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Offshoring, Local Market Entry, and the Strategic Context of Cross-Border Alliances: The Impact on the Governance Mode

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Abstract

International alliances have been studied in considerable depth, but almost entirely as host market entry options. And while much global value production is done through international alliances, the organizational forms used to control dispersed value chains are often reduced to "make or buy" – that is, captive operations vs. market-based outsourcing. We examine how strategic purpose (vertical or offshore production vs. horizontal or production for local market entry) affects the choice of cooperative governance form. We contend that an offshore production role, as opposed to a market entry strategy, makes an alliance more likely to be governed as a contractual alliance than as a joint venture. Data on 261 cross-border alliances in the major appliances industry largely support our hypotheses. Further, strategic purpose moderates the effects of alliance activities and of the institutional environment of the host country on the choice of governance form.

Keywords: Alliances, Joint Ventures, Global production networks, Governance, Household products, Offshoring

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1. Introduction

International alliances are defined as collaborative agreements involving multiple business organizations located in different countries. They can be governed as simple contractual alliances (international contractual alliances) or as shared equity alliances (international joint ventures) in which a jointly owned entity is created (Contractor & Ra, 2002; Gulati & Singh, 1998). The choice of the appropriate transactional governance mode is a major consideration in studies of cooperative strategies (Child, Faulkner & Tallman, 2005; Hennart, 1988; Hutzschenreuter, Lewin, & Dresel, 2011; Madhok & Tallman, 1998). In the literature, this choice has mainly been addressed in the context of local host market entry within a market-seeking (horizontal) strategy on the part of a multinational corporation (MNC) (Brouthers & Hennart, 2007). The decision by an MNC to use a long-term contract as opposed to a joint venture when the strategic purpose of the alliance is to access offshore value-adding activities (vertical strategy) has been largely overlooked (Jahns, Hartmann, & Bals, 2006; Tallman & Mudambi, 2013). However, the increasing use of joint production in global value chains suggests to us that a better understanding of how strategic purpose (horizontal vs. vertical) affects governance choices for international alliance strategies is a relevant concern to international strategy.

The increasing importance of geographically dispersed global value production (commonly, offshore production or just “offshoring”) for goods and services is linked to economic, political and legal changes, socio-demographic trends, and rapid increases in

technology development in potential host countries. In its broadest explanation, offshoring refers to situating value-adding activities within a vertical value chain in locations outside the target market country's boundaries (Monczka et al., 2005). It occurs when companies disperse their value chain activities to those locations in which they can be carried out most effectively and efficiently, independent of the market(s) in which the products are sold, thereby creating arbitrage opportunities for geographically dispersed value production (Mudambi, 2008).[i] Firms use a variety of organizational forms to implement and control offshoring, but these often have been reduced to the choice of 'make or buy'; that is, captive (i.e., wholly owned) operations versus outsourcing via market transactions to specialist suppliers. This stark contrast suggests that only the simplest, least strategic supply agreements should be exposed to market transactional risks – more complex or essential activities should be internalized. However, it is clearly the case for both manufacturing and services that critical value-adding activities frequently are outsourced to offshore suppliers (Lewin & Volberda, 2011).

We believe that the extensive use of outsourcing in global value chains is better interpreted using Mudambi and Tallman's (2010) argument that most outsourcing transactions actually are structured as alliances – "allying to access" resources rather than "buying from the external market". They propose that when the resources that the firm is trying to access are complex or involve tacit knowledge, international alliances are likely to improve trust and coordination and introduce a more stable, more collaborative and lower risk transactional setting than arms' length markets, but at a lower cost than wholly-owned subsidiaries (Gulati & Singh, 1998; Phene & Tallman, 2012). Indeed, the growing use of international alliances in global value chains is well documented (McDermott, Mudambi, & Parente, 2013) in diverse industries such as electronics, aircraft manufacturing, or pharmaceuticals.

We ask two basic research questions to illuminate the impact of strategic purpose on the control of alliances. *First*, does the strategic purpose of an international alliance – that is, the use of the alliances to produce for local host markets as opposed to generate value for non-local (regional, global or home) markets – moderate the use of contractual vs. equity-based governance modes? *Second*, does the set of activities engaged in by an alliance relate differently to the choice of governance mode depending on this strategic purpose? To address these questions, we incorporate the body of knowledge tied to international alliances (Dunning, 1995; Osborn & Baughn, 1990; Pan & Tse, 1996) with that of offshoring and global value chains (Khan, Shenkar, & Lew, 2015; Lewin & Volberda, 2011). In doing so, we contribute to the literature on international alliances by showing how offshoring, seen as a strategic purpose of the alliance, invites the adoption of contractual governance modes, while market-seeking is preferably managed through joint ventures. This argument implies that global value-adding activities are likely to be constructed of centrally directed networks of contractual alliances. We also suggest that offshoring interacts with the type of value chain activities shared in the alliance and with the host country institutional factors to determine the governance mode. While a transaction cost perspective is compatible with our conclusions, we mostly base our reasoning on the idea that equity solutions in international alliances are driven by the need for coordination in complex transactions (Madhok & Tallman, 1998; Rugman & Verbeke, 2003).

To test our hypotheses, we study the effects of the strategic purposes of international aliances in the home appliances industry, which has a long history of cross-border deals that industry players have used both to pursue offshoring and to enter new markets. Home appliances are globally ubiquitous, the core technologies used in different markets differ relatively little, and cost competition is intense. International sourcing is common and has been in place for decades.

Our findings show that indeed strategic purpose does matter, in that the use of joint ventures is less frequent than contractual alliances for offshore-production alliances than for market entry. We also find that the strategic purpose of the alliance moderates the effects of various activity and location variables on the choice of alliance governance form, e.g., a manufacturing role makes a joint venture significantly more likely in the case of an offshoring strategy, but less so for a market entry strategy.

The next section of the paper addresses the literature of alliance governance, followed by the development of a model of governing offshore outsourcing and the statement of various hypotheses. This is followed by a set of empirical tests and discussion of the impact of strategic purpose on alliance governance. We close with an appeal to consider how important the explicit adoption of a cooperative alternative is to understanding the drivers and consequences of governing geographically dispersed value-adding activities.

2. Background and hypotheses

2.1. The governance of international alliances

Two theoretical perspectives of the several applied to international alliances (Brouthers & Hennart, 2007) are most relevant to our analysis. First, from a transaction cost analysis perspective, international alliances are intermediate forms between markets and hierarchies (Henisz & Williamson, 1999; Oxley, 1997). As levels of transaction specific investment increase under conditions of uncertainty and small numbers, the value of more hierarchy-like forms increases. While various models offer somewhat different mechanisms, they all reflect the concept that the more complex, strategic, and uncertain the international alliance, the more likely a joint venture will be put in place.

Second, a resource-based perspective suggests that the need for coordination in more complex transactions (Madhok & Tallman, 1998; Rugman & Verbeke, 2003), rather than fears of partner opportunism, drives the choice of equity solutions. Joint ventures are expected to allow for a more adaptable cooperative transaction. Coordination costs in the resource-based view are tied to the complexity of international alliance transactions that increase interdependencies between the partners, both technological and social (White & Lui, 2005). Sharma and Erramilli (2004) state that contractual modes are likely when the transaction is driven by easily transmissible explicit knowledge, while joint ventures will occur when complementary resources are tacit. The firm-like structure of joint ventures facilitates joint activities, enables tacit knowledge sharing, and supports the development of relationships among partners to the joint venture (Liu, Adair, & Bello, 2015; Osborn & Baughn, 1990; Oxley & Wada, 2010; Tallman & Shenkar, 1994). Oxley and Sampson (2004) show that a broader scope of knowledge and activities, such as the combination of manufacturing and R&D capabilities, makes the use of equity forms of governance more likely in international alliances.

Overall, both perspectives suggest that more complex transactions involving greater interdependencies between partners with more reliance on tacit knowledge will make the hierarchy-like governance structures of joint ventures more likely (Gulati & Singh, 1998). Superior coordination of resources and capabilities in joint ventures will offset greater transaction specific investment, while giving both partners reason to avoid opportunistic actions (Madhok & Tallman, 1998; Phene & Tallman, 2012). However, international alliances can be established for different purposes, in particular to govern offshore outsourcing rather than enter foreign markets, raising the question of how these purposes impact on factors that drive governance mode decisions. We address this question in the next sections.

2.2. Market-seeking vs. offshoring as strategic purposes of international alliances

We focus on whether a horizontal strategy to better access the local host market leads to different tendencies in governance of an international alliance than does vertical offshoring in the global value chain. The alternative governance choices considered are non-equity contractual alliances versus equity-based joint ventures, since the decision to use or not use equity participation is the predominant focus of studies of international alliance governance (Globerman & Nielsen, 2007; Hennart, 1988; Pan & Tse, 2000).

