. *Journal of World Business* 43(2), 227-242.
- CEPII, 2006. Geodesic Distance. Available at: "<http://www.cepii.fr/anglaisgraph/bdd/distances.htm>", accessed 10 August 2010.

- Chang, S.J., Rosenzweig, P.M., 2001. The choice of entry mode in sequential foreign direct investment. *Strategic Management Journal* 22 (8), 747-776.
- Chang, S.J., Van Witteloostuijn, A., Eden, L., 2010. From the Editors: Common method variance in international business research. *Journal of International Business Studies* 41 (2), 178-184.
- Coase, R.H., 1937. The Nature of the Firm. *Economica* 4 (16), 386-405.
- Contractor, J., Kumar, V., Kundu, S., Pedersen, T., 2010. Reconceptualizing the Firm in a World of Outsourcing and Offshoring: The Organizational and Geographical Relocation of High-Value Company Functions. *Journal of Management Studies* 47 (8), 1417-1433.
- Delios, A., Beamish, P.W., 1999. Ownership Strategy of Japanese Firms: Transactional, Institutional, and Experience Influences. *Strategic Management Journal* 20 (10), 915-933.
- Doh, J., 2005. Offshore Outsourcing: Implications for International Business and Strategic Management Theory and Practice. *Journal of Management Studies* 42(3), 695-704.
- Doh, J., Bunyaratavej, K., Hahn, E., 2009. Separable but not equal: The location determinants of discrete services offshoring activities. *Journal of International Business Studies* 40 (6), 926-943.
- Dossani, R., Kenney, M., 2007. The next wave of globalization: Relocating service provision to India. *World Development* 35, 772-791.
- Drogendijk, R., Slangen, A., 2006. Hofstede, Schwartz, or managerial perceptions? The effects of different cultural distance measures on establishment mode choices by multinational enterprises. *International Business Review* 15 (4), 361-380.
- Dunning, J.H., 1981. *International production and the multinational enterprise*. London: George Allen & Unwin.
- Dunning, J.H., 1998. Location and the multinational enterprise: A neglected factor? *Journal of International Business Studies* 29(1), 45-66.
- Duvivier, F., Peeters, C., 2011. The use of expatriates in the offshoring of services - Framework and research propositions. Presented at the EURAM Conference 2011, Tallinn.
- Eden, L., Miller, S.R., 2004. Distance matters: Liability of foreignness, institutional distance and ownership. *Advances in International Management* 16, 187-221.
- Ellram, L., Tate, W., Billington, C., 2008. Offshore outsourcing of professional services: A transaction cost economics perspective. *Journal of Operations Management* 26 (2), 148-163.
- Ernst R., Kamrad, B., 2000. Evaluation of supply chain structures through modularization and postponement. *European Journal of Operational Research* 124 (3), 495-510.
- Erramilli, K., Rao, C.P., 1993. Service Firms' International Entry-Mode Choice: A Modified Transaction-Cost Analysis Approach. *Journal of Marketing* 57 (3), 19-38.
- Gatignon, H., Anderson, E., 1988. The multinational corporation's degree of control over foreign subsidiaries: An empirical test of a transaction cost explanation. *Journal of Law, Economics and Organization* 4 (2), 305-336.
- Gaur, A. S., Lu, J. W., 2007. Ownership strategies and survival of foreign subsidiaries: Impacts of institutional distance and experience. *Journal of Management* 13(1), 84-110.
- Ghemawat, P., 2001. Distance still matters. *Harvard Business Review* 79(8), 137-145.

