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Different is beautiful? Effects of asymmetry on international joint-ventures performance

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Different is beautiful?
Effects of asymmetry on international joint-ventures performance

Laure Dikmen
Foued Cheriet

1IAE de Poitiers
2MoISA, Univ Montpellier, CIRAD, CIHEAM-IAMM, INRAE, Institut Agro, IRD, Montpellier, France

Résumé
This article aims to highlight the multidimensional character of asymmetry through four determinants: differential of partners’ size, number of foreign partners, ownership structure and cultural distance; it also analyses the effects of asymmetry on IJV performance. Based on a quantitative study of 123 International Joint Ventures in Turkey, results show that Joint venture performance is not significantly linked to size, number of foreign partners and ownership structure. Only cultural distance has a positive and significant effect on Joint Venture performance.

Mots-clés: Asymmetry, Effects, International Joint Venture, Performance, Turkey

Différents, c'est mieux ? Analyse des effets de l'asymétrie entre les partenaires sur la performance des coentreprises en Turquie

Abstract
Ce travail a pour objectif de rendre compte de la multidimensionnalité de l’asymétrie entre les partenaires à travers l’examen de 4 déterminants: les différences de taille, le nombre de partenaires étrangers, la structure du capital, et la distance culturelle. En second lieu, l’analyse a concerné les effets de ces déterminants de l’asymétrie sur la performance des coentreprises internationales. Le travail empirique est basé sur l’analyse de 123 joint ventures internationales en Turquie. Les résultats montrent que la performance n’est pas affectée par le déséquilibre de la structure capitalistique, le différentiel de taille ou le nombre de partenaires. Il y a seulement un effet positif de la distance culturelle, suggérant une conception constructive des alliances internationales.

Keywords: Asymétrie, effets, coentreprises internationales, performance, Turquie.
JEL: F23, L24, L25, M16

Introduction
Asymmetrical partnerships refer to the differences in characteristics between partners engaged in co-operative relationships. The literature reveals a multitude of differences: size (Beamish and Jung, 2005; Mahamadou, 2016); governance structure (Lee et al., 2003); imbalance of the initial power relationship (Tinlot and Mothe, 2005); parents’ geographical origin (Mouline, 2005); organisational learning capacities (Inkpen and Beamish, 1997), etc. Some authors have even concluded that partner profiles, including those of similar sized partners, are so diverse that it would be fair to classify all strategic alliances as asymmetrical cooperative relationships (Chrysostome et al., 2005).

According to the literature, it is generally accepted that asymmetrical partnerships reflect a situation of dependence where one partner seeks resources and is thus dominated by the other (the “dominant” partner) that imposes its strategic position. In such cases, the asymmetry mostly results in an imbalance of the results capture of the alliance; these alliances are considered in much of the research to be under performing compared with the performances of cooperative alliances that exist between firms with similar profiles (Larino, 2003). Furthermore, many studies have dealt with the correlation between certain dimensions of asymmetry (e.g. levels of participation in capital, size differences etc. and the success of these co-operations, Lecraw, 1984); however, no integrated model explains the relation between these various measures of asymmetry and international joint ventures performance. Three large gaps appear in empirical research: firstly, the measure of the concept of asymmetry and alliance performance, secondly the relationships within this strategic configuration and thirdly, the results of such cooperation, especially on an international level (Cheriet and Guillaumin, 2013). Several questions arise about the impact of partners’ differing profiles on performance. Do asymmetrical alliances perform less well than those with closer organisational and strategic profiles?

Our research has a threefold empirical aim. Firstly, our study does not aim to establish a normative framework that will explain alliance performances. In our case, it is a question of carrying out a global analysis of asymmetries between partners, integrating the four principle criteria of asymmetry identified in the literature: size differential, the number of partners, capital structure and cultural distance. Next, our objective is to test the measures of asymmetry on a multidimensional measure of performance. We support a “positive” conception of organizational and strategic differences as being potential complementarities that may result in improved performance. We aim to demonstrate the positive effect of asymmetries on alliance performance. Empirical analysis allows us to propose an original and dynamic theoretical approach in which our research object moves from the determinants of alliance performance (e.g. the initial characteristics) towards the mechanisms of functioning of partnerships. Finally, we adopt an original posture by measuring performance through the perceptions of local partners, whereas empirical studies have often resorted to the measures of foreign partners. Our choice enables us to take account of the local partners’ view, which is potentially the one most affected by the various types of asymmetry.

We wish to further the ideas of Beamish and Jung (2005), Chrysostome et al. (2005) and Cherbib and Assens (2008); these authors find a paradoxical link between asymmetric partnerships and alliance performance. In fact, they reveal that partnership asymmetry seems to be a factor of stability, longevity and even performance of the alliance, whereas the alignment
of partners’ strategic positions appears more as a source of instability, inertia and under-performance (Cherbib and Assens, 2008). Hence we adopt a “positive” approach to partnership asymmetry by deconstructing it into four dimensions. Firstly, we examine partners’ size, which traditionally defines asymmetry. Secondly we look at the number of foreign partners to distinguish between dyadic and multi-partner alliances. Thirdly we analyse the structure of partners’ capital as a factor of asymmetry. Finally, we look at partners’ cultural differences.

This article aims to respond to the question of the effects of asymmetries on alliance performance. To this end, we firstly study the multidimensional character of asymmetry and its potential effects on the performance of international joint ventures. Next the empirical analysis focuses on the asymmetrical relations within 123 international joint ventures in Turkey. We finally discuss the theoretical and methodological limitations of our study and the managerial implications of our results and suggest avenues of future research.