The original models of foreign direct investment in value-adding activities focused on market-seeking strategies (Anderson & Gatignon, 1986). Local host country activities were assumed to be substitutes for trade and licensing into the host market (Dunning, 1988). International alliances were largely seen as second-best alternatives to wholly-owned subsidiaries when foreign markets limited equity participation (Tallman & Shenkar, 1994). International alliances, as with other entry modes, were treated as horizontal investments to govern the introduction of resources or products developed in one market into another (Brouthers & Hennart, 2007). Particularly in mature industries, local partners could provide strategic skills for the local market, with the MNC providing technology and branding (Contractor & Lorange, 1988). However, international alliances to service the host market customer base may require many interacting strategic decisions by the local management and high levels of coordination between partners. So, a resource-based perspective suggests that a joint venture, as a separate entity with a degree of managerial independence, is more effective in governing market-seeking alliances than a contractual venture without its own dedicated management.

Offshored activities, as parts of a globally dispersed value chain, are more likely to be narrowly defined with clearly specified objectives and coordinated with other value-adding activities in other locations by a global or regional headquarter. At the same time, modern communication and contracting technology has made communication of resources much more effective (Asmussen, Larsen & Pedersen, 2016; McDermott et al., 2013). This makes for fairly straightforward and lower cost inter-firm transactions, reducing the benefit of internalization. From a resource-based perspective, offshoring may well be controlled by contractual arrangements, particularly in mature industries with well-understood products and demand characteristics. According to transaction cost models, threats of opportunism may still exist, in that a contractor must have some access to the underlying technology to generate component goods or services; moreover, failure to deliver can hurt the entire value chain. However, in industries where technologies are established and reputations are widely shared, opportunism by suppliers can be limited by contracting, parent firm experience, use of multiple suppliers, partner-specific relational investing, modular production techniques, and reputational effects enhanced by modern information technology. All these factors suggest that contracts can offer sufficient protection and oversight to maintain global value chains. Indeed, joint ventures may offer local equity-holding partners more opportunity to interfere with strategic decision-making or to divert production to local markets, and they offer more opportunities for unintended exposure of related technology and managerial methods than do contractual alliances. This leads us to the following hypothesis:

Hypothesis 1. The use of joint ventures versus contractual alliances is less likely when the primary strategic purpose of an international alliance is offshore production of value for international markets as compared to local market entry.

2.3. The role of activity content in shaping the governance mode of international alliances

Individual firms vary greatly in selecting which of their activities can best be offshored (Jensen & Pedersen, 2011). Firms are generally expected to maintain the tightest control over core activities and outsource less critical tasks to more efficient specialists (McDermott et al., 2013). A resource-based perspective suggests that more complex activities requiring more interdependency among partners are more likely to be governed as a joint venture (Rugman & Verbeke, 2003). In the foreign direct investment literature, with its focus on market-seeking investment, international alliances result from intermediate levels of market inefficiency. Hennart (1988) writes that joint ventures result when both sides are providing complex tacit knowledge for which markets fail. A resource-based approach would say that integrating complex tacit knowledge requires the flexibility and relationships that are built in joint ventures, while transmitting explicit knowledge can be managed effectively through contracts (Phene & Tallman, 2012). For offshore production, modular design principles suggest that the interfaces between modules must be clearly specified, while the processes within the module can be given local autonomy, so long as the outputs are to specification for the next module (McDermott et al., 2013). Thus, the strategic purpose may be seen as moderating the effect of different task responsibilities on the international alliance governance decision. We look in particular at three value-chain activities – manufacturing, marketing, and R&D – that constitute identifiable functions within an alliance that are considered highly characteristic of its contents (Oxley & Sampson, 2004). In our reasoning, we focus on how each activity interacts with the strategic purpose of the alliance to determine different degrees of transactional complexity.

Manufacturing. In the previous literature, authors worked on the core hypothesis that the stage in the product life cycle, the product content (e.g. technology intensity), the need to respond to local needs and the value-to-weight ratio determine a certain manufacturing strategy and, in particular, the choice of a foreign location (DuBois, Toyne, & Oliff, 1993). Contractor and Kundu (1998) argue that when the proprietary content of products is high the international alliance form will tend towards joint ventures. Rugman and Verbeke (2003) show that joint ventures are particularly relevant to complex activities such as manufacturing. In the case of production for local markets, though, licensing by the MNC to a local manufacturer that is then allowed to manage other local market duties independently is a well established alternative (Dunning, 1988). In Brouthers and Hennart's (2007) terms, the local partner's inputs may be tacit and complex, but the MNC's technology can be specified. So, a license for local production is feasible, especially for mature products. For example, the MNC needs only provide design specifications to local producers for the traditional production of metal appliances.

In the case of offshoring, though, the transactional complexity of a dispersed production network, the necessity to meet different local expectations for product characteristics, the existence of international standards for quality and performance, and the importance of quick response to global needs determine greater coordination needs for manufacturing activities. These needs favor relational linkages. The activities of the local partner must be constrained to its part in the manufacturing network, and the MNC has to provide the tacit and complex inputs for which market-like transactions typically fail (Brouthers & Hennart, 2007). Equity ownership offers a degree of hierarchical control over alliance processes, and we suggest:

Hypothesis 2a. When an international alliance includes manufacturing activities, the use of joint ventures is more likely than that of contractual alliancess if the primary strategy of the

international alliance is offshore production of value for international markets as compared to local market entry.

Marketing. This is also a complex activity requiring knowledge of both the product and the preferences of consumers, especially for market-seeking horizontal investments that are established as international alliances. In these alliances, the product and technological capabilities of the MNC need to be augmented by a deep understanding of local demand that is often tied to cultural preferences, local market characteristics, and geographical issues that can affect production (Asmussen et al., 2016). Strategies dependent on local marketing efforts seem likely to require close coordination of different capabilities, adaptability to demand variations on the part of the local partner, and strong needs for MNC partners to protect brand identities. Such high levels of interdependence suggest the need for more partner accommodation (Bello, Katsikeas, & Robson, 2010), a condition more feasible in joint ventures.

In the case of marketing alliances with a broader geographical scope, evidence is mixed (Li, Boulding, & Staelin, 2010), with less internationally experienced firms tending to use joint ventures and more experienced firms tending toward non-equity forms. Marketing activities such as global advertising campaigns are often outsourced to multinational advertising firms via long-term contracts. International firms also typically have affiliates in many markets to conduct activities such as media buying, while distribution may be outsourced for efficiency to local distributors that carry many products, all specifiable activities.

Overall, we see the transactional complexity in this case to be greater for marketing in a local market than for geographically broad marketing efforts. We anticipate that entry strategies with marketing goals will tend toward equity ties with local partners both to ease concerns for

brand corruption and to ensure coordination in the local market, while globally directed marketing will be more likely to use contractual arrangements. So, we predict:

Hypothesis 2b. When an international alliance includes marketing activities, the use of joint ventures is less likely than that of contractual alliances if the primary strategy of the international alliance is offshore production of value for international markets as compared to local market entry.

R&D. The offshoring of R&D is a growing phenomenon. MNCs locate R&D activities abroad to benefit from unique capabilities available in foreign countries (Maskell, Pedersen, Petersen, & Dick-Nielsen, 2007), to adapt to local requirements (Cantwell & Mudambi, 2005), and to be close to production facilities (Sanna-Randaccio & Veugelers, 2007). Foreign R&D has traditionally been seen as primarily local development-focused, providing host market adaptations for technologies imported by MNCs from home and produced locally – what Kuemmerle (1997) describes as competence augmenting innovation. R&D-related factors that widely influence the governance mode include the extent of inter-partner interaction, the complexity of the task undertaken by the alliance, types of partners, and scope of R&D activities (Choi & Contractor, 2016; Li & Xie, 2016). While most often associated with wholly-owned subsidiaries due to the need to protect both technical and brand identity (Gubbi & Elango, 2016), the same concerns suggest that product development for local markets, when handled by an international alliance, is more likely to be carried out via a joint venture.