- Ghosal, V., Loungani, P., 2000. The differential impact of uncertainty on investment in small and large businesses. *Review of Economics and Statistics* 82 (2), 338-343.
- Globerman, S., Shapiro, D., 2003. Governance Infrastructure and US Foreign Direct Investment. *Journal of International Business Studies* 34 (1), 19-39.
- Graf, M., Mudambi, S.M., 2005. The outsourcing of IT-enabled business processes: A conceptual model of the location decision. *Journal of International Management*, 11(2), 253-268.
- Grote, M, Taube, F., 2007. When outsourcing is not an option : International relocation of investment bank research - Or isn't it? *Journal of International Management* 13, 57-77.
- Håkanson, L., Ambos, B. 2010. The antecedents of psychic distance. *Journal of International Management* 16, 195-210.
- Harvey, M., Speier, C., Novicevic, M.M., 1999. The role of inpatriation in global staffing. *The International Journal of Human Resource Management* 10 (3). 459-476.
- Harzing, A. W. K., 2003. The role of culture in entry mode studies: From negligence to myopia? *Advances in International Management* 15, 75-127.
- Henisz, W.J., Delios, A., 2001. Uncertainty, imitation and plant location: Japanese multinational corporations, 1990-1996. *Administrative Science Quarterly* 46(3), 443-475.
- Hennart, J.F., 1994. The 'comparative institutional' theory of the firm: some implications for corporate strategy. *Journal of Management Studies* 31 (2), 193-208.
- Hennart, J.F., 2009., Down with MNE-centric theories! Market entry and expansion as the bundling of MNE and local assets. *Journal of International Business Studies* 40(9), 1432-1454.
- Hennart, J.F., Larimo, J., 1998. The Impact of Culture on the Strategy of Multinational Enterprises: Does National Origin Affect Ownership Decisions? *Journal of International Business Studies* 29(3), 515-538.
- Hinds, P.J., Bailey, D.E., 2003 Out of sight, out of sync: Understanding conflict in distributed teams. *Organization Science* 14(6), 615-632.
- Hitt, M., Franklin, V., Zhu, H., 2006. Culture, institutions and international strategy. *Journal of International Management* 12, 222-234.
- Hofstede, G., Bond, M.H., 1988 Confucius & economic growth: New trends in culture's consequences. *Organizational Dynamics* 6(4), 4-21.
- Hofstede, G., 2001. *Culture's consequences: Comparing values, behaviors, institutions, and organizations across nations*. Sage Publications.
- Hoskisson, R.E., Eden, L., Lau, C.M., Wright, M., 2000. Strategy in emerging economies. *Academy of Management Journal* 43 (3), 249-267.
- House, R. J., Hanges, P.J., Javidan, M., Dorfman, P.W., Gupta, V., 2004. *Culture, leadership, and organizations: The GLOBE study of 62 societies*. Thousand Oaks, CA: Sage Publications.
- Hutzschenreuter, T., Lewin, A., Dresel, S., 2011. Governance modes for offshoring activities: A comparison of the US and German firms. *International Business Review* 20, 291-313.

