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TESIS DOCTORAL

International operations strategies: Effects on firm performance and the influence of institutional distance

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SECCION DE ORGANIZACIÓN DE EMPRESAS

Getafe, julio de 2014

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Firma

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Secretario: (Nombre y apellidos)

Calificación:

Getafe, de de 2014

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INTRODUCTION

Objectives and research questions

The focus of this dissertation is an analysis of business internationalization strategies. Specifically, the main purpose of this research is to analyse the determinants and implications of different international operations strategies. On the one hand, it focuses on studying determining factors in entry mode choice, particularly how certain institutional factors can affect this kind of decision making. On the other hand, it features an analysis of the impact of different international operations strategies on different business results, such as sales growth and propensity for innovation.

International strategy has been studied extensively in literature and different theories have examined it from a variety of approaches. The importance of this strategy in analysing business competitiveness has undoubtedly been clearly highlighted by different theoreticians since the 1960s and '70s. But its interest has been growing thanks to the phenomenon of globalization in which the business world is engaged. Many factors have contributed to the growing role occupied by analysis of this strategy in literature concerning strategic management. In general terms, it has been a reduction of international trade barriers and a development in communication systems and information networks. This has all have contributed to the geographic separation of firms' activities and make possible they seek access to resources and clients worldwide (Buckley, 2011). In any case, this situation forces firms to deal with many challenges. One of these involves taking the different institutional conditions prevailing in the countries where they operate into account. A country's institutions determine its rules of the game (North, 1990) and therefore exert certain pressures and/or impose certain restrictions on firms' strategies (Oliver, 1997). In fact, some authors note that it is necessary to take into account the dynamic interaction between the institutions and the

organizations to implement strategic choices (Peng, 2002). In spite of the extensive study of the relationship between institutions and international strategy, there are many questions that still need to be explored. Many studies have tended to focus on an analysis of cultural aspects (Brouthers and Brouthers, 2001; Chang and Rosenzweig, 2001; Chen and Hu, 2002; Kogut and Singh, 1988; Lopez-Duarte and Vidal-Suarez, 2011), missing other important institutional factors such as those concerned with norms and regulations, and possible effects of the interaction that may take place between them. Thus, part of this dissertation is concerned with making progress in this area. There has also been a tendency in literature to view institutional distance in absolute terms (Kostova, 1999; Xu and Shenkar, 2002; Gaur and Lu, 2007; amongst others). This has implied that greater institutional distance be associated with greater difficulty in operating in the locations in question. As proposed by part of the literature, this dissertation takes the view that these differences should be taken into consideration together with the relative position between origin and destination countries. As far back as 2001, Shenkar highlighted the need to consider institutional distance asymmetrically. Studies such as that of Håkanson and Ambos (2010) establish that managers' psychic perception of the distance varies depending on the relative position between country of origin and host country. Phillips, Tracey and Karra (2009), and Cuervo-Cazurra and Genc (2011) also take these questions into account. So, part of this dissertation aims to follow this line, analysing the the asymmetric effect of regulative distance on entry mode choice.

Furthermore, this dissertation attempts to analyse some of the implications of the international strategy on firm performance. The literature agrees that internationalization presents an opportunity to grow and to create value (Lu and Beamish, 2001). This strategy can help firms to open up new opportunities, to realize

economies of scale and of scope, to minimize the impact of fluctuations on the national market etc. (Ghoshal, 1987; Kim, Hwang, and Burgers, 1993). The firm, nevertheless, faces many challenges in adopting this strategy. On the one hand, it may suffer from a liability of foreignness (Zaheer, 1995). On the other, costs may arise in relation to coordinating and managing complex information (Ghymn, Liesch and Mattson, 1999; Ruigrok and Wagner, 2003; Trent and Monckza, 2003). These difficulties can be eased through the accumulation of knowledge (Liesch and Knight, 1999). Knowledge is therefore vital for firms to be able to gain a competitive advantage in their operations (Clarke, Tamaschke and Liesch, 2013). The literature focusing on the analysis of knowledge acquisition with their international operations is extensive (Almeida and Phene, 2004; Casillas et al., 2009; Eriksson et al., 1997; Fletcher and Harris, 2012; Zahra, Ireland and Hitt, 2000; amongst others). Greater development in this field is required, however, to determine what strategies may help to improve the firm's competitive position. Specifically, it is necessary to expand the sphere of analysis and go beyond examining operations related to foreign market sales and also include those concerned with delivery of supplies, by an analysis of their connections and through analysis of the global value chain. This work seeks to follow precisely this path, exploring the implications that different international strategies may have for sales growth and innovation, as a result of the increased knowledge to which they gain access by these international operations.

In view of the research objectives described, this dissertation tackles the following research questions, which will be analysed in the different chapters:

1) How do the cognitive and normative institutional differences between country of origin and host country affect the entry mode choice? Can regulatory development in the host country impact that relationship?

2) Does regulative institutional distance have an asymmetric impact on decisions concerning the international entry mode?

3) Do interconnections between international operations – *inward and outward* – enable the firm to improve its competitive position?

4) Taking into account the global value chain configuration, how does it affect the diversity of locations and foreign operations modes to firm performance?

In order to answer these questions, this research employs a sample of small and medium-sized European enterprises (SMEs). These businesses play a very important role in the majority of the economies, particularly at a European level. According to the European Commission, more than 99% of European businesses are SMEs and provide 2 out of every 3 jobs in the European Union. They have been recognized as being responsible for economic well-being and growth (European Commission, 2012). Furthermore, an analysis of these firms can be particularly interesting in view of their specific characteristics. The SMEs find that many benefits stem from operating on foreign markets (Pangakar, 2008); however they often also have to deal with restrictions in terms of resources, which make them more susceptible to external factors than big companies (Erramilli and D'Souza, 1995). So, although the acquisition of knowledge is important to all firms implementing an internationalization strategy, it is crucial to the SMEs (Liesch and Knight, 1999) as they can compensate for their limitations in terms of resources (Mejri and Umemoto, 2010). We therefore believe that this sample is highly appropriate to answer the research questions posed.

Organization and structure of the dissertation

The structure and organization of the dissertation are set out in Figure 1. Thus, it is divided into different chapters. Firstly, we carry out a review of the internationalization theories based on the development and preponderance of external and internal factors in literature on internationalization. We then move on to deal with the different questions raised, grouped together into two sections of the dissertation.