From an offshoring perspective, R&D activities located in a foreign country are used to create knowledge for application to global production. Innovation is the primary driving force behind competence-creating subsidiaries, sourcing local knowledge flows associated with higher

'upstream' R&D expenditures (Cantwell & Mudambi, 2011). However, as Sanna-Randaccio and Veugelers (2007) affirm, R&D offshoring intensifies the spillover of valuable know-how to competitors located in the foreign markets. Nieto and Rodriguez (2011) suggest that when R&D is less closely tied to manufacturing for the local market, for instance in the case of pharmaceutical trials in India for drugs intended for Western industrial markets (Haakonsson, Jensen, & Mudambi, 2013), the openness required in joint ventures discourages their use. Rather, R&D activities are assigned to host-country contractors with specifically limited access to the parent company's technology. Overall, we conclude that the use of joint ventures in international alliances that include R&D will be less common when their strategic purpose is offshoring rather than for market seeking, and hypothesize:

Hypothesis 2c. When an international alliance includes R&D activities, the use of joint ventures is less likely than the use of contractual alliances if the main purpose of the international alliance is offshore production of value for international markets as compared to local market entry

2.4. The impact of location in determining the governance mode of international alliances

Country characteristics also affect the governance mode of international alliances. Phene and Tallman (2012) refer to "contextual uncertainty" when the administrative and socio-economic features of the host country are very different from the country of origins. Differences in protection of intangible assets, degree of corruption, legal framework, economic development, and informal institutions create an uncertainty than firms need to mitigate (Haakonsson et al., 2013; Sartor & Beamish, 2014). The location assumes a particular significance if characterized

by instability of regulatory obligations or intellectual property regimes. Many emerging markets in particular are still characterized by "institutional voids" (Khanna & Palepu, 2011).

The level of a country's governance infrastructure is shown to be inversely correlated with the need to create equity controls in alliances (Globerman & Nielsen, 2007; Pan et al., 2014). The higher the contextual uncertainty created by weak local public institutions, the more uncertain the ability to enforce contracts and the more likely is ownership involvement by the MNC. This argument suggests that joint ventures can substitute for weak institutions (Hennart, 1988). For this reason, it is possible to infer that countries with strong institutions will constitute a better environment for contractual alliances to prosper, while in countries with weaker institutions, joint ventures should be more common. However, we expect the effect to be stronger for alliances engaged in offshore production, since MNCs must coordinate the local activities in one place with other value-adding activities in other locations. Moreover, contract violations in a global supply chain can have company-wide consequences; therefore, MNCs will be more in need of enforceable contracts and institutional stability. In contrast, when the international alliance is intended to serve the host market, the damages coming from violations of contracts and partner opportunism are more likely to remain confined at the local level. So, we predict:

Hypothesis 3. The negative correlation between a stronger host country institutional environment and the use of joint ventures will be greater when the purpose of the international alliance is offshore production of value for international markets as compared to local market entry

3. Methodology

3.1. Sample and Data

The sample consists of international alliances in the home appliances industry (SIC code 363) between 1986 and 2012. We chose this industry for three reasons. First, it is a truly global industry with important producers and large markets in all major economic regions. Second, this industry has undergone significant restructuring and dynamism during the past thirty years (Bonaglia, Goldstein, & Mathews, 2007): numerous mergers and acquisitions took place, with the objectives being consolidation and international expansion. Finally, offshoring is intense among major appliance manufacturers, because competition is based on cost efficiencies and the use of remote locations for performing supply chain activities at lower cost.

The data source was SDC Platinum, a comprehensive set of databases maintained by Thomson Reuters Financial Securities Data (Schilling, 2009). The logic was to include all the international alliances in which at least one of the participants operated in the home appliance industry (as defined through its SIC code) and the declared purpose of the deal included manufacturing, marketing, or R&D activities directly related to home appliances. The initial list consisted of 386 deals; we had to drop 74 of them because they lacked information that we needed to code our variables, and in particular our OFFSHORE dummy, e.g. the strategic objectives and the activities of the deal were not detailed enough to establish whether it was mainly intended to serve the local market or to offshore value chain activities. We then removed 51 domestic deals (i.e., all the participants were from the same country, which was also the location of the alliance), leaving us with 261 cross-border deals based in 46 different countries. Table 1 lists the locations of the deals and the home countries of the participating firms. Figure 1 shows the distribution of years; the histogram reveals peak years in 1994 and 1995.

Insert Table 1 about here

Insert Figure 1 about here

3.2. Dependent variable

Our dependent variable is the governance mode adopted by the partners for a particular international alliance. When SDC Platinum did not detail the governance mode we traced the original press news and other company information at the time of the announcement. In coding this variable, we looked at the original governance mode at the date of announcement, ignoring possible subsequent mode dynamics (Pedersen, Petersen, & Benito, 2002). We have three governance modes: joint ventures, strategic alliances that did not involve equity injections of any kind, and strategic alliances with minority investments of at least one of the partners in the equity of the other. Observations are respectively 200, 54, and 7 for the three cases. We choose to group minority investments with contractual alliances, because in general minority stakes do not entail the degree of risk and the level of coordination between partners that are typical of joint ventures. Therefore, our dependent variable is JV, which takes the value 1 when the deal is a joint venture (excluding minority equity investments), and 0 otherwise. However, as a robustness check, we also coded an EQUITY dummy, which takes the value 1 when the deal is a joint venture or a minority equity investment, and 0 otherwise.

3.3. Independent variables

To test the effects of the offshoring vs. market-seeking strategic orientations we built a dummy variable, OFFSHORE, that takes the value 1 if the international alliance was not mainly

intended to serve the local market and 0 otherwise. We defined the local market as the country where the international alliance was located. The guiding criterion was that market-seeking uses production and distribution to serve local markets, while offshoring is driven by resource-seeking, efficiency-seeking, or knowledge-seeking goals to produce for international markets. Ideally, market-seeking could be operationalized through the local sales of the venture (Nachum & Zaheer, 2005), but such data were not available for our sample. For most deals the dominant focus was already clear in the deal description in the SDC database. For other deals, we coded this variable on the basis of information taken from press releases and company materials. When different markets were reported in the description of the international alliance, we coded the observation as 0 if the local market was quantitatively dominant (e.g., it represented the expected majority of sales) or was mentioned as the primary purpose of the deal. We did not treat these mixed cases as a distinct category because it was usually impossible to exclude that a share of the appliances was exported (in case of market-seeking deals) or sold in the local market (in case of offshoring). All the observations were first coded by a research assistant and then independently by one of the authors, achieving a 86.2% inter-coder agreement rate, which is deemed reliable (Neuendorf, 2002). Dubious cases were solved after collecting further information; the remaining uncertain observations were abandoned.

To evaluate the effects of the activities managed by the international alliance, we built three dummy variables, related to Hypotheses 2a–c: MANUFACTURING, MARKETING, and R&D. Each of them takes the value 1 if the international alliance managed activities of the relevant type and 0 otherwise. The MANUFACTURING dummy covers assembly of products, production of components and manufacturing services; the MARKETING dummy covers distribution, selling, and promotion; the R&D dummy covers basic and applied research and

product development. Since many parallel activities may be the object of the venture, these dummies are not mutually exclusive, which allowed us to include all these dummies in the same regression without identifying a baseline case. Again, we traced the original press coverage and companies' information to fill holes or solve discrepancies in the SDC database, dropping the observations in which it was impossible to determine the activities of the international alliance.

To test the effects of the location institutional environment, we used the World Bank's Governance Indicators. The indicators are six: control of corruption, government effectiveness, political stability and absence of violence/terrorism, regulatory quality, rule of law, voice and accountability. These indicators are based on variables obtained from 31 different data sources (Kaufmann, Kraay, & Mastruzzi, 2010). The indicators are available starting from 1996; for the preceding years (our sample starts with 1986) we used the first available value in the series. The variance shared by the six indicators is large, with pairwise correlations ranging from 0.54 to 0.94 in our sample. Therefore, we averaged the indicators, obtaining our WGIMEAN variable, which we use as a composite and comprehensive measure of institutional quality of the location countries.

3.4. Control variables

We used a number of control variables. First, we included product dummies, because different household appliances may involve different levels of transaction-specific assets, tacit knowledge, and technological and organizational complexity. We coded three dummies: SMALL_EL (small electrical appliances, which usually have low technological complexity); NON_HH (non-household appliances, e.g. those used in restaurants, which are sold through different distribution channels than home appliances); LARGE_EL (large electrical appliances,

which usually have higher technological complexity). The baseline case consists in non-electrical appliances, such as ovens, cooktops, and ranges.

We controlled for the previous experience of partners, since learning helps firms overcome behavioral uncertainty (Tong & Li, 2013). To capture this dimension, we computed EXPERIENCE, which counts how many deals (irrespective of the governance mode) partners entered in the five years before the focal deal. We also controlled for geographic distance Malhotra & Gaur, 2014) by calculating the average of "great circle distances" (Bouquet & Birkinshaw, 2008) between the capital city of the location country of the international alliance and the capital cities of the home countries of the participants in the deal (DISTANCE). We added a MULTILATERAL dummy that takes the value 1 if more than two partners are engaged in the venture and 0 otherwise, because multilaterality has been shown to increase the probability of joint ventures (Oxley & Sampson, 2004). The GDP of the location country was used as a measure of the local market size, which can influence the mode of entry.