Literature review and hypotheses development

Researchers in management remain divided as to how to define asymmetry and its effects (Lee et al., 2003; Tinlot and Mothe, 2005). It is generally accepted that asymmetrical partnerships are based on differences in size between partners. Traditionally, this imbalance in terms of size generates situations of unilateral dependence (Blanchot, 2006) and the dominance of the larger partner. Chrysostome et al. (2005) show two major limitations to this approach. The first lies in the fact that financial resources are not the only reason for alliance asymmetry. In fact, the mastery of a particular know-how or specific knowledge about the local business environment can become a source of power and thus an important cause of asymmetry. The second limitation of this view is that it suggests impossible asymmetrical alliances between firms of the same size. Each partner contributes resources deemed strategic by the other. Thus, firms hold specific influence over their partners, potentially resulting in an asymmetrical power relationship. The more a partner controls the strategic resources needed by its partner, the more it dominates the alliance. If we rely only on the criterion of ownership structure, a joint venture with a 50-50 balance may appear to be symmetrical, even if it unlikely that an international joint venture that is symmetrical in terms of capital will also be balanced on managerial and strategic levels.

A symmetrical ownership structure does not exclude other sources of asymmetry such as partners’ tangible and intangible resources. Thus, asymmetrical partnerships should be defined as “a cooperation between partners with unequal positions of power” (Chrysostome et al., 2005: 2). Surply (2007: 13) looks at two modes of asymmetry: “asymmetry-domination” versus “asymmetry-cooperation”: “Asymmetry-domination” supposes that the power relationships result in unilateral dependences. On the contrary, “Asymmetry-cooperation” denotes interdependence, co-responsibility and inter-firm reciprocity.

In a meta-analysis of 77 studies on the impact of partners’ characteristics on firms’ outcomes, Larimo (2003) revealed that no study had used identical criteria either to measure performance or to assess the degree of asymmetry between partners. In this section, we highlight the multidimensional nature of asymmetrical international joint ventures and their impact on the performance. We analyse four main determinants often used in empirical studies, however in most of those studies, each determinant has been used in isolation. The determinants are: asymmetrical size between partners (i.e. from smallest to largest); the number of partners
(i.e. dyadic versus multiple); asymmetrical capital structure (i.e. minority share, majority share, equal share) and cultural distance (i.e. international and organizational cultures).

**Size asymmetry between international joint ventures’ partners**

A partner’s size is an important factor in its position within the international joint venture. In fact, large firms can deploy greater resources that improve their position, whereas small firms are often constrained by lack of complementary strategic assets (Demirbağ and Weir, 2006). Strategic alliances between partners of different sizes are often affected by dependency relationships, an imbalance of negotiating power and different perceptions of risk and profit-sharing by the partners (Lu and Beamish, 2006). These characteristics can precipitate the end of an alliance because of changes in power relations between partners (Tinlot and Mothe, 2005), the end of organizational or institutional learning (Inkpen and Beamish, 1997), or the emergence of conflicts related to real or perceived risks in the relationship (Vidot-Delerue and Simon, 2005).

Larimo (2003) identifies six empirical studies that deal with the effect of size asymmetry between partners on types of international joint venture instability. Five studies found this variable to have no significant effects and only one study found size to be significant. Thus, difference of size between partners seems to play an ambiguous role about the ending of the relationship. It is generally accepted that differences in size between partners has a negative effect on the issue of the international joint venture; in fact, asymmetry is likely to be a barrier to building trust (Sarkar et al., 2001); it may make working together and socialization difficult as well as setting up a balanced system of sharing management control (Das and Teng, 2001). However, few empirical studies have demonstrated such negative effects.

Beamish and Jung (2005) compared two theoretical approaches to analyse the effects of size asymmetry on joint venture performance. On one side, the transactional approach shows that asymmetrical partnerships perform less well and are less likely to survive. This result can be explained by two factors: the lack of similarity between management mechanisms that increases governance costs, and the different organizational climates that favour the emergence of conflicts. On the other side, the resources based approach uses the complementarity of assets contributed by partners and the advantages that large multinationals and small partners respectively draw from their asymmetrical relationships. For Beamish and Jung (2005), neither the transactional nor the resource based approach give an equivocal explanation of the effects of size asymmetry on the performance or survival of joint ventures. The authors also claim that size asymmetry can constitute an advantage in terms of cooperation. The resource based approach has shown that partners can benefit from fast entry to a market, joining the network of a large firm and exploiting the larger firm’s skills and expertise. Thus, asymmetrical joint ventures appear to be a form of organization that is efficient for exploiting complementarities between different sized partners.

We support the approach of Parkhe (1991) and Beamish and Jung (2005) in favour of a positive conception of the size differential. The difference between firms’ size can be a source of tensions and organizational incompatibility, the advantages to be drawn from complementarities between small and larger partners should, in the long run, have positive effects on the performance of the international joint venture. Researches on the motivations of large firms that resort to small partners to form alliances confirm such an idea. The distinct
strategic profiles resulting from partners’ size differential can mean that the resulting joint venture has a higher rate of strategic adaptability (particularly thanks to the smaller partner’s flexibility), faster conflict resolution, accelerated learning processes and skills transfer, and a better synergy between the reactivity of the small partner and the strategic vision of the large one. All these elements affect the performance of asymmetric partnerships.

We maintain that the strategic advantages of size asymmetry (e.g. reactivity, faster learning, flexibility) compensate for the disadvantages inherent to this type of relationship (e.g. managerial complexity, negotiation and adaptation costs, etc.). Our first hypothesis relates to size asymmetry and can be formulated as follows:

H1. Size asymmetry between partners has a significant positive effect on international joint venture performance.