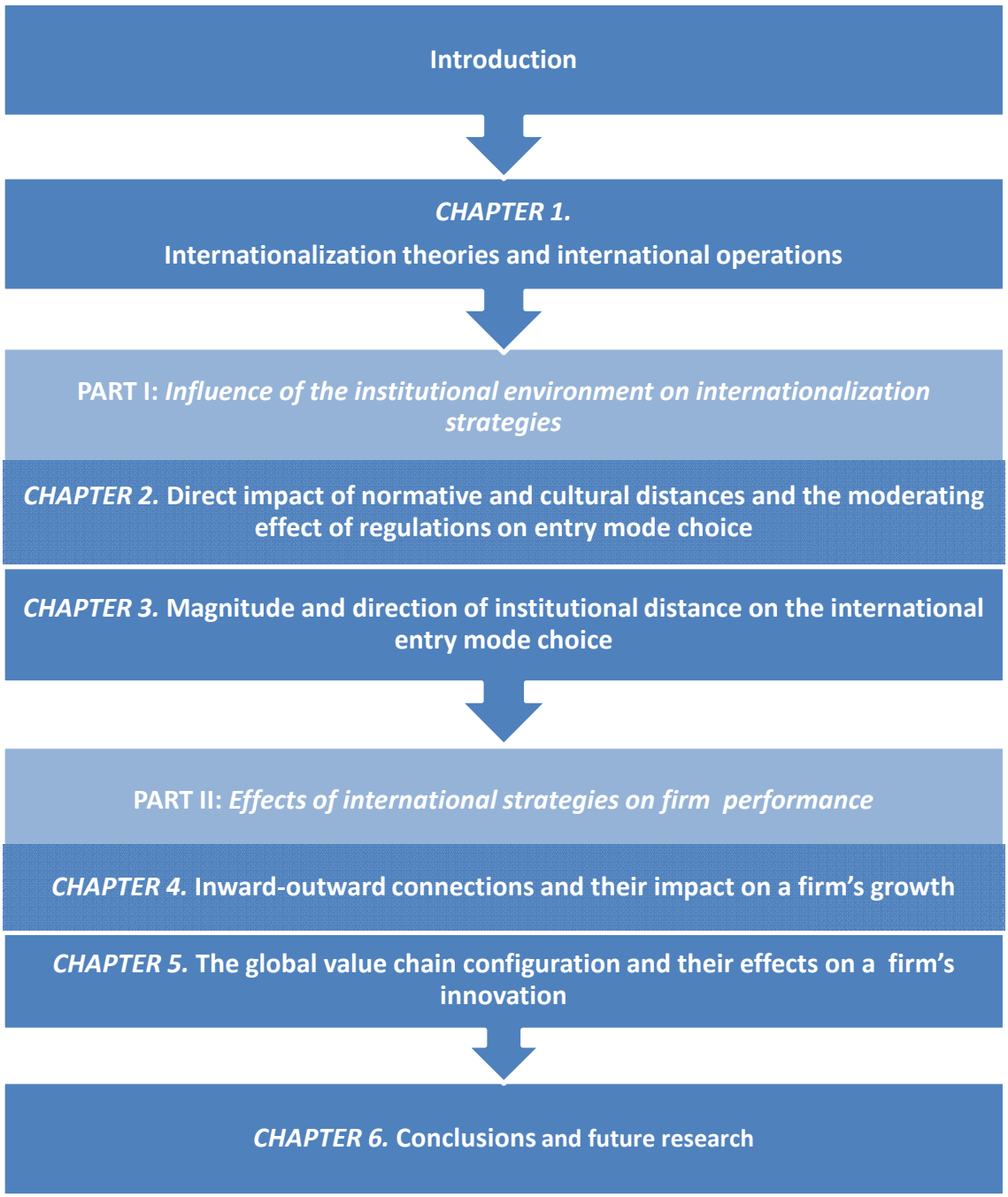
Specifically, Part 1 incorporates Chapter 2 and Chapter 3, which focus on determining whether different institutional variables affect the entry mode choice. Chapter 2 will focus in particular on analysis of the relationship between the institutional differences, considering the normative and cognitive components of the institutions and the entry mode choice. Here also, a moderating effect by the regulatory institutions in the host country will be taken into account. In Chapter 3, we will focus on an analysis of the effect of the regulative institutional distance on the entry mode choice, looking at the commitment of resources that this could involve. We suggest that there could be an asymmetric effect in this connection, depending on how this distance is managed. Specifically it is explained how the distance can be positive or negative and how this can have different effects on managers' decisions. The distance cannot be viewed solely in terms of its magnitude, since this aspect can conceal the fact that big differences do not imply a greater perception of uncertainty in the host country. Then, we study the different impacts that this distance may have on the choice of international entry mode, with reference to both the magnitude and direction of the distance.

Part 2 of this dissertation is comprised of Chapter 4 and Chapter 5, which focus on the analysis of different international operations and their implications in performance such as sales growth and propensity for innovation, respectively. These

chapters highlight the role played by knowledge and organizational learning in analysing some of the implications of international strategy. In particular, Chapter 4 will deal with the connections between *inward and outward* operations to establish whether the connections that may exist between different operations can help businesses to improve their results. Chapter 5 look at different operations in order to analyse the implications of the value chain configuration in terms of the different locations where its international activities operate, distinguishing between developed and developing countries and the different foreign operation modes used.

Finally, in Chapter 6, the main conclusions of this dissertation will be set out. In particular, answers are given to the research questions posed and the contributions and limitations of the research are discussed, along with proposed future areas of research.

Figure 1: Dissertation structure



CHAPTER 1

INTERNATIONAL OPERATIONS: THEORIES AND MODES

1. Introduction

A great number of theories analyze why and how firms undertake their operations in foreign markets. Each one considers different criteria for explaining firms' decisions. Some of these criteria are focused on the influence of environment in which the firm operates. Others are related to the importance of internal factors of the firm. Thus, we classify different approaches that address the analysis of the internationalization strategy. Specifically, we begin reviewing the initial steps in the explanation of the internationalization strategy and how they have included internal and external factors in their reasoning. We consider approaches such as the monopolistic advantage theory, the product cycle theory or the oligopolistic reaction theory. Moreover, we continue examining other traditional theories such as internalization theory or transaction cost economics that combine internal and external factors in their arguments. Then, we focus on reviewing those approaches that focus on internal factors of the firm such as the accumulation of international knowledge in the stage models, or the tenancy of innovative resources in the international new ventures perspective, among others. We end with a revision of those theories focus on external factors. Specifically, the network approach, which examines different relations that can affect the firm strategy, and the institutional theory focused on the examination of regulatory, normative and cultural institutions of the environment in which the firms operates.

Moreover, as this investigation examines international strategies of SMEs, we include in this review how the different theories have been related to these firms. Some studies have summarized the theories that explain the international strategy of SMEs pointing different approaches (Ruzzier, Hisrich and Antoncic, 2006; Sommer, 2010). Precisely, some theories are especially related to SMEs. It is the case for stage models (Johanson and Vahlne, 1977) or the international new ventures approach (Oviatt and

McDougall, 1994). Other studies, on the contrary, test if theories used for explaining big multinational behavior are also applicable to SMEs. For example, Brouthers and Nakos (2004) use the transaction cost economics while Brouthers, Brouthers and Werner (1996) or Nakos and Brouthers (2002) use the eclectic theory proposed by Dunning. Nevertheless, the distinction between big and small firms has been justified stating that different conclusions can be derived between both kinds of firms (Agarwal and Ramaswami, 1992; Erramilli and D'Souza, 1995).

Lastly, as this dissertation is focused on the examination of international operations we also review some aspects related to them. On one hand, we review different modes that firms can use to operate internationally. Specifically, we make a brief description of some of these modes and their features. On the other hand, we review the literature related to the value chain and how it has treated the integration of international operations in its study.

2. Theories explaining internationalization strategy

2.1. Early development of internationalization theories and other traditional approaches

2.1.1. Early development

In an early development of strategic management thinking, we find theories explaining how the internal processes of the firm occupied a central position while others focus on external factors. For example, the monopolistic advantage theory is especially focused on explaining why firms undertake foreign investments from an internal perspective. It considers that firms may have an advantage that allows them to compete on equal terms with indigenous firms (Hymer 1976; Kindleberger, 1969). Product cycle theory (Vernon, 1966) also focuses on internal aspects of the firm

emphasizing the timing of innovation at least on a first stage. The initial assumption of this theory consist of firms can access to scientific knowledge in similar ways in advanced countries. The point between them is that they differ in the way they apply it in the new product development. During the new products introduction, the design is unstandardized, so firms may locate the production in the home country. Once the market expands to other advanced countries, the firm has to consider the possibility of setting up a local producing facility by calculating costs such as production or transport costs. Then, when the product is standardized, has a well-articulated and easily accessible international market, and it is sold on the basis of price, firms look for a low-cost captive source of supply in less-developed areas. Other theories, however, focused on external forces. For example, the aim of the oligopolistic reaction theory is to explain internationalization strategy considering the competition in the industry. Precisely, this theory suggests that firms internationalize in order to maintain their position in a market characterized by an escalating competition among rivals (Knickerbocker, 1973).

These theories have been traditionally applied to big MNEs as they have greater access to capital, know-how and resources to operate globally. In fact, Manalova (2003: 61) points that "*The monopolistic advantage theory (Hymer, 1976), for example, argues that a firm needs certain proprietary advantages in order to compete globally. These advantages, however, such as scale economies (Caves, 1971), resource levels (Penrose, 1959), ability to absorb risks and uncertainty (Hirsch and Adar, 1974), or product innovation (Vernon, 1966), are highly correlated to company size. Similarly, the oligopolistic reaction perspective (Knickerbocker, 1973) presents international expansion as a defensive strategy of rivals who seek to block the advantage of the first mover. In lens of the oligopolistic reaction theory, multinational also tend to be large in size and dominant market players".* Then, these theories have limited application to

firms such as SMEs, and specifically to those that internationalize in an early stage of their development (Keeble et al., 1998).