Unfortunately, we were not able to collect financial information for most firms, for a mix of reasons: financial statements for the 80s' or the 90s' were not available; a number of firms were located in countries where financial information was scarce in general (e.g. East Germany or USSR); others were conglomerates (such as Samsung or Matsushita) that did not consistently report segmental financial information for household appliances. Therefore, to control for firm size (Roza, Van den Bosch, & Volberda, 2011) we manually compiled a list of large players in the industry, basing on their having established brands (internationally or in significant world regions, such as China or Latin America), multinational presence, multiple product categories, and being listed in stock exchanges. When compiling the list, we kept track of mergers and acquisitions involving the firms in the sample, so that all of them were independent at the time of

the deal (while they are not necessarily so now). An industry expert assisted us in compiling the list, which we report in Table 2. We created two dummies: LARGE_SMALL, which takes the value 1 when at least one of the partners is a large player and at least one is not, and 0 otherwise; and ALL_LARGE, which takes the value 1 when all the partners are large players, and 0 otherwise. The former dummy individuates asymmetric resource endowments, while the latter indicates bargaining symmetry and general availability of resources. 134 deals were LARGE_SMALL, 39 were ALL_LARGE, and there was no large player in the remaining 88, which provide the baseline case.

Insert Table 2 about here

We included full year effects in the first set of models, testing Hypothesis 1. In the second set of models, in which we split the sample to test the remaining hypotheses, reduced sample size made it impractical to use full year effects, due to excessive loss of degrees of freedom. Therefore in these models we used a time dummy, AFTER_1996, which takes the value 1 if the deal was announced after 1996 (the mid-point in terms of number of deals), and 0 otherwise. This dummy also allows to control for peak years (1994 and 1995) in the distribution of deals.

Finally, we controlled for location fixed effects, to cover unmeasured country heterogeneity. For example, China is known for favoring joint ventures for international alliances established in its territory. Again, to minimize loss of degree of freedoms, we considered only the ten most numerous locations, which account for 70.1 percent of the observations, leaving the other locations as the baseline case. We provide more details about all variable definitions and measurement in Table 3.

Insert Table 3 about here

3.5. Model

To test our Hypothesis 1, we estimated the probability of observing a joint venture as the governance mode of an international alliance by a logit model, which is commonly used in entry mode research (Hennart, 1997). The model is:

$$P_i = 1/[1+\exp(-z_i)]$$

P_i is the probability that an observation i is a joint venture; z_i is given by this formula:

$$z_i = b_0 + b_1\text{OFFSHORE}_i + b_2\text{MANUFACTURING}_i + b_3\text{MARKETING}_i + b_4\text{R\&D}_i + b_5\text{WGIMEAN}_i + \beta Z_i$$

where β is a vector of parameters and Z_i is a vector of control variables that include MULTILATERAL, LARGE_SMALL, ALL_LARGE, GDP, SMALL_EL, NON_HH, LARGE_EL, and year and location dummies.

To test our Hypotheses 2a, 2b, 2c, and 3, we divided the observations in two sub-samples defined by the OFFSHORE dummy. We then run our main specification on the sub-samples by excluding the OFFSHORE dummy; we also replaced year effects with the AFTER_1996 dummy, to avoid excessive loss of degrees of freedom, as explained above. This sub-sample procedure amounts to treating the OFFSHORE dummy as a moderator of the effects of the model variables on the governance mode, avoiding well-known problems with interaction terms in logistic models (Ai & Norton, 2003). Following Hoetker (2007), we tested for differences in unobserved variation between the two groups; neither the likelihood-ratio test ($\chi^2 = 0.08$, $p = 0.77$) or the Wald χ^2 test ($\chi^2 = 0.10$, $p = 0.75$) suggested concerns with these sub-samples to test moderation.

4. Results

4.1. Descriptives

Table 4 shows the means and standard deviations of the variables, as well as bivariate correlations. All correlations between all the predictor variables are smaller than |0.40|, except for the correlation between two product dummies (0.62). We then examined the variance inflation factors (VIF) of all the models that we present, finding that the largest VIF value is 7.60, comfortably below the recommended threshold of 10 (Neter, Wasserman, & Kutner, 1990). Therefore we concluded that there are no relevant issues of multicollinearity with our data.

Insert Table 4 about here

4.2. Main specification

A first group of models, reported in Table 5, tests Hypothesis 1. The dependent variable is JV. We present the results using both coefficients and odds ratios. A positive coefficient indicates an increase in the probability of observing a joint venture; vice versa for negative coefficients. The odds ratio is the change in the odds of the joint-venture governance mode when the value of a predictor increases by one unit. Any odds ratio below 1 is negative, because it implies that an increase in the predictor reduces the odds of the joint-venture mode; odds ratios above 1 are positive and indicate increases in the odds of the mode.

Model 1 includes only control variables. In Model 2, we add the dummies that specify the activities involved and WGIMEAN, which expresses the institutional quality of the host countries. In Model 3 we include our variable of interest, OFFSHORE, finding that when the purpose of the international alliance is offshoring, the coefficient is significantly negative (b = -

1.784, $p < 0.01$) and the odds ratio is lower than 1 (OR = 0.168, $p < 0.01$). This means that the odds of equity-based governance are 83.2 percent (1- 0.168) lower in offshoring international alliances than they are in local market-seeking ones. These results support Hypothesis 1, which predicted that offshoring made the joint-venture mode less likely. The percentage of correctly classified observations for this model is 88.9 percent, which exceeds the chance rate (64.2%) by 24.7 percentage points.

Insert Table 5 about here

Notably, the odds ratio of MANUFACTURING is greater than 1 and statistically significant in Models 2 ($p < 0.001$) and 3 ($p < 0.001$). This is confirmed by descriptives: 82.3 percent of the international alliances that include manufacturing activities are joint ventures, against 45.5 percent of the international alliances that do not include these activities. MARKETING is not statistically significant. The odds ratio of R&D is smaller than 1 and marginally significant (OR = 0.177, $p < 0.10$), indicating that international alliances with R&D activities are less likely to be joint ventures than those that do not include them.

4.3. Sub-sample analysis

Table 6 reports the models that test Hypotheses 2a, 2b, 2c and 3. Again, we present coefficients and odds ratios. JV is the dependent variable. We divided the observations into two sub-samples defined by the OFFSHORE dummy. The first group includes the observations in which the value of the dummy is 0 (model 4, "market-seeking", N = 96), the second those in which it is 1 (model 5, "offshoring", N = 165). A Chow test (DeMaris, 2004) was used to check whether the difference between the coefficients of the two models was statistically significant. The test revealed that it is (χ^2 (17) = 34.052, $p < 0.01$). For MANUFACTURING, we found that

the significance of coefficients and odds ratios increase in the offshoring subsample ($p < 0.01$ level), compared to the market-seeking one ($p < 0.05$), providing support to our Hypothesis 2a. For MARKETING, we failed to find evidence of a meaningful difference between the two subsamples; therefore, Hypothesis 2b seems not to be supported. For R&D, we observe an improvement in statistical significance of the negative coefficient (odds ratio lower than 1) when moving from the market-seeking group ($p > 0.10$) to the offshoring one ($p < 0.10$); this result only weakly supports Hypothesis 2c. For WGIMEAN, the results are that the coefficient and the odds ratio are statistically significant only in the offshoring subsample ($p < .01$), indicating a negative impact on the dependent variable, and providing support to Hypothesis 3.

Insert Table 6 about here

To facilitate interpretation of the moderation role of the strategic purpose of the international alliance, we plotted the predicted probability of the dependent variable against our variables of interest (Figure 2). As the figure shows, the moderation effect is stronger for MANUFACTURING (which is associated with a lower probability of a joint venture in the market-seeking group, but not in the offshoring one) and R&D (which is associated with lower probability of a joint venture only in the offshoring group), and weaker, but still noticeable, for MARKETING and WGIMEAN.

Insert Figure 2 about here

4.4. Further analyses

Table 7 presents robustness checks and post-estimation analyses. Model 6 is similar to our main specification, which we used to test Hypothesis 1, but it has EQUITY (including both joint ventures and minority investments) as the dependent variable. Again, this model supports

Hypothesis 1; the coefficient of OFFSHORE is negative and the odds ratio is lower than 1 ($p < 0.05$). In the third column, we added marginal effects (ME), which are a measure of the magnitude of the relationship (Wieserma & Bowen, 2009). MEs show the impact of the predictor in terms of change in probability of the dependent variable.We computed MEs of predictors as the averages of the single MEs at each observation. We calculated that, when the value of OFFSHORE is 0, the average probability of equity-based governance is 85.9 percent; the probability drops to 75.1 percent when the value of OFFSHORE is 1 (ME = -0.108, $p < 0.01$). As a comparison, in the subsequent column we report MEs for our previous Model 3 (in which JV is the dependent variable): the ME of OFFSHORE is -0.144 ($p < 0.01$), implying that the average probability of observing a joint venture decreases from 85.4 percent when the value of OFFSHORE is 0 to 71.0 percent when the value of OFFSHORE is 1.