Asymmetry of the number of partners in international joint ventures
Recent research has adopted the number of partners and the distinction between dyadic and multiple partnerships as an indicator of asymmetry (Beamish and Jung, 2005; Cheriet and Guillaumin, 2013, Gomes et al., 2016). The number of partners can influence dependency relationships among partners. Multi-partner alliances are often characterised by the predominance of relational governance mechanisms whereas dyadic relationships are more marked by mechanisms related to the distribution of capital shares. Perceptions of the relationship as one of dominance or risk tend to decrease when other partners are involved (Vidot-Delerue and Simon, 2005). Finally, reputational effects enable asymmetrical multi-partner alliances to overcome relational conflicts that can intensify power and dominance relationships in dyadic relationships (Saxton, 1997). Research on strategic alliances has mainly focused on dyadic relationships (Lecraw, 1984; Yan and Gray, 1994). Nevertheless, other scholars have integrated multi-partner perspectives into their analyses (Hennart, 1988; Kogut, 1989). The literature generally accepts that increasing the number of partners in a cooperative relationship results in an increase in conflicts, excessive weight given to strategy and the appearance of competition within the cooperation. In this sense, the number of partners constitutes a key element of managerial complexity in international joint ventures (Killing, 1988; Park and Russo, 1996). The higher the number of partners, the more difficult it is to measure individual contributions to the group’s actions.

Based on 737 Japanese joint ventures in Asia, Makino and Beamish (1998) analysed the link between the international joint venture performance and their survival. They presented an extensive literature review (from 1970 to 1997) of publications about joint ventures according to the number of parents involved, their nationality and whether the joint venture was domestic or international. According to these authors, most “multi-partner” studies demonstrate increased managerial complexity and a dilution of the roles and responsibilities that affect the survival of the cooperative relationship. Park and Russo (1996) focused on the determinants of success of 204 international joint ventures in the electronics industry in the United States. Taking a transactional approach, the authors found that the number of partners has a negative effect on the probability of failure in the relationship through dissolution of the alliance or selling it to a third party. In other words, the number of parents is positively correlated to the survival of the cooperative relationship. The authors explain this result by the probable higher
reputation effects or exit costs than those of dyadic partnerships; these costs could prevent a premature ending of the strategic alliance.

Larino (2003) identifies four studies that had explicitly and statistically tested the effect of the number of partners on the stability of the relationship. Three of these studies concluded a non-significant effect and only one a negative effect of the number of parents involved. This study shows up the lack of empirical research about the impact of the number of joint venture partners on their performances. The number of partners has often been designated as a control variable (Hennart and Zeng, 2002; Gong et al., 2007) but rarely tested as a potential determinant of strategic alliance performance.

Previous studies have shown that the number of partners and managerial complexity can result from an excessive number of partners. However, we adopt the approach of Park and Russo (1996) in which the effects of “reputation” can lead to more commitment by the important partners thus strengthening the capacities of the partnership. The number of foreign partners can also result in reduction the risks perceived by the small partner of possibly being dominated by a single foreign partner. Finally, the number of partners results in increased learning and a predominance of familiar relationship mechanisms to the benefit of the small partner both in terms of governance of the cooperative relationship and conflict resolution. Thus, we formulate our second hypothesis as follows:

H2. The number of foreign partners has a significant positive effect on international joint venture performance.

Asymmetrical international joint venture capital structure

Pioneering studies on international joint ventures focused on the share of capital held by international firms. Holding a share of the capital can reflect the balance of bargaining power between alliance partners. The capital sharing in international joint ventures had traditionally studied as a central element of control. A 50/50 share between international joint ventures partners indicates that control is shared equally, whereas minority/majority partners are characterised by the dominant control of one of the partners.

Garrette and Dussauge (1995) took up a study carried out by Schaan and Beamish (1988) on capital share and performance of international joint ventures in emerging countries. The results of this study showed that partnerships where the local partner held majority capital reached higher performances in 75% of cases. Findings’ researches on capital sharing and its impact on international joint ventures performance can be divided into two groups. The first shows that a balanced share of capital between parents has a positive impact on international joint venture performance (Geringer and Hebert, 1989). Some studies have found that shared or balanced control generates positive results because of higher levels of mutual trust and tolerance (Yan and Gray, 1994). The second group of results shows that uneven shares weighted in favour of one parent brought about better results (Killing, 1983). In a comparative study of performances of 59 firms established in developed and developing countries, Sim and Ali (1998) showed that capital shared in favour of the local partner is related to a better performance.

Based on a large sample of 12,984 Japanese joint ventures set up between 1986 and 1991, Dhanaraj and Beamish (2004) examined the link between the capital share held by the foreign partner and the termination of cooperative relations. The authors identified a non-linear
non-symmetrical negative effect of the capital share on the termination of cooperation measured by the exit of the Japanese partner. This termination rate was very high when the foreign partner held less than 20% of the capital. In their analysis of 295 international joint ventures in China, Luo et al. (2001) showed that a majority share held by the foreign partner resulted in an improved perception of the partnership’s performance. Moreover, an increase in the local partner’s share systematically resulted in a decrease in the foreign parent’s perception of the partnership’s performance. The question of the effects of capital share is even more controversial because the conceptual boundaries of the notions of performance, stability, longevity and success remain ambiguous.

We defend the research of Killing (1983), Sim and Ali (1998) and Luo et al. (2001) who show that asymmetrical capital shares between partners have a positive impact on international joint venture performance. This asymmetrical share results in two simultaneous mechanisms: firstly, the higher commitment of one of the partners strengthens its strategic vision of the relationship and secondly, one partner’s increased control leads to increased integration of the alliance’s activities and performance (e.g. transfer of prices, participation on the board, etc.). These elements lead us to formulate our third research hypothesis:

H3: The imbalance of capital structure has a significant positive effect on international joint venture performance.

Cultural background asymmetry between international joint ventures’ partners

The culture is highly complex because it is a multidimensional concept. There is however a consensus view that culture consists of a set of modes of behaviour that are learned, shared and related to each other. These modes of behaviour reflect common values, attitudes, customs, habits, beliefs, practices, languages, aesthetics and upbringing (Harrison et al., 2004). Barkema and Vermeulen (1997) consider culture as a system of value sharing that serves firstly to solve problems of external adaptation, and secondly to solve problems of internal integration. External adaptation is related to the organization’s definition of objectives and strategy and its perception of environmental opportunities and threats. On the contrary, internal integration is influenced by attitudes toward power distance, individualism and masculinity.