2.1.2. Internalization theory and transaction cost economics

Beyond the theories explained above, we find different theories that have been extensively used in the internationalization strategy. It is the case of internalization theory and transaction cost economics (TCE). These traditional perspectives have combined internal and external influences when they have explained internationalization strategies. For example, Buckley and Casson (1976), considering the internalization theory, explain that firms enter international markets in order to produce of goods and services where it is cheaper, but at the same time where they can maximize the value added achieved. This theory is based on three principles summarized in Buckley and Casson (2009: p.1564): "*that the boundaries of a firm are set at the margin where the benefits of further internalization of markets are just offset by the costs; (...) that firms sought out the least-cost location for each activity, taking its linkages with other activities into account;* and *(...) that the firm's profitability, and the dynamics of its growth, were based upon a continuous process of innovation encompassing new products, new business methods, and other commercial applications of new knowledge."*

Some scholars posit that TCE enriched internalization theory (Delios and Beamish, 1999). Moreover, both theories are usually considered interchangeably (Hill, Hwang and Kim, 1990; Madhok, 1997). Both posit that firms seek to develop their internal markets if the transactions can be done at a lower cost inside the firm. The difference between them is the unit of analysis. For the internalization theory the unit of analysis is the firm but for the TCE, the unit of analysis is the transaction (Williamson,

1975). Additionally, TCE is part of a sub-field of the economics discipline called organizational economics that in the internationalization arena focus on internal and external forces that affect the internalization decisions. Specifically, asset specificity and behavioral and environmental uncertainties create two main costs: market transaction costs and control costs (Williamson, 1985; Hennart, 1989). These costs can appear in different activities of the value chain, such as the production, the quality control, marketing and after-sales services, etc. (Hill et al., 1990). Costs can also come from an opportunistic or dishonest behavior, or the presence of uncertainty in the host country (Brouthers and Nakos, 2004; Sanchez-Peinado and Pla-Barber, 2006). Thus, its application in the analysis of the firm internationalization has been focused on the study of two interdependent decisions: location and the control of their operations (Buckley and Casson, 1998). This theory is commonly used in the studies that analyze entry mode choices (Canabal and White III, 2008). However, there is a degree of debate in the literature about how the analysis of these costs affect to that choice. On one hand, there may be a necessity of maintaining the control due to high information costs that difficult the transference of competences, but there may be also a need of diminishing the levels of risks through more flexible modes (Tihanyi, Griffith and Russell, 2005; Zhao, Luo and Suh, 2004).

These approaches have received a certain amount of criticism. It has been argued that it is centered on the analysis of Western companies. In fact, some authors have questioned their application to firms from countries whose institutional structure is not western (Taylor, Zou, Osland, 2000). Moreover, some scholars point the necessity of combining them with the institutional theory as firms seek efficiency but limited by legitimacy needs (Roberts and Greenwood, 1997). Another important limitation is that these theories consider that firms are competitive thanks to an efficient management of

transactions (Madhok, 1997), without considering other strategic factors (Aulakh and Kotabe, 1997).

Some studies have applied them to SMEs. Brouthers and Nakos (2004) find that the three transaction cost variables, asset specificity, behavioral uncertainty and environment uncertainty are significantly related to their international entry mode choice. Other works find, on the contrary, that its applicability varies among SME and large MNEs (Erramilli and D'Souza, 1995). They argue that the liability of smallness can affect them in different ways, for example restricting their choices, because of their resource constraints (Maekelburger, Schwens and Kabst, 2012).

2.1.3. Eclectic paradigm

The eclectic paradigm (Dunning, 1980) also combines internal and external aspects of the firm. This paradigm establishes that the firm propensity to undertake international production derives from three determinants: the possession competitive advantage that its competitors do not (ownership advantages); the interest on selling or letting its resources to other firms or make use of them by its own (internalization advantages); and the benefit of exploiting them with other resources from the foreign countries taking into account the market potential and country risks (location advantages). This paradigm represents a multi-theoretic approach as it considers aspects from the resource theory, international trade theory and TCE (Andersen, 1997). Thus, as firms have ownership advantages, they have more incentives to internalize the activities. It explains, then, the internalization of activities focusing on the investment decisions of the international production in terms of quantity, mode and location (Coviello and McAuley, 1999).

There are also some limitations derived from this approach. Specifically, Dunning in some of his works try to offer some reconfigurations of the paradigm in order to explain other realities. For example, this paradigm assumes that the election of the international market is an independent decision from the entry mode decision. Some scholars, however, maintain that despite having ownership, internalization or location advantages, which may explain the election of an equity mode, there could be other restrictions such as government ones that limit it (Andersen, 1997). Firms may also see in the internationalization the way of looking for opportunities in new markets or new resources (Cantwell and Narula, 2001; Dunning, 1995; 2001). Moreover, Dunning (2001) warned that his paradigm needed a reconfiguration that could explain the foreign direct investment operations of firms from developing countries to developed ones.

This model has been applied to SMEs in some studies (Brouthers et al,.1996; Nakos and Brouthers, 2002). Ownership and location advantages affect SMEs internationalization strategies in a similar way to big multinationals. However, not all factors influence them in the same way. Specifically, Nakos and Brouthers (2002) show that only some variables examined within each advantage were significant.

All in all, beyond these traditional approaches there are others that have been developed to explain internationalization strategies. Nevertheless, the focus on internal or external aspects has persisted. In the next sections, we continue examining them by examining theories focused on internal factors and theories focused on external factors.

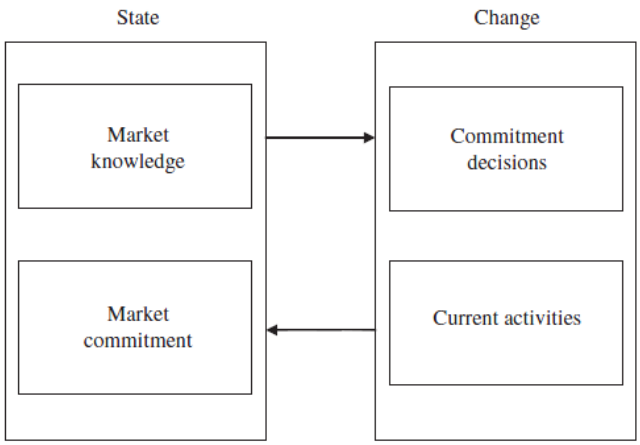
2.2. Theories focused on internal factors

2.2.1. Stage models

Literature has developed two kinds of stage models: the Uppsala model and the Innovation model. Uppsala model (Johanson and Vahlne, 1977) explains that foreign

market knowledge is accumulated in a gradual way. Firms face to psychic distance that exists between origin and destination. This distance is defined as the sum of factors that prevent the information flows to and from the market, such as the differences of language, education, industrial development, culture or business practices. In this model two directions of internationalization can be distinguished: the increasing commitment in the foreign country and successive establishments in new countries. The model considers that this process is not the result of a strategy for an optimal deployment of resources in different countries but as a consequence of an incremental learning process (See figure 2). The model assumes that more market knowledge implies a greater level of commitment on it and vice versa (Andersen, 1997). Then, firms will begin their internationalization strategy in nearby markets in terms of psychic distance, and with entry modes that imply low levels of commitment (Johanson and Vahlne, 2009).

Figure 2: Stage model



Source: Johanson and Vahlne, 1977 (p.26)

The innovation model or I-model (Cavusgil, 1980) considers that the internationalization is an analogue process to the adoption stages of a product. Then, each additional step is an innovation for the firm. As for the Uppsala model, the reason of being in one or another stage is due to the lack of knowledge and the existence of

cultural and physical distance. Some studies point that this theory is especially useful for giving SMEs a pattern to follow for exports (Gankema, Snuif and Zwart, 2000).

Stage models were originally tested for SMEs (Ruzzier et al., 2006). These firms can follow this classic model that describes a slow and incremental expansion because they have less experience and face to resource constraints (Brouthers et al., 2009). Despite it offers a dynamic vision of entry mode choices and allows a longitudinal research of the firm behavior (Sharma and Erramilli, 2004), it has received quite amount of criticism. For example, it does not include cooperation forms, it is not adequate for explaining the internationalization of service firms, and it does not explain the behavior of born-global firms (Andersen, 1997; Oviatt and McDougall, 1994).