Models 7 and 8 are similar to previous models 4 and 5 (which we used to test Hypotheses 2a, 2b, 2c, and 3) but again they have EQUITY as a dependent variable. We report only coefficients, for brevity. The Chow test shows that the difference of the coefficients between the two models is statistically significant: χ^2 (17) = 47.077, $p < 0.01$. The results confirm that the coefficient of MANUFACTURING is more significant in the offshoring group ($p < 0.01$) than it is in the market-seeking group ($p < 0.10$), adding support to Hypothesis 2a. The coefficients of MARKETING and R&D are not significant in the offshoring group, indicating limited robustness for Hypotheses 2b and 2c. As in previous results, the coefficient of WGIMEAN is significant only in the offshoring group ($p < .01$), providing further support to Hypothesis 3.

5. Discussion and conclusions

5.1. Theoretical implications

The purpose of the study was to compare the factors that drive the governance structure of international alliances associated with market-seeking strategies to those engaged in offshoring strategies. The guiding idea was that the likelihood of using equity-based modes as opposed to contractual modes is different in the case of offshoring as opposed to the well-studied market-access strategy. We theorized that, as a strategic purpose, offshoring makes an international alliance less likely to be governed as a joint venture than in the case of a market entry alliance. Further, strategic purpose moderates the effects on the governance mode choice of the shared activities of the international alliance and the quality of the institutional environment of the host country. Our study tried to extend the understanding of how the strategic rationale of participating firms influences decisions about how to organize an international alliance; previous literature has mostly looked at international alliances as modes of market entry (Gomes, Barnes, & Mahmood, 2016), while research on their role in building global offshored value chains is comparitevely underdeveloped.

We used the household appliance industry to test the hypotheses, using logistic regression and comparing sub-samples of market-seeking and offshoring international alliances to determine if the weights of the different activities and levels of local institutional quality vary across strategic purposes. Our hypothesized relationships were largely upheld. What, then, is the meaning of these findings? We suggested at the beginning of this paper that more complex transactions should be more likely governed through equity participation, whether to reduce transactional risks and costs or to improve coordination of complex activities. We found that the odds of using a joint venture rather than a contractual alliance were 83.2% lower for offshoring

production oriented international alliances. This suggests that as complex as global value chains might be, the individual transactions that comprise them are amenable to specified contracts. This fits with the principles of modular production in the global value chains (McDermott et al., 2013) in which the complexity of the system is managed by the corporate headquarters and individual units are given fairly specific technical objectives. At the same time, it appears that an alliance with responsibility for an ever changing and competitive local market is more likely to play a real strategic role locally, a role enhanced by the separate organization created through a joint venture.

We believe that these results, and the finding that alliances which incorporate manufacturing tend to be governed as joint ventures, also provide insight on the relative value of transaction cost theory and resource-based theory in explaining alliance governance in different strategic circumstances. The weak results for R&D and local institutional controls, the standard core technologies in this mature industry, and that the same firms and countries are involved in both strategies, implies that transaction costs should not be systematically higher for either strategy. Thus, the greater use of the strategically flexible joint ventures for locally focused market entry suggests that coordination needs tend to dominate under this strategy (Phene & Tallman, 2012). Likewise, the focus on multiple contracts to oversee an offshore production strategy indicates that coordination needs tend to be lower. In this, complex coordination is managed at the global headquarter level, allowing for relatively simple individual transactions with efficient governance through contracts.

Finally, our findings enrich the offshoring literature, which has not frequently focused on cooperative forms of transaction governance and has largely ignored the question of choosing between equity and non-equity forms to manage outsourced offshore production. MNCs may use

a variety of organizational forms to implement and control offshore value-adding activities, spanning everything from wholly owned operations to market-based transactions with suppliers. Most outsourced offshore production activities actually involve repeated, complex contractual engagements or shared equity involvement, which differ from market-entry alliances in terms of optimal degree of control, or commitment of resources, and require further investigation.

5.2 Managerial implications

The governance mode of international alliances is a primary driver of their performance. The operational and financial results from international alliances are often frustrating, which emphasizes the need for robust theoretical frameworks that provide a reference for decision making. In a managerial perspective, our most notable finding is that the drivers of governance choice between contractual alliances and joint ventures are considerably different when the strategic purpose of the international alliance is market entry than when it is offshoring. Strategic purpose not only affects the choice of governance structure, but also moderates the effects of several other tested and control variables on the choice between contractual and equity-based alliance form.

Our results suggest that international alliances are indeed an appropriate, flexible way to implement offshoring in global networks. This shows that the choice of equity or contract-based alliance is an alternative that companies should better scrutinize when deciding the route to implement the delocalization of their value chain activities, beyond the typical alternatives of captive offshoring and offshore arms'-length outsourcing. The data presented in this study about major appliance strategic alliances give some substantial insights on the drivers of the governance choice when the objective is to delocalize the activities along a global value chain.

Our results further suggest that patterns of influences on governance decisions for traditional market-entry international alliances are not completely relevant to the choice of alliance governance in the case of offshore value production. Managers need to be aware that vertical alliances may be exposed to relatively low transactional complexity, at least in mature industries, which makes equity forms redundant to control offshored activities.

5.3. Limitations and directions for future research

It is worthwhile to underline that some research limitations may exist. The first limitation is that a single industry, major appliances, was chosen to perform the empirical analysis. As a traditional manufacturing industry that uses but has not been transformed by information technology, home appliances seems to be fairly representative of a number of established industrial sectors that are transitioning to globally networked value chains. However, specifics of industry size, geographical dispersion or the types of players can be characterizing factors, whose changes in another industry could modify the outcome of the investigation. The time horizon could be a limitation, too: our database of major appliance alliances covers a medium-length term of 25 years. Results could be different if looking back further in time, for example by considering the early history of the modern major appliance industry since it shift to mass production after WWII, or if focusing the attention only on its most recent history, namely the last decade, when dispersed production has become more common. Linked to the latter, a drawback for the empirical investigation may arise from the source of data. SDC Platinum is a research database developed from professional sources, both publicly available and private. Its accuracy is guaranteed from the Nineties onward; therefore, the represented alliances before that date can be only partial. Furthermore, even if its sources are extensive, this does not ensures the

total inclusion of the strategic alliances. Finally, our dataset was relatively small and did not allow us to explore further issues related to the choice of governance modes, such the use of different modes in different value chains activities across host markets by the same firm (Benito, Petersen, & Welch, 2009).

Our findings suggest that the phenomenon of offshoring through contractual alliances requires further study — the "rules" developed from earlier studies of market entry international alliances cannot be assumed to be relevant in this new context. We also supported the value of modular strategies in the offshoring production case. It would be interesting to perform a finer distinction in the governance types of strategic alliances, beyond equity versus non-equity, in order to study their drivers in the offshoring context. Furthermore, the links between collaborative agreements and other modalities to manage internationally dispersed value chain activities could be explored, since cooperation may be the first step in preparing for other moves in the form of mergers and acquisitions or greenfield investments. We believe that further investigation of the role of cooperative agreements in governing offshore outsourcing arrangements is essential to understanding the dynamics of dispersed value chains.

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[i] Offshoring is often defined as moving production from the home market to a foreign production site while continuing to sell in the home market. Our definition includes this application but is intended to represent the separation of value production and delivery by MNCs more generally by representing sales to all non-local markets.

Table 1

Distribution of the sample across locations and home countries. Location is defined as the country that hosts the deal. Home countries are counted as the sum of the occurrences of partners from focal countries in the deals in the sample.

Country	Location	Home countries	Country	Location	Home countries
Algeria	-	1	Kyrgyzstan	1	-
Argentina	2	1	Malaysia	7	11
Australia	-	7	Mexico	3	3
Belarus	-	1	Netherlands	1	5
Belgium	-	1	New Zealand	2	2
Brazil	5	5	Norway	1	1
Bulgaria	2	2	Pakistan	1	1
Canada	1	5	Philippines	1	1
China	83	104	Poland	2	2
Colombia	1	1	Republic of Ireland	-	3
Czechoslovakia	3	4	Russian Federation	3	5
Denmark	-	1	Saudi Arabia	4	4
East Germany	2	2	Singapore	-	3
Egypt	2	2	Slovak Republic	1	2
Finland	-	2	South Africa	3	3
France	2	7	South Korea	14	38
Germany	-	16	Spain	1	3
Greece	2	4	Sweden	1	23
Hong Kong	2	12	Switzerland	1	3
Hungary	1	4	Taiwan	6	8
India	22	23	Thailand	6	4
Indonesia	7	7	Turkey	5	10
Iran	1	1	Ukraine	-	1
Israel	1	2	United Arab Emirates	3	2
Italy	3	23	United Kingdom	5	17
Japan	15	83	United States	14	70
Jordan	1	1	Uzbekistan	4	5
Kazakhstan	4	5	Vietnam	9	9
			Total	261	566

Table 2.