Many studies have tried to show the effects of cultural differences on management practices. Cultural diversity is a source of ambiguity and managerial complexity that makes convergence of individual and collective objectives hard to achieve. Organizational culture unifies partners’ behaviours in terms of information processes and ways of reacting towards the environment (Das and Teng, 1998). Studies on the link between cultural differences and failure often have contradictory results (Shenkar, 2001; Christoffersen et al., 2013). Larimo (2003) identified 27 studies about the effects of cultural distance on joint venture performance; the results disagree: ten studies show positive results; twelve studies show negative effects and five fail to identify any significant effect.

Hennart and Zeng (2002) studied the role of cultural differences within partnerships established in the United States, distinguishing between those that involved Americans and Japanese partners. The results of this study reveal that Japanese-American partnerships implanted in the United States do not last if Japanese only partnerships implanted in the Unites State. Parkhe (1991) showed that the effects of national culture affect managerial behaviour and moderate the relationship between structural variables
and joint venture performance. Strong cultural differences between partner companies can lead to differences in organizational and administrative practices, in employee expectations and the interpretation of responses to strategic matters, etc. Communication between partners with cultural differences can be difficult and this may cause problems in coordination. From then on, joint ventures increase vulnerability because managerial conflicts may lead to early dissolution (Lane and Beamish, 1990). If for certain authors national cultural differences have a negative effect on the survival of alliances (Barkema and Vermeulen, 1997; Sim and Ali, 2000), for others, they have no significant effect (Fey and Beamish, 2001) and may even imply positive effects on the maintenance of the relationship (Park and Ungson, 1997; Pothukuchi et al., 2002).

For Park and Ungson (1997), cultural differences foster organizational complementarities between partners and may result in the partnership adapting to the contexts of the host country. Differences in national cultures are likely to translate into institutional learning by foreign partners as an effort to adapt to the local context. As for local partners, they highlighted managerial or marketing transfers that add to technical and organizational learning. Thus, the relationship between the “big” firm and the “small” local partner may be a way of transferring knowledge and competences between partners. These bi-directional transfers could positively affect the performance of the common relationship. We support the Park and Ungson (1997) research and thus formulate our final research hypothesis:

H4. Cultural distance has a significant positive effect on international joint venture performance.

The conceptual model (See Figure 1) takes up our four research hypotheses of the effects of the determinants of asymmetry on international joint venture performance. We propose a table summarising the empirical studies we relied on during this study (See Table 1). The differences in context, measure and appreciation of determinants of asymmetries between partners and the performance of strategic alliances resulted in the dispersion of results of preceding empirical studies. Moreover, no study has examined the four determinants of asymmetry on the performance in the same time. This multiple and positive conception of asymmetry allows us to fill in an important empirical gap aiming to understand the workings and results of cooperative relationships.
Figure 1. Model of the effects of asymmetries on IJV performance

**ASYMMETRIES**

- Size asymmetry between IJV partners
- Asymmetry of the number of partners in IJVs
- Asymmetrical IJV capital structure
- Cultural distance between IJV partners

**H1 effect +**

**H2 effect +**

**H3 effect +**

**H4 effect +**

**Control variables**
- Firms’ size
- Sector of operations
- Local parent’s experience with IJVs

**Performance**

International Joint ventures
Table 1. Literature review of effects of asymmetries on the performance of international joint ventures (non-exhaustive list)

<table>
<thead>
<tr>
<th>H1 : Size asymmetry – local parent / foreign firm</th>
<th>H2 : Number of foreign partners</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Studies</strong></td>
<td><strong>Context</strong></td>
</tr>
<tr>
<td>Positive effects</td>
<td>Negative effects</td>
</tr>
<tr>
<td><strong>Studies</strong></td>
<td><strong>Context</strong></td>
</tr>
<tr>
<td>Positive effects</td>
<td>Negative effects</td>
</tr>
<tr>
<td><strong>Studies</strong></td>
<td><strong>Context</strong></td>
</tr>
<tr>
<td>Positive effects</td>
<td>Negative effects</td>
</tr>
<tr>
<td>Unequal capital share fosters IJV performance</td>
<td>High mortality of IJVs when foreign parent as less than 20% of capital</td>
</tr>
</tbody>
</table>
| **Source:** Created by the authors based on the literature review
Methodology
Our study aims to examine the effects of partnership asymmetry on the performance of international joint ventures. Our research focuses on the local Turkish partners’ perceptions of their asymmetries with their foreign partners from the European Union (EU) and the United States (US), and of the performance of their cooperative relationship. Before presenting our results, we describe how we constructed the sample and the measures of the variables used.

Data and Sample description
Our study was carried out between March 2008 and September 2009. It is based on a sample of 123 international joint ventures formed in Turkey between a local Turkish partner and at least one foreign parent from the EU or the US. Three databases enabled us to collect 22,439 Foreign Direct Investments (FDI) in Turkey: Directory of French companies in Turkey; Association of Foreign investors in Turkey and Under Secretariat of the Turkish Treasury. We decided to retain only those international joint ventures where one of the parents held at least 5% of the capital (Killing, 1983).

After building up a database of 3,693 international joint ventures in Turkey, we eliminated 1,953 cases that were unusable. We therefore contacted 1,740 international joint ventures to enable us to make up our final sample of 123 units of analysis (See Table 2). The response rate was 6.30%. Our sample extends on a long period between 1955 and 2008. 47% of our sample was created before 2000s. By basing itself on the criterion of longevity, the searches showed that 15% of international joint ventures disappear at the end of the first two years, and that more than half of them disappears at the end of the 6th year (Kogut, 1991; Park and Russo, 1996; Meschi, 2005). We can conclude that our sample is atypical with a significant longevity.