- Jacobides, M.G., Winter, S.G., 2005. The co-evolution of capabilities and transaction costs: Explaining the institutional structure of production. *Strategic Management Journal* 26, 395-413.
- Jensen, P. D. Ø, 2009. A learning perspective on the offshoring of advanced services. *Journal of International Management* 15(2), 181-193.
- Johanson, J., Vahlne, J., 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.
- Kandogan, Y., 2011. An improvement to Kogut and Singh measure of cultural distance considering the relationship among different dimensions of culture. *Research in International Business and Finance* 26, 196-203.
- Kaufmann, D., Kraay, A., Zoido-Lobaton P., 1999. Aggregating Governance Indicators. *World Bank Working papers* 2195.
- Khanna, T., Palevu, K., 1997. Why focused strategies may be wrong for emerging markets, *Harvard Business Review* 75 (4), 41-51.
- Khanna, T., Palepu, K., 2004. Globalization and Convergence in Corporate Governance: Evidence from Infosys and the Indian Software Industry. *Journal of International Business Studies* 35(6), 484-507.
- Khanna, T., Palepu, K., 2010. *Winning in emerging markets: A roadmap for strategy and execution*. Boston, MA, Harvard Business School Press.
- Kogut, B., Singh, H., 1988. The Effect of National Culture on the Choice of Entry Mode, *Journal of International Business Studies* 19 (3), 411-432.
- Kostova, T., Zaheer S., 1999. Organizational legitimacy under conditions of complexity. *Academy of Management Review* 24, 64-81.
- Kotabe, M, Mudambi, R., 2009. Global sourcing and value creation: Opportunities and Challenges. *Journal of International Management* 15, 121-125.
- Kshetri, N., 2007. Institutional Factors Affecting Offshore Business Process and Information Technology Outsourcing. *Journal of International Management* 13(1), 38-56.
- Kumar, K., van Fenema, P., von Glinow, M.A., 2009 Offshoring and the global distribution of work: Implications for task interdependence theory and practice. *Journal of International Business Studies* 40(4), 642-667.
- Lewin, A.Y., Massini, S., Peeters, C., 2009. Why are companies offshoring innovation? The emerging global race for talent. *Journal of International Business Studies* 40 (6), 901-925.
- Lewin, A.Y., Peeters, C., 2006. Offshoring work: business hype or the onset of fundamental transformation? *Long range planning* 39 (3), 221-239.
- Liu, R., Feils,D.J., Scholnick, B., 2011. Why are different services outsourced to different countries? *Journal of International Business Studies* 42(2), 558-571.
- Lskavyan, V., Spatareanu, M., 2008. Host country's governance and the size of foreign investors. *Economics Letters* 100 (2), 258-261.
- Lu, J. W., Beamish, P. W., 2001. The internationalization and performance of SMEs. *Strategic Management Journal* 22, 565-586.

- Manning, S., Lewin, A.Y., Massini, S., 2008. A dynamic perspective on next-generation offshoring: The global sourcing of science and engineering talent. *The Academy of Management Perspectives* 22 (3), 35-54.
- Manning, S., Massini, S., Lewin A.Y., Peeters C., 2011. The ever changing logic of global outsourcing decisions: client strategies, path dependencies, and industry dynamics. Paper presented at the EGOS conference 2011, Gothenburg.
- Martinez-Noya, A., Garcia-Canal, E., Guillén, M., 2011. International R&D service outsourcing by technology-intensive firms: Whether or where? *Journal of International Management*, in press.
- Meyer, K.E., 2001. Transaction Costs, and Entry Mode Choice in Eastern Europe. *Journal of International Business Studies* 32 (2), 357-367.
- Meyer, K.E., Estrin, S., Bhaumik, S., Peng, W., 2009. Institutions, Resources, and Entry Strategies in Emerging Economies. *Strategic Management Journal* 30, 61-80.
- Miroudot, S., Lanz, R., Ragoussis, A., 2009. Trade in intermediate goods and services. OECD Trade Policy Working Papers, OECD Publishing.
- Mudambi, R., Venzin, M., 2010. The strategic nexus of offshoring and outsourcing decisions. *Journal of Management Studies* 47(8), 1510-1533.
- Nachum, L., Zaheer, S., 2005. The persistence of distance? The impact of technology on MNE motivations for foreign investment. *Strategic Management Journal* 26(8), 747-767.
- Neter, J., Wasserman, W., Kutner, M., 1983. *Applied linear regression models*. Homewood, Ill.: Richard D. Irwin.
- North, D.C., 1990. *Institutions, institutional change, and economic performance*. Cambridge University Press.
- Norton, E., Wang, H., Ai, C. Computing interaction effects and standard errors in logit and probit models. *The Stata Journal* 4(2), 154-167.
- O'Leary, M.B., Cummings, J.N., 2007. The spatial, temporal, and configurational characteristics of geographic dispersion in teams. *MIS Quarterly* 31 (3), 433-452.
- Oxley, J.E., 1999. Institutional environment and the mechanisms of governance: the impact of intellectual property protection on the structure of inter-firm alliances. *Journal of Economic Behavior and Organization* 24 (3), 283-310.
- Peeters, C., 2009. Exploring heterogeneity in preferences for offshore functions, governance modes and locations. CEB Working Paper 29.
- Rogers, W., 1994. Regression standard errors in clustered samples, *Stata technical bulletin* 3 (13).
- Roth, K., O'Donnell, S., 1996. Foreign subsidiary compensation strategy: an agency theory perspective. *Academy of Management Journal* 39 (3), 678-703.
- Schwartz, S. H. 1994., Beyond individualism/collectivism: New cultural dimensions of values. In: U. Kim, H. C. Triandis, C. Kagitcibasi, S. C. Choi & G. Yoon (Eds), *Individualism and collectivism: Theory, Methods, and Application*. Thousand Oaks, CA: Sage, 85-119.
- Scott, R., 1995. *Institutions and organizations*. Sage, Thousand Oaks, CA.