List of large players. Firms when included in list based on their having established brands (globally or in significant regions), multinational presence, multiple product categories and being listed in stock exchanges over the period.

Arcelik	GE	Mabe	Philips	Videocon
Bosch Siemens	Godrej	Matsushita	Samsung	Whirlpool
Candy	Gorenje	Maytag	Sanyo	Wuxi
Daewoo	Haier	Merloni	Sharp	
Daikin	Hisense Kelon	Midea	Thomson	
Electrolux	Hitachi	Miele	Toshiba	
Fagor	LG	Mitsubishi	Vestel	

Table 3

Variable definitions.

Variable	Definition
JV	It takes the value 1 when the international alliance is a joint venture, and 0 otherwise. Source: SDC Platinum.
EQUITY	It takes the value 1 when the international alliance is a joint venture or a minority investment, and 0 otherwise. Source: SDC Platinum.
OFFSHORE	It takes the value 1 when the international alliance is not mainly intended to serve the local market, and 0 otherwise. Source: manually coded, based on SDC Platinum, press releases, and company materials.
MANUFACTURING	It takes the value 1 when the international alliance manages activities related to assembly of products, production of components, and manufacturing services, and 0 otherwise. Source: manually coded, based on SDC Platinum, press releases, and company materials.
MARKETING	It takes the value 1 when the international alliance manages activities related to distribution, selling, and promotion, and 0 otherwise. Sources: manually coded, based on SDC Platinum, press releases, and company materials.
R&D	It takes the value 1 when the international alliance manages activities related to basic and applied research and product development, and 0 otherwise. Sources: manually coded, based on SDC Platinum, press releases, and company materials.
WGIMEAN	Aggregate indicator of quality of institutions in the host country of the international alliances. It consists in the mean of the six World Bank's Governance indicators: control of corruption (degree to which public power is used for private gain or controlled by private interests), government effectiveness (quality of the public service, independence from the political process, government's commitment to implementation of policies), political stability and absence of violence/terrorism (the probability that a government is overthrown illegally or by violence), regulatory quality (soundness of policies for regulating and developing the private sector), rule of law (the extent to

	which people are confident in and respect the laws), voice and accountability (freedom of people to participate in government selection, including freedom of speech, press, and association). Each indicator ranges from − 2.5 to + 2.5, with higher scores indicating higher institutional quality. Source: World Bank.
EXPERIENCE	The number of deals entered by all the partners of the international alliance in five years before the focal deal. Source: manually computed, based on SDC Platinum.
DISTANCE	Average distance of all the participants from the location of the international alliances. The distance of each participant consists in the air miles between the the capital city of its home country and the capital city of the host country ("great circle distance", Bouquet & Birkinshaw, 2008). Source: manually computed.
MULTILATERAL	It takes the value 1 when the international alliance has more than two participants, and 0 otherwise. Source: manually computed, based on SDC Platinum.
LARGE_SMALL	It takes the value 1 when at least one the participants in the international alliance is a large player and at least one is not, and 0 otherwise. Source: a list of large players manually compiled with the assistance of an industry expert (see Table 2).
ALL_LARGE	It takes the value 1 when all the participants in the international alliances are large players, and 0 otherwise. Source: a list of large players manually compiled with the assistance of an industry expert (see Table 2).
GDP	Gross domestic product of the host country in trillions of US dollars. Source: World Bank.
SMALL_EL	It takes the value 1 when the actitivies of the international alliance involve small electrical appliances (microwave ovens, vacuum cleaners, and small kitchen machines). Source: manually coded, based on SDC Platinum, press releases, and company materials.
NON_HH	It takes the value 1 when the actitivies of the international alliance involve non-household appliances, including commercial appliances (large size freezers, washing machines and other appliances used in restaurants, hospitals, communities, etc.), parts, and services. Source: manually coded, based on SDC Platinum, press releases, and company materials.
LARGE_EL	It takes the value 1 when the actitivies of the international alliance involve large electrical appliances (air conditioners, dishwashers, dryers, freezers and refrigerators, and washing machines). Source: manually coded, based on SDC Platinum, press releases, and company materials.
AFTER_1996	It takes the value 1 when the international alliance was announced after 1996 (the mid point of the series). Source: SDC Platinum.

Table 4.

Descriptives and correlations.

Variable	Mean	S.D.	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 JV	0.77	0.42	0.00	1.00	1.00															
2 EQUITY	0.79	0.41	0.00	1.00	0.92	1.00														
3 OFFSHORE	0.63	0.48	0.00	1.00	-0.08	-0.06	1.00													
4 MANUF.	0.83	0.38	0.00	1.00	0.33	0.35	0.29	1.00												
5 MARKETING	0.40	0.49	0.00	1.00	-0.06	-0.06	-0.35	-0.40	1.00											
6 R&D	0.09	0.28	0.00	1.00	-0.34	-0.31	0.07	-0.11	0.02	1.00										
7 WGIMEAN	0.08	0.73	-1.38	1.87	-0.33	-0.30	-0.03	-0.27	0.18	0.29	1.00									
8 EXPERIENCE	3.15	4.15	0.00	28.00	-0.14	-0.17	0.19	-0.05	-0.06	0.21	0.05	1.00								
9 DISTANCE	1.97	1.34	0.00	7.85	-0.14	-0.18	-0.11	-0.08	0.00	0.15	0.12	0.03	1.00							
10 MULTILAT.	0.14	0.35	0.00	1.00	0.17	0.15	-0.09	0.00	-0.01	-0.05	-0.06	0.01	-0.06	1.00						
11 ALL_LARGE	0.15	0.36	0.00	1.00	-0.17	-0.18	-0.04	-0.01	0.07	0.29	0.17	0.33	0.04	0.05	1.00					
12 LARGE_SM.	0.51	0.50	0.00	1.00	-0.01	-0.01	0.21	-0.05	-0.08	-0.10	-0.12	0.23	-0.06	-0.03	-0.43	1.00				
13 GDP	1.37	2.43	0.00	15.53	-0.20	-0.21	-0.03	-0.17	0.21	0.21	0.37	-0.06	0.10	-0.06	0.13	-0.19	1.00			
14 SMALL_EL	0.20	0.41	0.00	1.00	-0.08	-0.05	0.01	-0.21	0.11	0.04	0.13	-0.16	0.08	-0.06	-0.13	-0.06	0.14	1.00		
15 NON_HH	0.20	0.40	0.00	1.00	-0.06	-0.09	-0.03	-0.15	0.03	0.01	0.04	0.10	0.06	0.02	-0.13	0.13	0.01	-0.09	1.00	
16 LARGE_EL	0.60	0.49	0.00	1.00	0.11	0.11	0.06	0.22	-0.11	-0.05	-0.14	0.13	-0.12	0.08	0.19	0.13	-0.21	-0.62	-0.25	1.00
17 AFTER_1996	0.44	0.50	0.00	1.00	-0.28	-0.33	0.00	-0.18	0.06	0.13	0.02	-0.01	0.09	0.00	0.04	-0.11	0.22	0.11	0.05	-0.03

N = 261. Correlation coefficients larger than |.12| are significant at the p = .05 level (two-tailed).

Table 5.

Logistic regression. Determinants of the governance mode.