The European partners are the largest group of international joint venture partners in Turkey (77.94%). Our sample shows 89.43% of dyadic relationships with one local Turkish parent and one foreign parent. We also aim to study whether joint ventures in Turkey take place with more than one foreign partner. The results show that 8.13% of international joint ventures are characterised by one local and two foreign parents. Finally, only three respondents have a complex configuration with one local parent and three foreign parents. Almost 70% of our sample comes from the industrial sector, especially the automobile sector (20.33%), against 30% from the service sector. Our sample is mainly made up of Small and Medium Enterprises (63.41%). However, we notice that almost 20% of respondents employ over 250 employees. This element highlights the increasing weight of Turkish firms. Regarding capital shares, in 42.28% of the international joint ventures, the majority capital share is held by the foreign firm (>51%), whereas in 21.95% the majority capital is held by the Turkish partner. 20.33% of the sample showed a capital share of 50/50.

Table 2. Description of final sample

<table>
<thead>
<tr>
<th>Capital share</th>
<th>Number of IJVs</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Majority Turkish</td>
<td>27</td>
<td>21.95</td>
</tr>
<tr>
<td>Majority Foreign</td>
<td>52</td>
<td>42.28</td>
</tr>
<tr>
<td>50/50</td>
<td>25</td>
<td>20.33</td>
</tr>
<tr>
<td>N/A*</td>
<td>19</td>
<td>15.45</td>
</tr>
<tr>
<td>Total</td>
<td>123</td>
<td>100</td>
</tr>
</tbody>
</table>

Activity sector

<table>
<thead>
<tr>
<th>Number of IJVs</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>123</td>
<td>100</td>
</tr>
<tr>
<td>Industry</td>
<td>76</td>
</tr>
<tr>
<td>----------</td>
<td>----</td>
</tr>
<tr>
<td>Service</td>
<td>47</td>
</tr>
<tr>
<td>Total</td>
<td>123</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Size</th>
<th>Number of IJVs</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 10</td>
<td>19</td>
<td>15.45</td>
</tr>
<tr>
<td>10-250</td>
<td>78</td>
<td>63.41</td>
</tr>
<tr>
<td>&gt;250</td>
<td>24</td>
<td>19.51</td>
</tr>
<tr>
<td>N/A*</td>
<td>2</td>
<td>1.63</td>
</tr>
<tr>
<td>Total</td>
<td>123</td>
<td>100</td>
</tr>
</tbody>
</table>

(*N/A: Not available)

**Measures of variables**

We tested the link between four independent variables concerning asymmetry between partners of international joint ventures and a dependent variable that examines the performance of international joint ventures measured by combining objective criteria (e.g. financial and sales results, R&D efficiency, etc.) and subjective criteria measured by two items (e.g. expectations of partners and general satisfaction of partners, See Table 3).

Referring to previous empirical research, we measured size asymmetry by comparing partners’ numbers of employees (comparison of the number of employees of the local partner and that of the smallest foreign partner in cases of multiple partners). Capital asymmetry is also a nominal variable with three modes (e.g. equal, majority share for the local parent or majority share for the foreign partner meaning their share is over 50%). In cases of multiple partnerships, we coded this variable by comparing the capital shares of all partners. We then selected the partner whose share was the most asymmetrical compared to the Turkish partner’s. Finally cultural distance was measured by a 5 point Likert scale according to the Turkish local partner’s perception of cultural distance from the foreign partner with the largest relative capital shareholding in the joint venture. The measures used for the dependent variable (performance) and independent variables (the four components of asymmetry) as well as the empirical references used are explained in table 3.

**Table 3. Measures of variables**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Items / Measures</th>
<th>Authors referred to</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Performance</strong></td>
<td>Turnover / Profitability</td>
<td>Geringer &amp; Hebert (1991)</td>
</tr>
<tr>
<td></td>
<td>Market share / Productivity</td>
<td>Mjoen &amp; Tallman (1997)</td>
</tr>
<tr>
<td></td>
<td>Respect of objectives/ Respect of budget</td>
<td>Sarkar et al. (2001)</td>
</tr>
<tr>
<td></td>
<td>Respect of delivery dates</td>
<td>Boateng &amp; Glaister (2002)</td>
</tr>
<tr>
<td></td>
<td>Respect of procedures</td>
<td>Lee et al. (2003)</td>
</tr>
<tr>
<td></td>
<td>General satisfaction</td>
<td>Lee &amp; Cavusgil (2006)</td>
</tr>
<tr>
<td></td>
<td><strong>5 point Likert scale</strong>: 1 = much less than expected to 5 = Much more than expected</td>
<td>Demirbag et al. (2007)</td>
</tr>
<tr>
<td><strong>Independent variables</strong></td>
<td><strong>Nominal variable</strong>: 1 : 1 if the ratio of number of employees is &lt;0.5</td>
<td>Steensma &amp; Lyles (2000)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Meschi (2005)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ainuddin et al. (2007)</td>
</tr>
</tbody>
</table>

1 In Turkey, the capital shares of foreign partners can be dictated by legal obligations in certain sectors deemed to be strategic. This was not the case for the international joint ventures in our sample.
Many studies mention the complexity of defining and measuring alliance performance (Lin et al., 2009). Alliance performance is defined multi-dimensionally through a combination of objective indicators (e.g. financial or commercial performance, duration-longevity, survival etc.) and subjective ones (e.g. the satisfaction of parents, harmony of the relationship, achievement of objectives, etc.) (Geringer and Hebert, 1991; Arino, 2003). For example, we noted thirteen indicators in the study of Demirbağ and Mirza (2000) for measuring international joint venture performance: market access; partners’ perceptions of success or failure; the stability of the relationship; the maintenance of the structure; achieving parent companies’ objectives; maintenance or improvement of relationships between parent companies; direct profits made by parent companies; financial profitability; growth of the alliance; export success; technological transfer and successful learning.

In the case of our study, the construct of performance in international joint ventures refers to the combination of thirteen indicators with a dynamic approach (performance improvement versus deterioration). These indicators combine both objective and subjective criteria (See Table 3) and have been adapted to the Turkish context (e.g. respect of delivery dates, respect of procedures, quality of products). Finally, to test the hypotheses it is important to check some variables that might provide an alternative explanation for the effects of the asymmetrical dimensions used. We have integrated three control variables into our model: the size of international joint ventures measured by the number of employees: the operational sector (e.g. industry or other) and the previous experience of the local parent in international joint ventures (See Table 4).