- Shenkar, O., 2001. Cultural distance revisited: Towards a more rigorous conceptualization and measurement of cultural differences. *Journal of International Business Studies* 32 (3), 519-535.
- Shenkar, O., Luo, Y., Yeheskel, O. 2008. From 'distance' to 'friction': Substituting metaphors and re-directing intercultural research. *Academy of Management Review* 33(4), 905-923.
- Slangen, A., Beugelsdijk, S., 2010. The impact of institutional hazards on foreign multinational activity: A contingency perspective. *Journal of International Business Studies* 41 (6), 980-995.
- Stratman, J.K., 2008. Facilitating offshoring with enterprise technologies: Reducing operational friction in the governance and production of services. *Journal of Operations Management* 26 (2), 275-287.
- Stringfellow, A., Teagarden, M.B., Nie, W., 2008. Invisible costs in offshoring services work. *Journal of Operations Management* 26 (2), 164-179.
- Trefler, D., 2005. Offshoring: Threats and Opportunities" in *Brookings Trade Forum: Susan M. Collins and Lael Brainard, eds. (Washington, D.C.), Brookings Institution Press, 35-73.*
- UNCTAD, 2005. Prospects for foreign direct investment and the strategies of transnational corporations 2005-2008. United Nations Report Geneva: UNCTAD.
- Venaik, S., Brewer, P., 2010. Avoiding uncertainty in Hofstede and GLOBE. *Journal of International Business Studies* 41, 1294-1315.
- Wilkinson, T.J., Peng, G.Z., Brouters, L.E., Beamish, P.W., 2008. The diminishing effect of cultural distance on subsidiary control. *Journal of international management* 14 (2), 93-107.
- Williamson, O. E., 1975. *Markets and Hierarchies: Analysis and Anti-Trust Implications.* New York: Free Press.
- Williamson, O.E., 1991. Comparative Economic Organization: The Analysis of Discrete Structural Alternatives. *Administrative Science Quarterly* 36 (2), 269-296.
- Xu, D., Shenkar, O., 2002. Institutional distance and the multinational enterprise. *Academy of Management Review* 27(4), 608-618.
- Yamin, M., Andersson, U., 2011. Subsidiary importance in the MNC: What role does internal embeddedness play? *International Business Review* 20 (2), 151-162.
- Zhao, H., Luo, Y., Suh, T., 2004. Transaction cost determinants and ownership-based entry mode choice: A meta-analytical review. *Journal of International Business Studies* 35 (6), 524-544.

APPENDIX

TABLE A
Distribution of offshoring projects across home-countries, host locations and offshore functions

Home-countries	% of projects	Host regions	% of projects	Offshore function (FUNC)	% of projects
USA	68.0%	India	42.7%	IT	25.1%
Germany	8.3%	China	10.0%	Product development (ProdDev)	21.0%
Netherlands	7.6%	Western Europe	10.0%	Contact centers (CC)	16.7%
Belgium	6.2%	South East Asia	9.3%	Administrative tasks (Admin)	15.8%
Spain	5.5%	Eastern Europe	9.0%	Software	8.3%
UK	4.1%	Central America	4.9%	Procurement (Proc)	6.4%
		North America	4.9%	Marketing and sales (M&S)	4.8%
		South America	4.8%	Knowledge	1.5%
		Africa	1.3%		
		East Asia	1.3%		
		Australia & NZ	0.9%		
		Middle East & Central Asia	0.3%		

Source: own computations based on ORN data.