2.2.2. International entrepreneurship

Continuing with a line in which internal factors are considered, researchers as Oviatt and McDougall (1994) identify the existence of firms that are internationals from their inception. Literature applying this theory has almost exclusively focused on analyzing the internationalization propensity of these firms, what they do to penetrate and survive in foreign markets, how differ in their results or which are the characteristics of their founders (Keupp and Gassmann, 2009). In order to analyze the factors that have made increase the birth of born-global firms, we can enumerate the following: the development of information technologies, the creation of new and flexible production technologies, the increase of the importance of marketing, the number of students gaining international experience, the reduction of commercial barriers, etc. (Moen and Servais, 2002). In sum, despite of the existence of traditional theories that are still applicable in some cases, there are other situations in which the international new ventures approach is more appropriate (Oviatt and McDougall, 1994). Precisely, works following this line try to combine different areas such as the

internationalization and entrepreneurship (Autio, Sapienza and Almeida, 2000). The main argument for born-global firms is that they internationalize from the moment they are created. They can penetrate in foreign and distant markets, psychically and geographically, even when their resources are limited and have accumulated little organizational learning (López, Kundu and Ciravegna, 2009). Thus, these firms have resources based on a strong innovation culture that help them to internationalize before and to obtain higher results in foreign markets (Knight and Cavusgil, 2004).

Among the limitations of this perspective it is argued that most studies using this theory have focused on firms from high technology sectors (e.g. Filatotchev et al., 2009). However, it could be also applied to firms of other industries (Autio et al., 2000). Similarly, most studies focus on firms from developed countries, what makes that some assumptions of this theory could be questioned. Some scholars point that developing countries could be the place where the born-global hypothesis could be tested as the local demand in these countries has little importance. Precisely, it could explain why firms from these countries try to look for opportunities beyond their boundaries (López et al., 2009).

2.2.3. Other theories based on internal factors that can be applied to explain internationalization strategy

Resource based view

The resource based view (Barney, 1991) is focused on internal factors of the firm. It describes the firm as a collection of heterogeneous and specific resources (Foss et al 1995). These resources can be defined as the accumulation of tangible and intangible factors that the firm owns or controls in order to develop its products or services (Ruzzier et al., 2006). Thus, through the analysis of the potential of these resources in the rent generation, by examining if they are valuable, rare, difficult to

imitate and non-substitutable, it can be determined the firm ability to gain and defend a position with a sustainable competitive advantage (Barney, 1991). Thus, it is the acquisition, the combination and the deployment of resources, instead of the sector structure, what explains the higher returns of the firm (Conner, 1991). Researchers that use this theory for explaining internationalization strategy argue that resources and capabilities are the drivers of the firm strategy (Ekeledo and Sivakumar, 2004). On one hand, it leaves the static vision of the theories based on the industrial economy, assuming the existence of a dynamic competition between firms, where competitors' actions can erode firms' advantages (Sharma and Erramilli, 2004). On the other hand, it rejects that the purpose of the firm is to avoid opportunistic behaviors and considers that firm central activity is the value creation (Conner, 1991). Then, the ability to enter foreign markets is directly related to the accumulation of tangible and intangible resources (Bloodgood et al 1996).

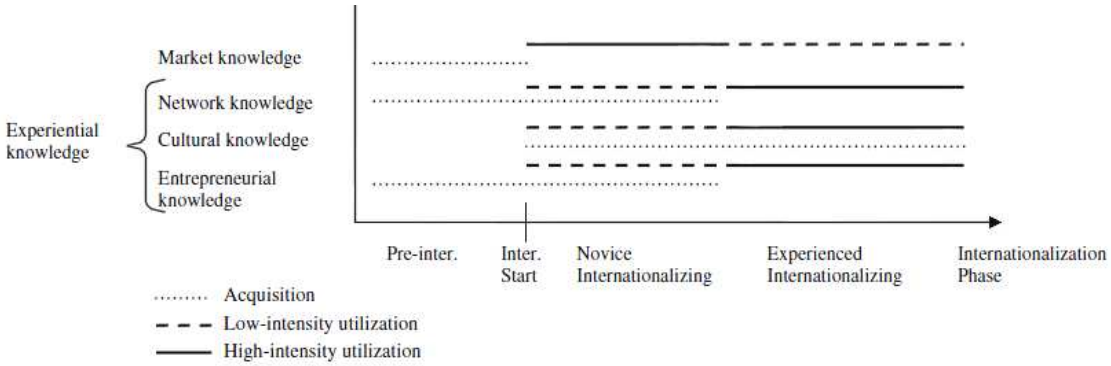
One of the limitations of this view is that it assumes the equilibrium between product and factor markets (Barney, 1991). Moreover, institutional factors are taken for granted without considering that they can affect firm's strategic choices (Peng, 2001). Some scholars also point that this theory is vague and tautological (Williamson, 1999) and that it is not applicable to dynamic markets where the competitive advantage is difficult to acquire (D'Aveni, 1994).

Knowledge based view

Precisely, in order consider dynamic contexts, the vision based on knowledge posits that knowledge is the most important strategic resource for the firm (Grant, 1996b). This vision has a great relevance for the firm internationalization strategy, especially in those situations in which there are technological discontinuities and turbulences in the market (Saarenketo et al., 2004). Moreover, this view is especially

relevant for SMEs given the emphasis that literature has given to the resource constraints to which these firms have to face (Arteaga-Ortiz and Fernandez-Ortiz, 2010; Leonidou, 2004). Specifically it can helps to understand their internationalization process, as SMEs compared to the bigger companies, have less tangibles resources that they can compensate with intangible resources such as knowledge (Mejri and Umemoto, 2010). All in all, different phases in this internationalization process has been described depending on the kind of knowledge in foreign markets they access to (see figure 3).

Figure 3: **A knowledge-based model of internationalization**



Source: Mejri y Umemoto (2010, p.162)

Organizational learning perspective

Additionally, knowledge has also an important role in the organizational learning perspective. Literature based on this approach argues that firms learn from their direct experience and the experience of others, developing frameworks for interpreting those experiences (Levitt and March, 1988). With this respect, it is critical for the firm to absorb, internalize and exploit knowledge (Zahra and Hayton, 2008). Moreover, the firm can develop an absorptive capacity to recognize and assimilate the value of new, external information and subsequently apply it for commercial purposes (Cohen and Levinthal, 1990, p128). That is the reason to argue that the equilibrium between the exploration and exploitation is essential for achieving a competitive advantage (March,

1991), especially in the global arena, where a complex set of capabilities are required (Madhok, 1997). In its application to SMEs, firms engaging international activities may update their knowledge base with regard to foreign markets, increase their store of foreign market knowledge and enhance the returns from new foreign investment opportunities (De Clercq, Sapienza and Crijns, 2005). These firms need knowledge from new and existing markets in their expansion process (Fletcher and Harris, 2012). Moreover in order to achieve better internationalization results, SMEs managers have to develop dynamic capabilities that balance explorative and exploitative learning (Villar, Alegre and Pla-Barber, 2014).

2.3. Theories focused on external factors

2.3.1. Network approach

Network approach explains that firms are integrated in production networks, clusters, constellations, etc. that create value thanks to the collaboration with suppliers, business partners, clients, or other agents. (Chetty and Blankenburg Holm, 2000). Thus, the internationalization process is seen as the construction of relationships in international markets (Johanson and Mattsson, 1988), which depends on the set of networks of the organization and not in the specific competitive advantage of the firm (Coviello and McAuley, 1999). Moreover, this theory suggests that the information and influence of the social network in which the firm operates also determine their decisions (Connelly, Ketchen and Hult, 2013).

Johanson and Mattsson (1988) identified four firms' categories based on two dimensions: the degree of internationalization of the firm and the degree of internationalization of the market (See figure 4). Thus, they identify the *Early starter*, characterized by not having international relationships; the *Lonely international* that responds to the case in which the firm is very international but not the market in which

they belong; the *Late starter,* which has a low degree of internationalization at the beginning but, as the market is international it helps the firm to undertake international operations (in those situations, firms face to the difficulties as the competitors have more knowledge and have problems for entering in a created network); lastly, the *International firm,* which corresponds to the case of a highly internationalized firm that operates in an environment also highly internationalized.