### Table 4. Measure of control variables

<table>
<thead>
<tr>
<th>Control variables</th>
<th>Measure</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Size of IJVs</strong></td>
<td><strong>Nominal Variable:</strong></td>
<td>Lu &amp; Hébert (1999, 2005)</td>
</tr>
<tr>
<td></td>
<td>1 = &lt;10 employees</td>
<td>Steensma &amp; Lyles (2000)</td>
</tr>
<tr>
<td></td>
<td>3 = &gt;250 employees</td>
<td>Ainuddin et al. (2007)</td>
</tr>
<tr>
<td><strong>Sector</strong></td>
<td><strong>Dummy Variable:</strong></td>
<td>Rao &amp; Schmidt (1998)</td>
</tr>
<tr>
<td></td>
<td>1 = Yes</td>
<td>Meschi (2005)</td>
</tr>
</tbody>
</table>
Data analysis and empirical findings

Analysis of reliability and validity of scales of measure
Before testing the four hypotheses about the links between the retained dimensions of partnership asymmetry and international joint ventures performance, we checked the reliability of the measures of international joint ventures performance and cultural distance.

Factor analysis of “International Joint Ventures performance”
We implemented the “international joint ventures performance” scale using thirteen items. During the Exploratory Factor Analysis (EFA) the examination of communalities showed that three items had a squared cosine below 0.5, leading us to eliminate them. The first two items referred to subjective performance as by the local parent: expectations in terms of financial outcomes and general satisfaction. The third item mentioned respect for procedures since the creation of the international joint ventures. The EFA eliminated both items relative to subjective performance perceived by the local Turkish parent.

The Confirmatory Factor Analysis (CFA) of the “international joint ventures performance” scale showed good convergent validity with standardised factor weights above 0.5 and a t value above 1.96. Nevertheless, the methodological prerequisites of absolute and relative indices obliged us to successively delete four items: turnover, profitability, market share and respect of delivery dates. The relative indices NFI, RFI, CFI, IFI and TLI show the overall coherence of the construct (>0.9). Finally, the “international joint ventures performance” scale is composed of six items: productivity, R&D efficiency, stability of the relationship, respect of objectives, respect of budget and quality of products. The reliability of the construct indicates good internal coherence (α = 0.903).

Factor analysis of cultural distance
We implemented the cultural distance scale with two items where the local Turkish director of the international joint ventures evaluated the intensity of organizational and national divergences between their firm and the foreign partner. The reliability was satisfactory (α = 0.695). We decided not to proceed with a Confirmatory Factor Analysis (CFA) because the scale contains only two items.

The effects of asymmetries on performance: testing the hypotheses
The first hypothesis tests the link between parents’ size asymmetry and international joint ventures performance. We adopted the ANOVA method because we use a qualitative independent nominal variable and quantitative dependent variable. The Levene test is not significant (0.003<0.05). We had defended a significant positive effect between parent size asymmetry and international joint ventures performance, our result shows no significant effect. H1 is therefore not confirmed.
The second hypothesis examines the link between the asymmetry of the number of foreign partners and performance perceived by the local Turkish partner of international joint ventures. The combination of a qualitative independent nominal variable and a quantitative dependent variable led us to use the ANOVA method. We used the Levene test (<0,05) to accept the hypothesis of homogeneity of intra group variance. The Levene test was significant (0,503>0,05), the hypothesis of the sample’s homogeneity is thus accepted. On the contrary, the ANOVA test revealed that the F test was not significant with F=0,335<1,96 (Sig.=0,716). Consequently, we conclude a null hypothesis. This means that there is no link between asymmetry of the number of foreign partners and international joint ventures performance. H2 is thus not confirmed.

The third hypothesis analyses the effect of the capital structure on international joint ventures performance. We used ANOVA because we are using an independent nominal qualitative variable and a quantitative dependent variable. The Levene test is significant (0,077>0,05), so the hypothesis of the sample’s homogeneity is accepted. On the contrary, the ANOVA reveals a non significant F test with F=1,688<1,96 (Sig.=0,173). The hypothesis is thus null. This means there is no link between the asymmetry of capital structure, that is, the inequality of capital shares, and international joint ventures performance. H3 is not confirmed.

The fourth hypothesis aims to test the link between the cultural distance between the partners of international joint ventures and their performance. We used the simple regression method with only one quantitative independent variable, “cultural distance” and a quantitative dependent variable “international joint ventures performance”. The simple regression analysis revealed that the model was significant (p=0,038<0,05), allowing us to dismiss the null hypothesis of an absence of link. Student’s test also points to the significance of this relationship (Test t=2,095>1,96, p<0.05). The correlation coefficient shows that cultural asymmetry between the partners of international joint ventures explains 18.7% of their performance (R=0,187). The beta is positive (β=0,187, p<0.05), which means that cultural distance is positively and significantly linked to international joint ventures performance. H4 is thus confirmed. (See Table 5).

Table 5. Results of cultural distance on IJV performance

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R²</th>
<th>Beta</th>
<th>T</th>
<th>ddl</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultural distance → Performance</td>
<td>0,187</td>
<td>0,035</td>
<td>0,187</td>
<td>2,095</td>
<td>1</td>
<td>4,391</td>
<td>0,038</td>
</tr>
</tbody>
</table>

We had tested the effect of three control variables on the relationship between cultural distance and international joint ventures performance: the size of international joint ventures; the operational sector and experience of the local parent in international joint ventures. The results reveal that size (β=-0,927) and experience (β=-0,146) have a negative effect on the relationship between cultural distance and international joint ventures performance; whereas the operational sector (β=0,564) accentuates this relationship.