TABLE B**Descriptive statistics and correlation of the explanatory variables**

	Mean	S.D.	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1 SPATIAL_DIST	1.87	1.00	-1.74	2.93	1																
2 TEMPORAL_DIST	0.12	0.09	0	0.24	0.71	1															
3 CULTURAL_DIST	1.57	0.91	0.03	6.08	0.12	-0.10	1														
4 POL_STAB_DIST	1.00	0.59	0.00	3.15	0.41	0.36	-0.01	1													
5 GOVT_EFF_DIST	1.47	0.65	0	2.94	0.60	0.49	0.20	0.67	1												
6 EXPERIENCE	0.99	0.81	0	2.99	0.02	-0.08	0.12	-0.11	-0.1	1											
7 Admin_FUNC	0.15	0.36	0	1	0.05	0.07	-0.09	0.00	0.00	0.02	1										
8 CC_FUNC	0.16	0.37	0	1	-0.08	-0.14	-0.02	-0.06	-0.08	0.09	-0.19	1									
9 Knowledge_FUNC	0.01	0.12	0	1	0.05	0.08	-0.05	0.04	0.03	-0.07	-0.05	-0.06	1								
10 M&S_FUNC	0.04	0.21	0	1	-0.15	-0.04	0.01	-0.06	-0.11	0.01	-0.10	-0.10	-0.03	1							
11 ProdDev_FUNC	0.21	0.40	0	1	-0.01	0.01	0.06	-0.05	0.01	-0.03	-0.22	-0.23	-0.07	-0.12	1						
12 Proc_FUNC_	0.06	0.24	0	1	0.04	-0.01	0.09	-0.05	0.03	0.07	-0.11	-0.12	-0.03	-0.06	-0.14	1					
13 Software_FUNC	0.08	0.27	0	1	0.09	0.09	0.06	0.06	0.06	-0.03	-0.13	-0.14	-0.04	-0.07	-0.16	-0.08	1				
14 IT_FUNC	0.25	0.43	0	1	0.02	0.00	-0.04	0.09	0.05	-0.07	-0.25	-0.26	-0.07	-0.13	-0.30	-0.15	-0.17	1			
15 COMP_SIZE	8.07	2.92	0	12.86	0.17	0.15	-0.10	0.13	0.13	0.22	0.11	0.08	0.05	-0.15	-0.14	0.01	-0.11	0.10	1		
16 YEAR04-05	0.44	0.49	0	1	0.01	0.03	0.04	-0.17	0.07	0.02	0.00	-0.02	-0.03	0.01	0.07	0.02	-0.03	-0.04	-0.04	1	
17 YEAR06-09	0.23	0.42	0	1	0.09	0.01	0.03	0.06	-0.03	0.13	0.01	0.02	0.09	-0.01	-0.08	-0.03	0.07	0.00	-0.09	-0.50	1

Note: Bold values are correlations significant at the 5% level.

Source: own computations based on ORN data.

Descriptive statistics and correlations for sub period samples and control variables are available from the authors upon request.