	Model 1 DV: JV		Model 2 DV: JV		Model 3 DV: JV	
	Coefficient	OR	Coefficient	OR	Coefficient	OR
OFFSHORE					-1.784**	0.168**
					(0.664)	(0.112)
MANUFACTURING			2.177**	8.818**	2.951***	19.124***
			(0.737)	(6.502)	(0.845)	(16.165)
MARKETING			1.107+	3.027+	0.908	2.480
			(0.640)	(0.057)	(0.687)	(1.703)
R&D			-1.965*	0.140*	-1.731+	0.177+
			(0.851)	(0.119)	(0.904)	(0.160)
WGIMEAN			-0.486	0.615	-0.458	0.633
			(0.421)	(0.259)	(0.435)	(0.275)
EXPERIENCE	-0.037	0.964	0.017	1.018	0.054	1.056
	(0.061)	(0.059)	(0.072)	(0.074)	(0.079)	(0.083)
DISTANCE	-0.120	0.887	-0.084	0.920	-0.138	0.871
	(0.148)	(0.131)	(0.157)	(0.145)	(0.172)	(0.150)
MULTILATERAL	2.808*	16.572*	3.598*	36.521*	3.623*	37.434*
	(1.138)	(18.856)	(1.550)	(56.619)	(1.617)	(60.542)
LARGE_SMALL	-0.887	0.412	-0.567	0.567	-0.263	0.769
	(0.613)	(0.252)	(0.666)	(0.378)	(0.699)	(0.538)
ALL_LARGE	-1.691+	0.184+	-1.709+	0.181+	-1.602	0.201
	(0.865)	(0.159)	(0.955)	(0.173)	(0.998)	(0.201)
GDP	-0.377*	0.686*	-0.465*	0.628*	-0.482*	0.617*
	(0.175)	(0.120)	(0.181)	(0.113)	(0.187)	(0.115)
SMALL_EL	-0.725	0.484	-0.429	0.651	0.030	1.031
	(0.647)	(0.313)	(0.696)	(0.453)	(0.739)	(0.761)
NON_HH	-0.043	0.958	0.268	1.307	0.449	1.568
	(0.575)	(0.551)	(0.649)	(0.848)	(0.659)	(1.034)
LARGE_EL	0.708	2.030	0.558	1.747	0.781	2.183
	(0.638)	(1.295)	(0.696)	(1.215)	(0.724)	(1.580)
Year effects	Yes	Yes	Yes	Yes	Yes	Yes
Location effects	Yes	Yes	Yes	Yes	Yes	Yes
Intercept	3.630**	37.732**	1.390	4.015	1.721	5.588
	(1.133)	(42.763)	(1.384)	(5.556)	(1.496)	(8.362)
N	261		261		261	
pseudo R^2	0.370		0.434		0.464	
Log likelihood	-89.331		-80.357		-76.092	

Models report *b* values (coefficient) and odds ratios (OR). Standard errors in parentheses. $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 6.

Logistic regression. Subsample analysis of determinants of the governance mode.

	Model 4 Market-seeking DV: JV		Model 5 Offshoring DV: JV	
	Coefficient	OR	Coefficient	OR
MANUFACTURING	3.177*	23.968*	3.015**	20.388**
	(1.348)	(32.314)	(0.967)	(19.725)
MARKETING	1.738	5.687	0.583	1.792
	(1.406)	(7.996)	(0.626)	(1.122)
R&D	-1.703	0.182	-1.536+	0.215+
	(2.494)	(0.454)	(0.837)	(0.180)
WGIMEAN	-0.676	0.509	-1.155**	0.315**
	(0.880)	(0.448)	(0.449)	(0.142)
EXPERIENCE	-0.029	0.971	-0.023	0.977
	(0.172)	(0.167)	(0.077)	(0.075)
DISTANCE	-0.472	0.623	0.258	1.295
	(0.288)	(0.180)	(0.209)	(0.270)
MULTILATERAL	6.177+	481.634+	4.552+	94.873+
	(3.280)	(1579.504)	(2.758)	(261.670)
LARGE_SMALL	-5.170**	0.006**	0.802	2.231
	(1.947)	(0.011)	(0.691)	(1.540)
ALL_LARGE	-2.807	0.060	-1.373	0.253
	(1.915)	(0.116)	(0.900)	(0.228)
GDP	0.041	1.042	-0.095	0.909
	(0.267)	(0.278)	(0.149)	(0.136)
SMALL_EL	2.909*	18.337*	0.026	1.026
	(1.442)	(26.438)	(0.811)	(0.833)
NON_HH	3.564+	35.298+	-0.251	0.778
	(1.905)	(67.252)	(0.637)	(0.496)
LARGE_EL	4.173*	64.897*	-0.084	0.920
	(1.976)	(128.259)	(0.755)	(0.694)
AFTER_1996	-3.064*	0.047*	-1.629**	0.196
	(1.429)	(0.067)	(0.568)	(0.111)
Location effects	Yes	Yes	Yes	Yes
Intercept	0.810	2.247	-1.222	0.295
	(2.203)	(4.950)	(1.459)	(0.430)
N	96		161	
Pseudo R^2	0.549		0.395	
Log likelihood	-20.873		-57.279	

Models report *b* values (coefficient) and odds ratios (OR). Standard errors in parentheses. $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 7.

Robustness checks and post-estimation analyses.

	Model 6 DV: Equity			Model 3 DV: JV	Model 7 Market-seeking DV: Equity	Model 8 Offshoring DV: Equity
	Coefficient	OR	ME	ME	Coefficient	Coefficient
OFFSHORE	-1.551*	0.212*	-0.108**	-0.144**		
	(0.699)	(0.148)	(0.042)	(0.044)		
MANUFACTURING	3.036**	20.813**	0.307**	0.343***	4.352+	3.474**
	(0.908)	(18.897)	(0.095)	(0.097)	(2.374)	(1.060)
MARKETING	1.084	2.958	0.077	0.077	4.725+	0.629
	(0.794)	(2.347)	(0.050)	(0.053)	(2.677)	(0.733)
R&D	-1.452	0.234	-0.133	-0.195+	1.790	-0.735
	(1.019)	(0.239)	(0.104)	(0.114)	(3.223)	(0.892)
WGIMEAN	-0.395	0.674	-0.031	-0.041	-1.705	-1.549**
	(0.520)	(0.350)	(0.040)	(0.039)	(1.895)	(0.586)
EXPERIENCE	0.027	1.027	0.002	0.005	-0.057	-0.087
	(0.084)	(0.087)	(0.007)	(0.007)	(0.201)	(0.092)
DISTANCE	-0.285	0.752	-0.022	-0.012	1.529+	0.169
	(0.194)	(0.146)	(0.015)	(0.015)	(0.923)	(0.227)
MULTILATERAL	4.141+	62.866+	0.183***	0.203***	14.112	5.913
	(2.193)	(137.854)	(0.042)	(0.043)	(15.736)	(4.010)
LARGE_SMALL	-0.739	0.478	-0.058	-0.024	-19.136	0.921
	(0.810)	(0.387)	(0.063)	(0.063)	(51.147)	(0.816)
ALL_LARGE	-1.946+	0.143+	-0.179	-0.170	-16.697	-1.782+
	(1.106)	(0.158)	(0.112)	(0.116)	(51.047)	(1.080)
GDP	-0.425*	0.653*	-0.033*	-0.044**	-0.615	-0.002
	(0.187)	(0.122)	(0.014)	(0.016)	(0.698)	(0.162)
SMALL_EL	0.671	1.956	0.049	0.003	8.615*	0.362
	(0.802)	(1.570)	(0.056)	(0.066)	(4.360)	(0.879)
NON_HH	0.004	1.004	0.000	0.039	12.745	-0.726
	(0.672)	(0.675)	(0.052)	(0.054)	(50.576)	(0.691)
LARGE_EL	1.350+	3.856+	0.106+	0.072	16.276	0.036
	(0.784)	(3.024)	(0.060)	(0.0068)	(50.823)	(0.829)
AFTER_1996					-10.388+	-2.830***
					(5.689)	(0.734)
Year effects	Yes	Yes	Yes	Yes	No	No
Location effects	Yes	Yes	Yes	Yes	Yes	Yes
Intercept	1.962	7.111			7.107	0.085
	(1.670)	(11.872)			(5.988)	(1.638)
N	261				96	165
pseudo R^2	0.508				0.746	0.417
Log likelihood	-65.511				-11.367	-46.422

Models report *b* values (coefficient), odds ratios (OR) and marginal effects (ME) calculated as averages of marginal effects at each observation. Standard errors in parentheses. $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Figure 1.

Distribution of the deals across years. N = 261.