Table 6. Effects of control variables between cultural distance and performance

<table>
<thead>
<tr>
<th>Dependent variable: IJV performance</th>
<th>Beta</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultural distance</td>
<td>0,187</td>
<td>0,038</td>
</tr>
</tbody>
</table>
### Discussion and conclusion

The literature on the concepts of asymmetry and performance in international joint ventures remains problematic. The results are fragmented and cannot be aggregated because of the different samples and distinct empirical contexts used. We hoped to improve the analysis of the links between the dimensions of asymmetry and international joint ventures performance.

### Summary of results

One of the original features of our study was to take account of the perception of local partners from an emerging country, Turkey, on the asymmetries with their foreign partners from developed countries (the UE and the US). Moreover, unlike much research that has tested the effects of asymmetry in an isolated way, we tested the effects of four asymmetrical components empirically (partners' different size, the number of foreign partners, the imbalance of the capital structure and cultural distance) on the performance of international joint ventures in Turkey.

Our initial postulate was to demonstrate the existence of a significant positive effect between the determinants of asymmetry and international joint ventures performance. Regarding size asymmetry, we defended the research of Beamish and Jung (2005) and Parkhe (1991); these authors demonstrated that size difference could lead to complementarities between small and large partners. However, our hypothesis 1 is not confirmed because we failed to obtain any significant positive effect. This result corroborates that of Larimo (2003) and Jung and Beamish (2005) who showed the absence of significant effect between size asymmetry and performance. We used the number of foreign partners as a determinant of partnership asymmetry. Using a transactional approach, Park and Russo (1996) showed that the number of parents was positively correlated to the survival of the cooperative relationship. The effects of reputation and high exit costs are greater than in a dyadic relationship and thus might prevent a premature end to the alliance.

Hypothesis 2 is not confirmed for no significant effect was obtained. This result supports the research of Larimo (2003) who found no significant effect in three cases. We formulated a hypothesis of positive significance between the capital structure and IJV performance in the light of the literature (Killing, 1983; Sim and Ali, 1998).

In this sense, hypothesis 3 is not confirmed. Our results corroborate those of Lee et al. (2003) who failed to obtain a significant link between capital structure asymmetry and international joint ventures performance. Finally, we supported the results of Park and Ungson (1997) where cultural differences encourage organisational complementarities between partners and result in accelerating international joint ventures adaptations to the context of host countries. Hypothesis 4 was confirmed. There is a significant positive link between cultural distance and international joint ventures performance. This means that cultural differences, far from being a handicap in cooperative relationships, probably exert catalysing effects of organisational learning.

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### Control variables

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>Std. Error</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>IJV size</td>
<td>-0.927</td>
<td>0.000</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>Operational sector</td>
<td>0.564</td>
<td>0.039</td>
<td></td>
<td>0.039</td>
</tr>
<tr>
<td>Local partner’s IJV experience</td>
<td>-0.146</td>
<td>0.355</td>
<td></td>
<td>0.355</td>
</tr>
</tbody>
</table>

| R²                     | 0.035 |
| F                      | 4.391 |
and skills transfer. This translates into improved perceptions of performance of the alliance by Turkish partners involved with culturally «distant» firms on the level of national culture.

**Difficulties in assessing the performance of strategic alliances**

The issues relative to determining international joint ventures performance refer to distinct conceptual frameworks and differing methodological processes (Christoffersen, 2013, Ren et al., 2009). Studies in management have come up against problems of measuring output and difficulties inherent to the unit of analysis being nested within a complex environment comprising a multitude of possible inputs that are both strategic and organizational (Gomes et al., 2016). Assessing, measuring and identifying these determinants of international joint ventures output have given rise to a growing number of theoretical and empirical studies in strategy (Arino 2003; Reus and Ritchie 2004; Blanchot, 2006; Mohr 2006). However, this research has given contrasting and sometimes contradictory results, especially when it attempts to link performance to other partnership characteristics (e.g. longevity, stability, success); partners’ strategic and organizational profiles (Christoffersen et al., 2014, Lavie et al., 2012); other management styles and strategic choices (Olk and Arino, 2003; Delios and Beamish, 2004).

Performance refers to a comparison between input and output strategies. The result of this comparison determines the firm’s efficiency. Regarding means, objectives, results and possible alternatives, a strategic action is said to be efficient if it combines the characteristics of coherence (means/objectives), efficiency (results /means) and pertinence (objectives-means/alternative solutions). In most empirical studies, the concept of performance is often directly transposed to the analysis of “alliance results”, considered in this case as an autonomous unit of analysis. In fact, this unit is a co-operation resulting from inter-organizational ties that involve partners with distinct, and sometimes opposite references as to what constitutes performance. Despite the relative wealth of research in this domain, alliance performance remains a difficult aspect to grasp (Das and Teng, 2003). Certain scholars define strategic alliance performance as reaching objectives assigned to both partners’ cooperation or overall satisfaction (Cheriet and Guillaumin, 2013), while others take it as the degree to which each partner’s strategic objectives are reached (Mahamadou, 2016).

Thus, the authors define two types of performance, firstly the performance of the alliance itself (as a cooperative entity) and second, the performance of the partners within the cooperative relationship. In a comparative study between the performance of international joint ventures in the United States and Canada, Geringer and Hebert (1991) suggested recommendations for assessing the performance of strategic alliances as thoroughly as possible. They recommend a combination of subjective and objective measures; using multiple respondents; using several respondents for a same unit of analysis; undertaking surveys over time to assess changes in perception and triangulating primary and secondary data and direct observations. Hill and Hellriegel (1994) distinguish four types of strategic alliance performance: financial performance, technical performance, performance in the relationship and potential future performance. International joint ventures performances can also be assessed through degrees of satisfaction. This would indicate assessing a partner’s self-perception in terms of its relationships, its ties with the alliance or its relationship with its partner (Delios and Beamish, 2004; Blanchot, 2006; Cheriet, 2009; Christoffersen et al., 2013).
As Reus and Ritchie (2004) show, there are many criteria for measuring the performance of joint ventures. In fact, the authors counted 82 items. Olk and Arino (2003) combined about twenty indicators grouped into three categories: efficiency, learning and profits. Some authors have shown a correlation between subjective and objective indicators (Geringer and Hebert, 1991), others have found direct links between measures of financial performance and partners’ degree of overall satisfaction (Cheriet and Guillaumin, 2013).