TABLE C - Estimation results for additional models

Dependent Variable: Probability of choosing the captive offshore governance mode

Model	(i)	(ii)	(iii)	(iv)
SPATIAL_DIST	0.13 (0.27)	0.04 (0.77)		
TEMPORAL_DIST			3.90** (0.03)	2.75* (0.10)
CULTURAL_DIST	0.14 (0.17)	0.24** (0.02)	0.20* (0.06)	0.29** (0.01)
POL_STAB_DIST	-0.87*** (0.00)		-1.00*** (0.00)	
GOVT_EFF_DIST		-0.45** (0.03)		-0.58*** (0.00)
EXPERIENCE	0.38*** (0.00)	0.39*** (0.00)	0.40*** (0.00)	0.40*** (0.00)
Admin_FUNC	0.78*** (0.00)	0.78*** (0.00)	0.77*** (0.00)	0.77*** (0.00)
CC_FUNC	-0.36 (0.18)	-0.30 (0.25)	-0.33 (0.23)	-0.28 (0.29)
Knowledge_FUNC	0.49 (0.53)	0.47 (0.54)	0.38 (0.64)	0.39 (0.63)
M&S_FUNC	0.71* (0.08)	0.70* (0.09)	0.60° (0.13)	0.62° (0.12)
ProdDev_FUNC	0.43° (0.13)	0.49* (0.09)	0.39 (0.17)	0.46 (0.11)
Proc_FUNC	0.49 (0.19)	0.63* (0.08)	0.43 (0.24)	0.60* (0.09)
Software_FUNC	-0.17 (0.53)	-0.17 (0.53)	-0.22 (0.42)	-0.22 (0.43)
COMP_SIZE	0.08* (0.07)	0.06° (0.15)	0.08* (0.06)	0.06 (0.14)
YEAR04-05	-0.63** (0.01)	-0.39 (0.13)	-0.68*** (0.01)	-0.40° (0.12)
YEAR06-09	-0.87*** (0.01)	-0.84*** (0.01)	-0.89*** (0.00)	-0.87*** (0.00)
HOME country dummies		-- Included in all models	--	
Constant	0.45 (0.45)	0.04 (0.95)	0.50 (0.42)	0.06 (0.91)
N	949	949	949	949
Log likelihood	-557.4	-570.9	-553.0	-568.4
DF	19	19	19	19
Prob>Chi²	<0.01	<0.01	<0.01	<0.01
McFadden R²	0.149	0.128	0.156	0.132

Notes: p-values in parentheses, based on cluster-robust standard errors, *** p < 0.01, ** p < 0.05, * p < 0.1, ° p < 0.15; Baseline launch year: From 1995 to 2003; Baseline home-country: Germany; Baseline function: IT. Source: own computations based on ORN data.