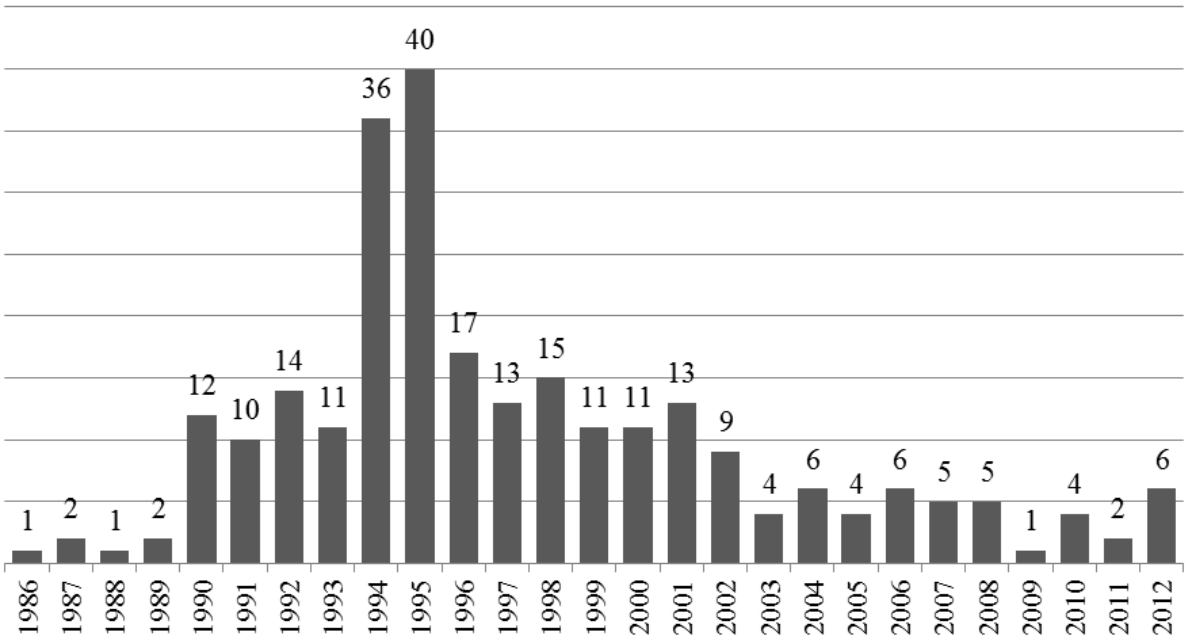
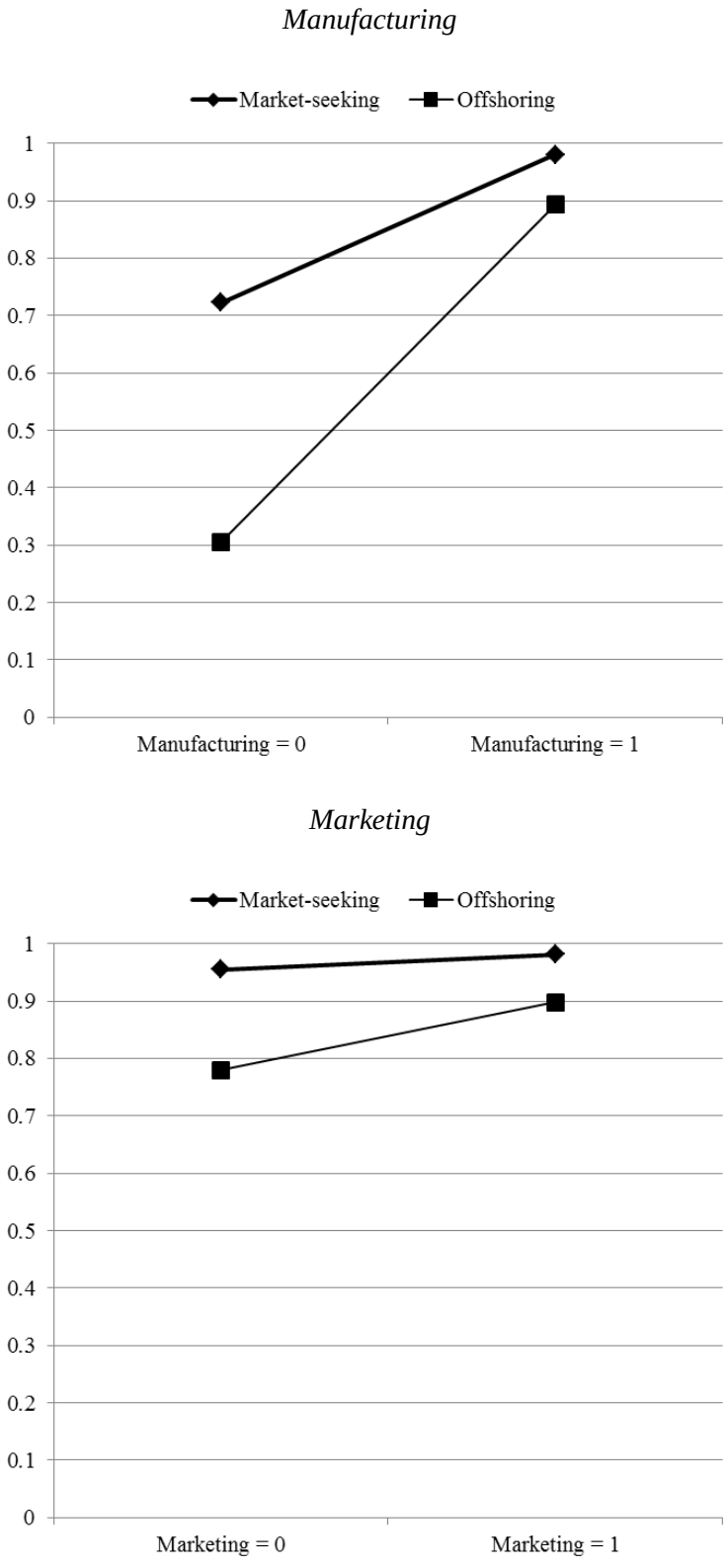
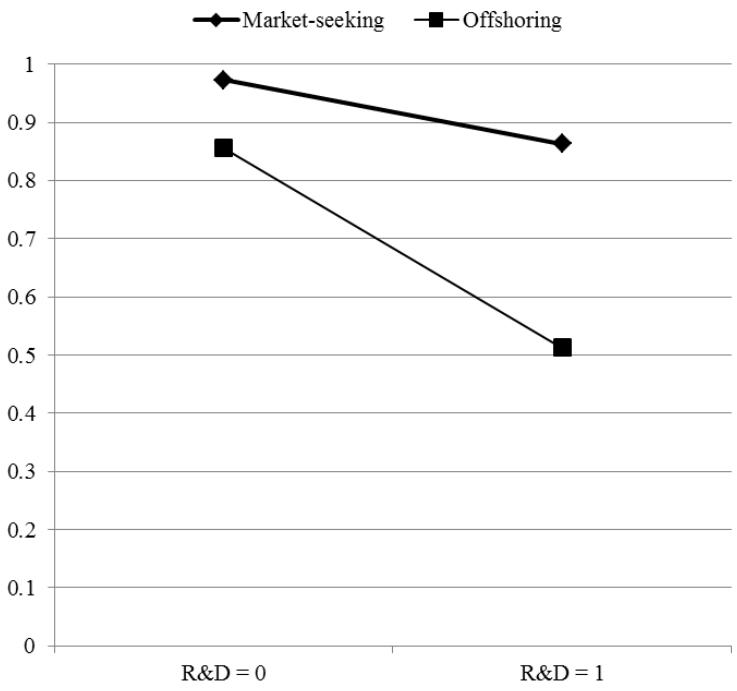


Figure 2.

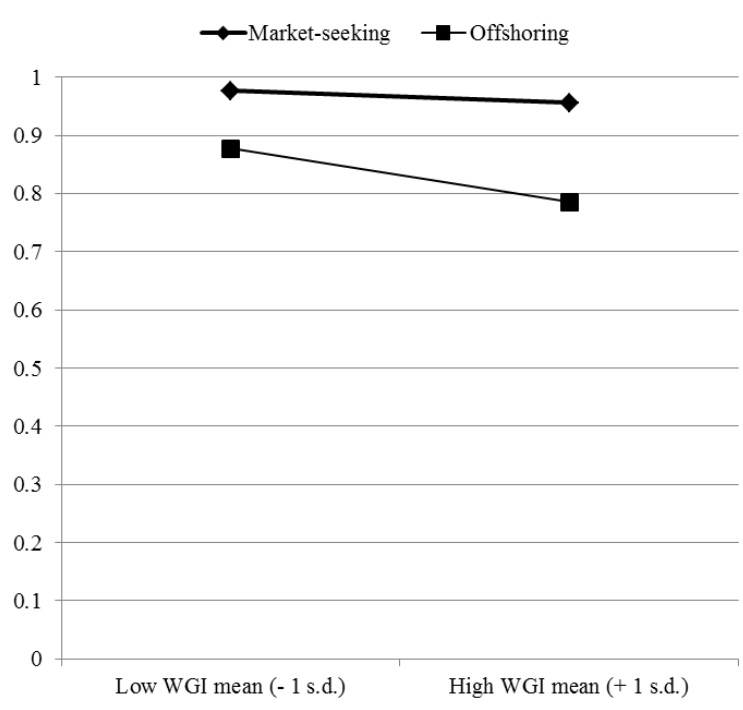
Interaction effects: Probability of the joint venture mode.



R&D


Market-seeking
Offshoring
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
R&D = 0
R&D = 1

WGI mean


Market-seeking
Offshoring
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Low WGI mean (- 1 s.d.)
High WGI mean (+ 1 s.d.)