The wealth of research devoted to international joint ventures performance has also witnessed a great number of controversies over theoretical considerations and empirical difficulties of measure and contextualization. These controversies raise three major questions. What performance indicators should be integrated and which partner should assess them? Which viewpoint should be adopted to analyse performance? the local parent, the foreign partner or the alliance directors view? When should performance be measured? (Partners’ objectives for the alliance may change over time). Several researchers plead for a multi-perspective dynamic approach to assessing international joint ventures performance; this would aim to combine several indicators, taking account of the viewpoints of all stakeholders and at different moments in the life cycle of the allied relationship (Blanchot, 2006; Cheriet, 2009).

Managerial implications and perspectives for future research

In sum, our study did not find an effect between size asymmetry, the number of foreign partners, capital structure and international joint ventures performance. This leads to a first managerial implication that is strong in terms of training conditions and governance of alliances by small local firms: commitment to an asymmetrical alliance is not a handicap with regard to the expected performances of the relationship. Even if partner profiles remain important in the choice of the form and functioning of the cooperation, the governance and management mechanisms in place will have more influence on the outcomes (Lin et al., 2009; Cheriet and Guillaumin, 2013, Dikmen and Cheriet 2014, Mahamadou, 2017).

A second managerial implication concerns the partners (small or large) involved in the international joint ventures and has effects of cultural differences. Far from being an obstacle, these can accelerate learning via the implantation and transfer of organisational routines (Lavie et al., 2012). They result in higher complementarity of skills and give a “balanced” role to skills acquisition. The small local partner thus becomes an important source of institutional learning for the large firm, whereas the latter is more engaged in transfer of managerial or commercial competences.

Several limitations should be mentioned for they constitute perspectives for future research. These limits are conceptual and methodological. On the conceptual level, we tested a static model of performance without taking account of the international joint ventures life cycle. It would thus be interesting to test both the evolution of the determinants of asymmetry (e.g. balance of power; Das and Teng, 2001; Tinlot and Mothe, 2005) and their effects on the measures of performance at the beginning during and at the end of the international joint ventures. Indeed, international joint ventures have a determined lifespan where objectives evolve over time (Cheriet, 2009). Even if, unlike the majority of empirical research that deals with the perceptions of the foreign partners, our study focuses on the local partner’s perspective, our conception of performance remains a single-perspective one. This performance can be perceived differently by local and foreign
directors of international joint ventures (Blanchot, 2006). The implementation of our construct led us to take into account only the perception of the Turkish partner.

According to Hill and Hellriegel (1994: 605), “research on performance that focuses on the joint-venture as the only unit of analysis may neglect several sources of divergences between partners and misinterpret the key issue of training and management of the relationship”. Taking account of “the other side of the story” of these alliances by the foreign partner would certainly lead to different results (Cheriet and Guillaumin, 2013).

Furthermore, Demirbağ and Mirza (2000) showed that using different indicators resulted in distinct evaluations depending on strategic objectives that partners might not share. Thus performance must be measured according to multidimensional indicators and according to each of the partners involved (multi-perspective) (Cheriet and Guillaumin, 2013).

Similarly, carrying out statistical tests (incremental introduction of the dimensions of asymmetry) does not enable us to take account of any possible interactions among these measures. Thus our model is not a tool that explains the performance of the alliances because other determinants should also be taken into account: how and why the alliance was formed, the formal and informal governance mechanisms etc. (Mohr, 2006; Lavie et al., 2012).

On a methodological level, other limitations oblige us to qualify our results. These are mainly related to the measure of variables. Despite all the precautions we took in implementing the scales of measure of cultural distance and performance, we remain dependent on the perceptions of local partners on a “subjective” scale. Even if using items is often the case in previous empirical studies of performance measurement, a combination of this subjective measure with objective measures of outcomes (Geringer and Hebert, 1991) would obtain better aggregated indicators. Finally, the measure of the control variables (e.g. sector and local parent’s experience of international joint ventures) by mute values hides strong disparities within industrial sectors or regarding the local partner’s prior experience (e.g. the quality of previous relationships, repeated links with the same partner from the same country etc.).

Besides these obvious limitations, our empirical application to a single case, that of Turkey, obliges us to be prudent in terms of generalising our results. Similarly, our measure of indicators of asymmetry and performance at a time T do not allow for a sufficiently dynamic analysis; furthermore the collection of primary data was certainly affected by the effects of the international financial crisis. In the same way, using asymmetry by the simple difference in size may contribute certain “intrinsic” limitations.

Despite the fact that differences in organisational structure, company cultures, values and norms often constitute large differences between organisations (Doz, 1996; Sapienza and Stork, 2001), they may also exist between organisations similar in size. Thus taking account of the four dimensions of asymmetry, particularly with a size differential measured by a comparison of number of personnel, remains an « imperfect » proxy of asymmetry. Important differences may also be perceived and exacerbated by small partners depending on their cooperative experience. This may result in strong differences in terms of management models and complexity (Park and Ungson, 1997).

Finally, a conceptual limitation of the « sense » of the tests should be mentioned in order to constitute a first avenue of research. In fact we only tested the effects of asymmetries on performance. However, we can imagine that the converse effect exists. Good performances may translate a change in the capital share structure, or the introduction of another partner. Thus a
feedback loop should be envisaged that takes account of the keys to sharing the value created by the alliance.

Future research on the dynamic aspects of the measure of performance and asymmetries will contribute to better understanding the outcomes of such cooperative relationships. In fact, there are contingent factors that can influence asymmetrical relationships: local context, specific assets; control mechanisms etc. These may constitute important moderators in the relationship between the dimensions of asymmetry and alliance performance.

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