Figure 4: Internationalization and the network model.

		Degree of internationalisation of the market (production net)	
		Low	High
Degree of internationalisation of the firm	Low	The Early Starter EARLY	The Late Starter LATE
	High	The Lonely International LONELY	The International Among Others INTERNATIONAL

Source: Chetty and Blankenburg Holm (2000, p.79) from Johanson and Mattsson (1988).

This approach is gaining attention recently. Thus, other concepts of the network theory are explored in the internationalization literature. Some scholars have focused on the importance of being or not in the network by examining the liability of outsidership of the firm (Johanson and Vahlne, 2009; Schweizer, Vahlne and Johanson, 2010). Taking into account that markets are networks in which firms are linked, this concept that being out of the network is an impediment for developing an international strategy. Other concepts examined in this literature are the size of the network, its diversity or the degree of centrality in the network (Coviello, 2006; Goerzen and Beamish, 2005). Nevertheless, some limitations have also been posited. On one hand, the model does not consider the managers' decision process, neither the relations that can inhibit firm internationalization instead of easing it, nor the role of potential external factors such as the intensity of the competence or the economic policies in the destination market. (Chetty and Blankenburg-Holm, 2000). Some scholars argue, then, that this approach together with others such as institutional theory, could highlight the external forces to

which the firms face to and which determine its international strategy (Connelly et al., 2013). Moreover, other studies point that it does not explain the firms' internationalization process that do not have such connections (Bell, 1995).

With respect to its application to SMEs, Meyer and Skak (2002) recognize the role of business networks in the internationalization of these enterprises. We find studies in which SMEs following a network model can access to advantages of linking resources and benefit from the synergies achieved (Chetty and Blankenburg Holm, 2000). Coviello and Munro (1999) establish, for example, that the relations in the network could contribute to the market expansion and to the development of activities, facilitating the diversification. Specifically, SMEs could access to knowledge emerged thanks to the relations in the network (Bell, 1995). Other studies have also focused on these firms analyzing CEOs' networks, by examining how quick these firms can be international or in the performance of the international operations (Musteen, Francis and Datta 2010).

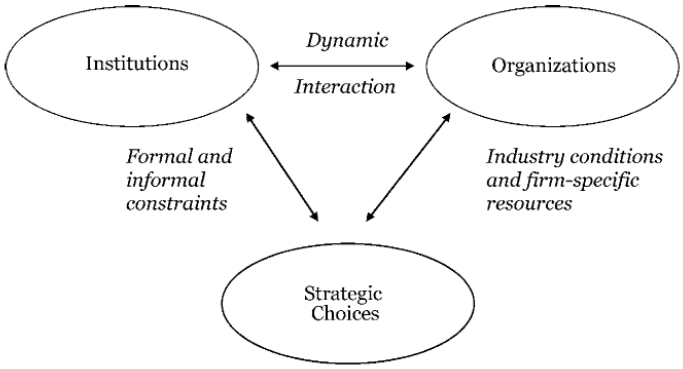
2.3.2. Institutional theory

Continuing with the consideration of external factors, an institutional perspective posits that the firm operates in a framework of norms and values that determine the appropriate economic behavior (Oliver, 1997). The institutional theory establishes that institutions are "the rules of the game in a society" (North 1990). Some of the assumptions of this theory are that individuals are motivated to meet with the external pressures; decisions are created according to the social context of the firm; and external pressures limit the variety of structures and strategies of the firm (Oliver, 1997). There are two streams in this theory: the one based in the politic and economic science that focus on efficiency (North, 1990); and the version based on the sociology and the

organizational theory (Di Maggio and Powell, 1991) focused on legitimacy (Bruton, Ahlstrom and Li, 2010).

From an international point of view, this approach helps to understand the contextual factors effects in firms decisions because environment dimensions vary between countries and affect managers (Brouthers and Hennart, 2007). Thus, as it is described in the figure number 5, the process of undertaking strategic choices is explained as the result of the interaction between institutions and organizations (Peng, 2002). Research in this area has focus on the institutional environment of the host country or in the differences between origin and destinations, what has contributed to the creation of concepts such as institutional distance (Kostova, 1999). Nevertheless, we can also find studies that try to observe the influence of institutional factors of the origin that could affect the internationalization process of firms from that particular environment (Erramilli, 1996).

Figure 5: Institutions, organizations and strategic choices

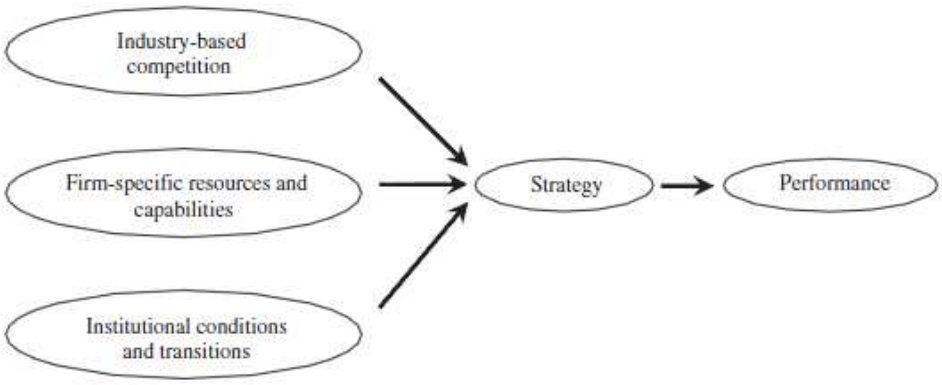


Source: Peng (2002, p.45)

Its study has been especially undertaken from the 90s, but its attention has gained importance recently. Some scholars have considered that this theory is relevant for explaining the internationalization strategy of firms from emerging economies (Peng, Wang and Jiang, 2008) or transition economies (Shinkle and Kriauciunas, 2010). In these environments institutions function differently compared to western economies.

The main difference is that in the former, an efficient institutional framework cannot be taken for granted (Peng et al., 2008). Nevertheless, it has been also pointed the importance of this theory in developed economies (Ingram and Silverman, 2002). Indeed, some studies argue that institutional environment factors together with firms factors and industry factors form a tripod that explain firm strategy and its results (Peng et al., 2008, Gao et al., 2010) (see figure 6). Then, the firm should find an equilibrium combining internal and external factors in their internationalization decisions.

Figure 6: Strategy tripod



Source: (Peng, 2006, p.15)

Institutional theory has been traditionally used to explain entry mode decisions (Estrin, Baghdasaryan and Meyer, 2009, Xu, Pan and Beamish, 2004, Yiu and Makino, 2002), location decisions (Meyer and Peng, 2005), expatriates policies (Xu et al., 2004), or the firm organizational strategy (Xu and Shenkar, 2002). Then, it has been argued that the organization need external legitimacy and conform to the norms of the local market. Moreover, they also have to maintain the internal consistence of the organization in order to maintain the parent routines and practices (Davis, Desai and Francis, 2000).

With respect to the application of the institutional theory to SMEs, its study has been limited but some studies point the necessity of incorporating its analysis to these

firms (Jonsson and Lindbergh, 2010; Schwens, Eiche and Kabst, 2011). SMEs have to face to a "liability of foreignness" when enter foreign countries (Zaheer, 1995), and the costs derived can be especially significant because of their resource limitations. Then, the analysis of the international strategy of these firms under this approach can be especially relevant.

3. International operations

In the internationalization strategy literature, one of the topics more studied has been the analysis of international operations modes. For SMEs, the analysis has been centered mostly in the study of the entry modes, and specifically in exports (among others, Arteaga-Ortiz and Fernández-Ortiz, 2010; Brouthers et al., 2009; Leonidou, 2004; Moen and Servais, 2002; Filatotchev **et al.**, 2009; Wolff and Pett, 2000). But others, related to international sourcing can also have an important role that should not been missed (Coviello and McAuley, 1999; Coviello and Munro, 1997). In fact, some studies conclude that SMEs usually start their international operations through this kind of activities (Jones, 1999; Korhonen, Luostarinen and Welch, 1996; Welch and Luostarinen, 1993).