TABLES AND FIGURES TO INSERT IN TEXT

FIGURE 1

Distance factors, uncertainty, and offshore governance mode choices

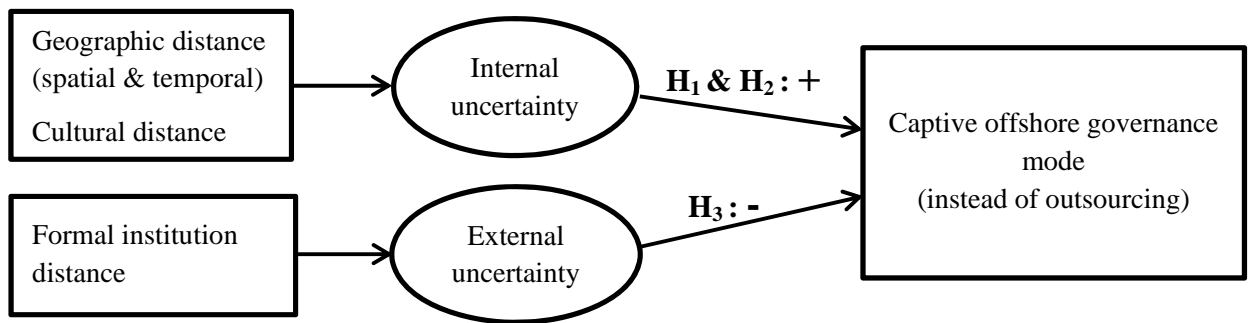


TABLE 1 - Construction of the variables

Variable	
Dependant	
Captive	Binary variable sets to “1” if captive mode, “0” if outsourcing. <i>Source: ORN data.</i>
Explanatory	
Spatial distance (SPATIAL_DIST)	Distance calculated following the great circle formula (natural log of thousand km), which uses latitudes and longitudes of the most important cities/agglomerations (in terms of population). <i>Source: CEPII, 2006.</i>
Temporal distance (TEMPORAL_DIST)	Squared value of the home-host country time zone difference (in fraction of day). If multiple time zones for a country, the non-weighted average time zone is used. <i>Source: own calculations.</i>
Cultural distance (CULTURAL_DIST)	Derived from the 4 cultural dimensions of Hofstede's - squared Mahalanobis distance following Kandogan (2012). <i>Source: own calculation based on Hofstede (2001).</i>
Political stability distance (POL_STAB_DIST)	Absolute home-host country scores difference of World Bank indicator of “Political Stability and Absence of Violence”. <i>Source: Kaufmann et al. (1999) and updates.</i>
Government effectiveness distance (GOVT_EFF_DIST)	Absolute home-host country scores difference of World Bank indicator of “Government Effectiveness”. <i>Source: Kaufmann et al. (1999) and updates.</i>
Controls	
Offshoring experience (EXPERIENCE)	Natural log of the number of offshoring projects (plus one unit) previously implemented by the business unit. <i>Source: Own computations based on ORN data.</i>
Offshore functions (FUNC)	Binary variables indicating the type of offshore function: Admin (administrative), CC (contact center), knowledge, M&S (marketing and sales), ProdDev (product development), Proc (procurement), Software and IT (the baseline function). <i>Source: ORN data.</i>
Project launch year (YEAR04-05 and YEAR06-09)	YEAR04-05 is set to “1” if the launch year was between 2004 and 2005 and YEAR06-09 is set to “1” if the launch year was between 2006 and 2009, otherwise “0”. <i>Source: ORN data.</i>
Company size (COMP_SIZE)	Natural log of employees (full time equivalents) in the home-country business unit. <i>Source: ORN data.</i>
Home-country (HOME)	Binary variables indicating the country of origin: Belgium, Germany (baseline country), The Netherlands, Spain, UK and US. <i>Source: ORN data.</i>

TABLE 2 - Estimation results of the logistic models

Dependent Variable: Probability of choosing the captive offshore governance mode

Model	(1) Controls only	(2) Full model with “Political stability distance”	(3) Full model with “Government effectiveness distance”
SPATIAL_DIST		-0.09 (0.54)	-0.14 (0.38)
TIMEZONE_DIST		4.49** (0.03)	3.62* (0.07)
CULT_DIST		0.22** (0.04)	0.31*** (0.01)
POL_STAB_DIST		-0.97*** (0.00)	
GOVT_EFF_DIST			-0.53** (0.01)
EXPERIENCE	0.47*** (0.00)	0.40*** (0.00)	0.41*** (0.00)
Admin_FUNC	0.78*** (0.00)	0.77*** (0.00)	0.77*** (0.00)
CC_FUNC	-0.24 (0.34)	-0.34 (0.22)	-0.28 (0.29)
Knowledge_FUNC	0.41 (0.58)	0.37 (0.65)	0.38 (0.63)
M&S_FUNC	0.75* (0.08)	0.57° (0.14)	0.59° (0.15)
ProdDev_FUNC	0.51* (0.06)	0.39 (0.17)	0.45° (0.12)
Proc_FUNC	0.67* (0.05)	0.43 (0.24)	0.60* (0.09)
Software_FUNC	-0.16 (0.56)	-0.22 (0.42)	-0.22 (0.43)
COMP_SIZE	0.04 (0.28)	0.08* (0.06)	0.06° (0.14)
YEAR04-05	-0.43* (0.09)	-0.67*** (0.01)	-0.40° (0.12)
YEAR06-09	-0.83*** (0.01)	-0.88*** (0.01)	-0.84*** (0.01)
HOME country dummies		-- Included in all models --	
Constant	-0.03 (0.95)	0.50 (0.42)	0.06 (0.92)
N	949	949	949
Log likelihood	-579.6	-552.7	-567.8
DF	16	20	20
Prob>Chi²	<0.01	<0.01	<0.01
McFadden R²	0.115	0.156	0.133

Notes: p-values in parentheses, based on cluster-robust standard errors, *** p <0.01, ** p <0.05, * p <0.1, ° p <0.15; Baseline launch year: From 1995 to 2003; Baseline home-country: Germany; Baseline function: IT. Source: own computations based on ORN data.