From an economic perspective, a firm can enter a foreign market exporting its products from its home country or transferring their resources to the host country (Root, 1987). Between both extremes other contractual forms can be included (Sharma and Erramilli, 2004). The classification of entry modes has been done considering different criteria. For example, the degree of control (Anderson and Gatignon, 1986), understood as the level of authority the firm has in the decision making process (Hill et al., 1990); the degree of commitment of resources that the firm has on the tangible and intangible

resources employed; the degree of risk dispersion (Hill et al., 1990); or the likelihood of return (Agarwal and Ramaswami, 1992). Others have combined different criteria, considering that entry decision imply two main questions: the location of the activities –inside or outside the foreign country-, and the level of ownership, that can be total, partial or none (Sharma and Erramilli, 2004).

On the other hand, inward or international sourcing activities have traditionally received less attention in the literature (Korhonen et al., 1996, Karlsen et al., 2003). Its study has been done mainly indirectly, through the contributions given by the analysis of the supply chain management, the *global purchasing* (Quintens, Pauwels and Matthyssens, 2006) or the factors affecting purchasing decisions (Ghymn, Liesch and Mattson, 1999; Swamidass, 1993). One of the reasons is that they have been considered as routine operations without strategic implications (Karlsen et al., 2003). However, this perspective has changed progressively. In fact, the emphasis on the study of "sourcing" for describing the management of components and the flows of products, to provide the domestic or the foreign market, has increased in the literature (Kotabe and Murray, 2004). Specifically, the study of sourcing operations in the international arena has been done employing terms such as global sourcing (Kotabe and Murray, 2004; Trent and Monczka, 2003), international sourcing (Levy, 1995); import sourcing (Swamidass, 1993); import purchasing (Ghymn et al., 1999); global purchasing (Quintens et al., 2006); offshoring (Bertrand, 2011; Di Gregorio, Musteen and Thomas, 2009; Hätönen, 2009). Nevertheless, these terms differ on the activity that implies –acquisition of goods and/or services, activity transfers, etc. - and how they are structured –more or less coordinated across worldwide locations. The modes employed to undertake them can also be classified by considering the resource commitment, control and flexibility they

imply, as they are the other side of the coin with respect to outward operations (Karlsen et al., 2003).

All in all, we can identify, for both inward and outward activities, three main categories in which classify international operations modes. First, *transactions* in which we include exports and imports; second, *contractual agreements,* in which we find forms as licensing, franchising, subcontracting, or outsourcing operations; and third, *foreign direct investments*, in which we find joint ventures or wholly owned subsidiaries for sales or production. We briefly describe the characteristics of each one.

3.1 Internationalization modes

Transactions

In the outward side, the easiest way of doing international operations we find exports. Exporting involves selling physical products but maintaining the production in the home country (Taylor et al., 2000). In fact, the firm is engaged in domestic transaction of its products. Firms can use direct or indirect exports. The former, when the transaction is made by another home country firm, which performs the host country marketing. The latter, when the firm is directly involved in a host country marketing operations pertaining to its products either by itself or through local intermediaries (Sharma and Erramilli, 2004). Generally, exporting requires the fewest resources and is, therefore, the mode often employed by a firm for doing its initial foreign entry (Shrader, Oviatt and McDougall, 2000). Exporting is also the quickest way for firms to penetrate foreign markets and engage in internationalization (Johanson and Vahlne, 1977; Root, 1987). It offers flexibility in the management actions, implies lower level of risks, requires lower levels of resources in comparison with other entry modes in foreign markets (Arteaga-Ortiz and Fernandez-Ortiz, 2010) and allows the access to economies

of scale in the domestic plant (Buckley and Casson, 1998). However, it also implies a lower likelihood of returns (Kim, Kim and Lee, 2002).

In the inward side, firms can operate internationally with transactions through imports. Importing may be broadly defined as the international acquisition of raw materials or components. Import sourcing has been traditionally viewed in terms of cost minimization (Swamidass, 1993). Some studies point out that import initiation is a defensive move (Monczka and Trent, 1991). However, as more and more companies are moving toward strategic global sourcing (Liang and Parkhe, 1997), importing is seen as a way of taking advantage of opportunities overseas and a way of gaining initial knowledge about a foreign market (Grosse and Fonseca, 2012).

Contractual modes

Firms can also use contractual modes. They can be defined as long term contracts among firms from different countries that do not imply ownership but the transfer of resources (Root, 1987). There are different contractual modes that differ in several aspects (Sharma and Erramilli, 2004). Among others, we can highlight licenses, franchises or management contracts.

International licenses include a variety of contractual arrangements in which the domestic firms (licensor) make available the intangible actives (patents, industry secret, brands, etc.) to foreign firms (licensees) in exchange for royalties and/or other payment form (Root, 1987). Licensing could be seen as a risky mode because special knowledge could be shared with other firms (Shrader et al. 2000). In franchising the foreign entrant (franchisor) receives royalties from the partner in the host country (franchisee) in exchange for giving the possibility of using the brand, having access to marketing, technical or training support (Erramilli, Agarwal and Dev, 2002). Thus, the franchisor

maintains a certain level of strategic control but a low operational control. Among the advantages they allow a fast expansion with low levels of capital, the possibility of standardize a marketing method with a distinct image, face to a low political risk, etc. (Root, 1987). Nevertheless, among the drawbacks, the firm can face to a loss of control over operations, a possible creation of competitors or the dependency from franchisees for obtaining profits (Root, 1987). Other forms are manufacturing contracts that consist of an arrangement in which a firm manufactures the products of others located in a foreign country in the terms the contract establish (Tersptra and Sarathy, 1997).

Firms can also undertake contractual arrangements in the inward side. For example, part of the literature has extensively analyzed the outsourcing phenomenon. It is a kind of industrial relationship where the subcontractor is the firm that provides the components, based on the specifications of the buyer, and where the buyer is the final assembler (Andersen and Christensen, 2005). Then, the firm delegates some activities to an external provider instead of using internal government mechanisms (Hätönen, 2009). If the subcontractor is from a foreign country, we are referring to *offshore outsourcing*. Until mid-1990, outsourcing was associated with manufacturing, but nowadays other activities such as IT services and R&D activities, are also outsourced. This situation makes firms consider outsourcing not only under cost-minimization but also under knowledge-seeking motives (Hätönen and Eriksson, 2009; Maskell et al., 2007). Outsourcing could help firms reduce fixed investment done in in-house facilities (Kotabe and Murray, 2004). Moreover it might involve an international exposure to potential clients on inward and outward sides and be a springboard to changed foreign operation mode activity in the host market (Benito et al., 2013).

Foreign direct investment

Firms can also operate in host countries using foreign direct investment, which is riskier than other entry modes (Shrader et al., 2000). It requires an investment that makes possible the establishment, in an independent way, a continuous and direct management and with a constant interaction with third parties in the host country (Pan and Tse, 2000).

Firms can also use foreign direct investment from an outward and an inward perspective by establishing joint ventures or subsidiaries in the host country for marketing or production activities, respectively. The study of these operations from the inward side has been analyzed by examining captive offshoring activities. Similarly to outsourcing, these operations have been specially studied to analyze the relocation of manufacturing activities. Nevertheless, nowadays other value-added activities are relocated abroad, such as R&D, legal services, IT activities, etc. Some scholars have pointed out that in comparison to offshore outsourcing, captive offshoring can offer the advantages of the destination country, but allowing firms to avoid appropriability problems and risks associated with knowledge transfer and loss of competitiveness (Nieto and Rodríguez, 2011).

Firms can invest in foreign countries with local partners or alone. In the former case, they can create joint ventures. In a joint venture the firm shares equity and control of a venture with a partner from the host country (Taylor et al., 2000). Some scholars consider that joint ventures imply the tenancy of a capital percentage that varies between 10 and 90 percent, but the usual is among 25 and 75 percent (Tresptra and Sarathy, 1997). Depending on the distribution of the shared capital, there are joint ventures in which one firm maintains a majority position (more than the 50% of the

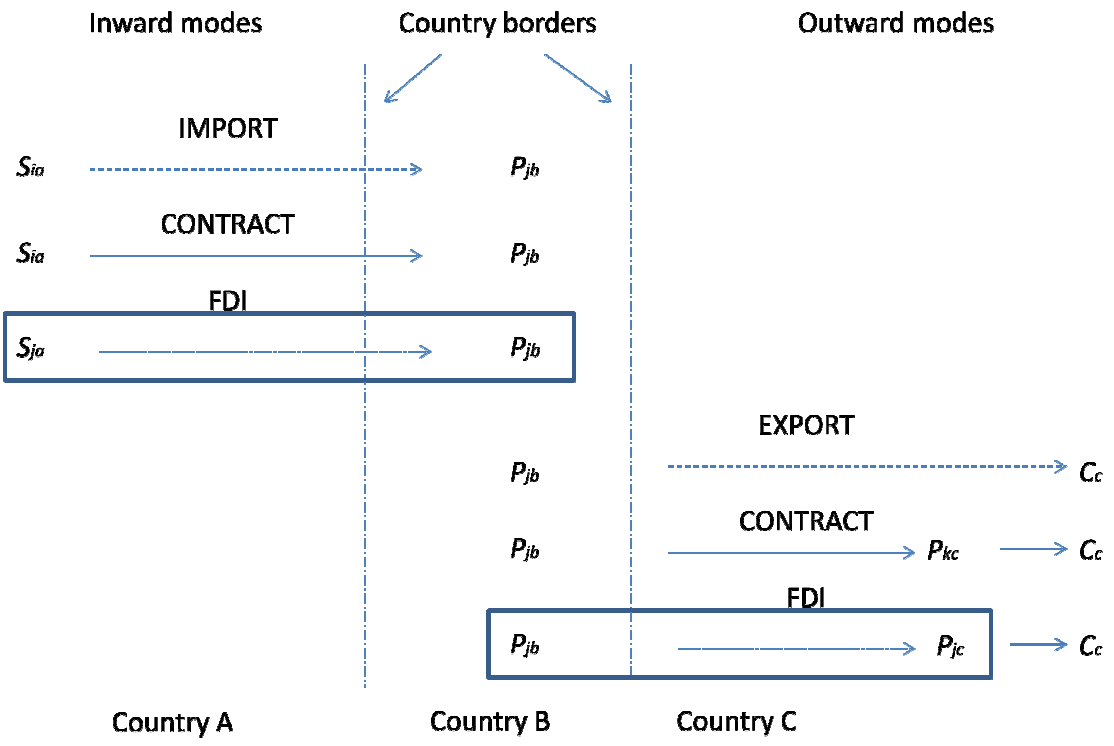
capital), those in which one firm maintains a minoritary position (Kim et al., 2002), or an equal position, when firms involved share the ownership equally divided (Root, 1987). The formation of joint ventures provides access to complementarity assets from partners (Harrison et al., 2001), which in the international arena could be related to the access to useful local capabilities (Kogut, 1988). For its part, the local firm can access to technology, management capabilities and foreign capital (Chen and Hu, 2002). However, these operations can generate problems derived from the different interests and objectives of the partners (Dikova and Van Witteloostuijn, 2007).

If the firm enters alone in the host country with FDI is because it feels confident that it can achieve a competitive advantage in production and/or marketing activities there (Sharma and Erramilli, 2004). Among the advantages of full ownership, firms can avoid opportunistic behaviors of partners, give access to a larger experience in international operations or have a greater contact with the host market (Tersptra and Sarathy, 1997). Nevertheless, this operation also offers disadvantages or limitations. A large amount of capital and resources are necessary to undertake it and firms face alone to institutional problems that could exist in the host country, especially those related to an expropriation risks (Tersptra and Sarathy, 1997). Firms can undertake FDI modes through different ways: acquiring an existing business or investing of new resources (Root, 1987). Acquisitions are a faster way of being in the host market but at the same time integration problems with the firm acquired can emerge due to differences in cultural and technological terms (Dikova and Van Witteloostuijn, 2007). For its part, organic growth offers an opportunity of preserving and replicating the corporate culture in the foreign market but it requires a longer period of time for establishing the subsidiary and creating local networks (Dikova and Van Witteloostuijn, 2007).

All in all, the analysis of international operations for SMEs has tended to be focused on exports and imports (Fernández and Nieto, 2006; Hessels and Parker, 2013; Holmlund, Kock and Vanyushyn, 2007; Korhonen et al., 1996; Kundu and Katz, 2003; Overby and Servais, 2005; Shinkle and Kriauciunas, 2010; Svendsen and Haugland, 2011). Some scholars point that SMEs, because of their limitations, have more difficulties to undertake international modes such as foreign direct investment (De Chiara and Minguzzi, 2002). In the outward side, then, exports seem to be the most attractive option for SMEs due to the low level of risk implied and the lower requirements in resource for undertaking it. Nevertheless, other scholars also include alternative outward operations in the analysis. Usually, they differentiate between non-equity and equity entry modes (Brouthers and Nakos, 2004; Brouthers et al., 1996; Jonsson and Lindberg, 2010; Lu and Beamish, 2001; Nakos and Brouthers, 2004; Rasheed, 2005; Schwens et al., 2011). The same occurs in the inward side. In this case, although literature tends to analyze inward operations in big companies, some studies consider SMEs beyond the analysis of imports (Arend and Wisner, 2005; Di Gregorio et al., 2009; Hätönen, 2010; Roza, van den Bosch and Volberda, 2011).

All in all, in figure 7 we resume graphically the international operations considered above. In this dissertation we will address some questions related to them that have not been completely examined in the literature.

Figure 7: Foreign operation methods



S= supplier; *P*=producer; *C*=customer; *i, j* and *k* denote companies; *a, b* and *c* denote countries

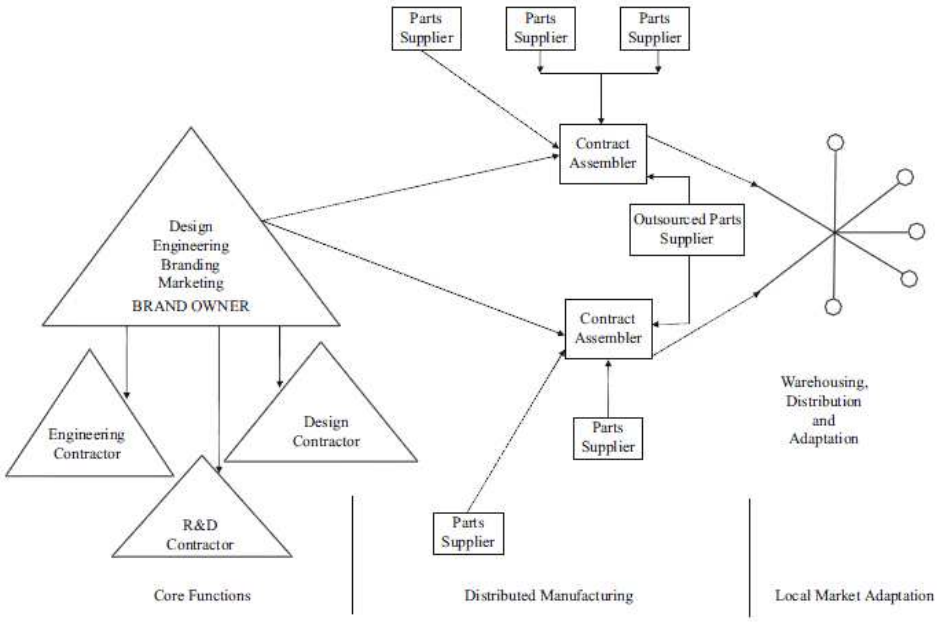
Source: Welch, Welch, Benito and Petersen (200, p. 19)

3.2. The global value chain

Some scholars have gone beyond the individual analysis of the inward and outward operations for analyzing the whole value chain. The improvement in transport systems, the development of information and communication technologies, and the reduction of the barriers to commerce, among other factors, have generated an increase in the global competence. It has pushed firms not only to undertake international operations but to configure their value chains globally. Thus, firms look for optimal locations in order to access to raw materials, intermediate goods, services, labor forces, production plants or customers, etc. (Buckley and Ghauri, 2004). They constitute what the literature has named the global factory (see figure 9) (Buckley, 2011). The idea behind is that each activity has different features and requirements, that each location has unique local

resources, and that firms improve their capabilities with a global configuration of their activities (Hsu and Chen, 2009).

Figure 8: The global factory – a stylized representation



Source: Buckley (2011, p.272)

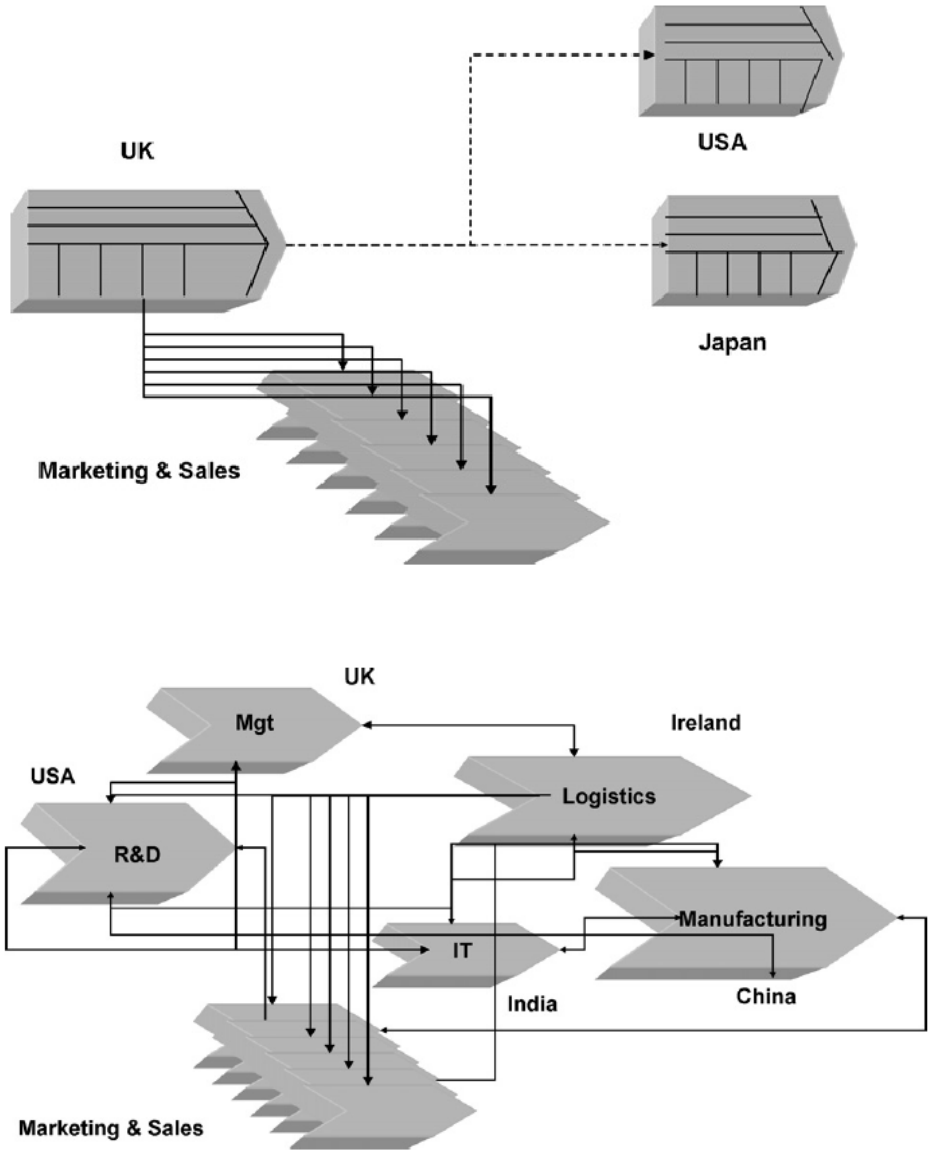
The value chain describes a set of activities required for launching products and services, the intermediate production phases, and their deliveries to the client (Kaplinski, 2004). All these activities can be grouped in three main categories: the upstream (input) end, which comprises activities such as design, basic and applied research and the commercialization of creative endeavors; the downstream (output or market) end, which comprises activities such as marketing, advertising, brand management and after sales services; and the middle, which comprises activities such as manufacturing, standardized service delivery, etc. (Mudambi, 2008). Other studies, however, group in upstream activities those related to the sourcing and production and in the downstream activities those related to sales (Rugman and Verbeke, 2004).

Different studies have focused on the analysis of the location of specific activities along the value chain (Demirbag and Glaister, 2010; Jensen and Pedersen, 2011;

Martinez-Noya, Garcia-Canal and Guillén, 2011). Others try to analyze the whole value chain examining the configuration in terms of the degree of dispersion of it (Beugelsdijk, Pedersen and Petersen, 2009; Hansen, Pedersen and Petersen, 2009) (see figure 10). The location of different stages of the value chain is determined by the national comparative advantages among countries (Buckley, 2011). Some scholars point that globalization is only present on the upstream end of the value chain where firms exploit differences between nations and regions, while the downstream end only allows firms capitalize the similarities among markets (Rugman and Verbeke, 2004). However, Rugman, Li and Oh (2009) show that a regional configuration could prevail in the upstream side. Moreover, some studies include in the analysis of the global value chain the diversity of international operations. As an example, Hashai et al., (2010) argue that the diversity of modes used allows firms to learn from different partners. However, the examination of these aspects are far from been completed and several questions remain unanswered. The higher interest for the analysis of the global value chain is due to the interdependence among activities. Indeed, some scholars posit that the whole information and transport costs must be considered when the firm takes decisions in its international strategy (Buckley and Casson, 2009; Asmussen, Pedersen and Petersen, 2007; Asmussen, Benito and Petersen, 2009).

All in all, we argue in this dissertation that more research is needed in the analysis of the implications of a global value chain configuration.

Figure 9: Examples of a dispersed and concentrated global value chain configuration



Source: Hansen et al., (2009, p. 123 and 124)

CHAPTER 2

THE DIRECT IMPACT OF THE NORMATIVE AND COGNITIVE DISTANCES AND THE MODERATING EFFECT OF REGULATIONS ON THE INTERNATIONALIZATION OF SMES[1]

[1] This chapter has been published as a book chapter in the book edited by R. van Tulder, A. Verbeke and L. Voinea. New policy challenges for European multinationals (Progress in International Business Research, Volume 7), Emerald Group Publishing Limited, (2012) pp.233-255.

1. Introduction

According to North (1990), institutions represent the 'rules of the game' in a society, providing the structure for human interaction and setting formal and informal limits. Firms, then, must take account of these institutional pressures (Oliver, 1997; Spencer and Gómez, 2011) in their strategic decisions (Ingram and Silverman, 2002; Gao et al., 2010). Research into institutional context has focused on different dimensions related to three key elements: regulative, normative and cultural-cognitive (Scott, 2001). Some authors, however, distinguish between formal and informal institutional factors (North, 1990), with the former including regulative and the latter normative and cognitive aspects.

The study of the effect of these different institutional dimensions has been uneven. Some authors point out that macro-analyses of institutions have largely been performed on the formal aspects of state systems, rather than on norms and values (Cantwell, Dunning and Lundan, 2010). Indeed, studies of the impact of institutional factors on international entry modes frequently analyze the destination country for issues such as political stability (Chan and Makino, 2007), level of regulatory development (Coeurderoy and Murray, 2008), or level of risk (Davis et al., 2000; Taylor et al., 2000). In contrast, the study of informal factors focuses on the cultural context, particularly cultural distance (Chang and Rosenzweig, 2001; Chen and Hu, 2002; Kogut and Singh, 1988). Only a small number of works go beyond cultural concerns to examine the normative component of institutions (Xu, et al., 2004), and few studies analyze the cognitive-cultural and normative dimensions together (e.g., Gaur, Delios and Singh, 2007; Yiu and Makino 2002).

This situation is mainly due to the overlap of normative and cognitive dimensions that typically exists in the literature (Chao and Kumar, 2010), given that both dimensions are conceptually close to cultural issues (Kostova, 1999). And yet these are two different informal dimensions, created by different processes. While normative aspects are the result of human design and are instrumentalized by individuals, cognitive aspects are more deeply rooted and do not derive directly from the attributes of individuals (DiMaggio and Powell, 1991; Hoffman, 1999). Analyses, then, that overlap these dimensions are unable to reveal the full effect of informal dimensions on the decisions of firms. Additionally, we should note that some studies analyze an interaction effect between formal and informal dimensions (Brouthers and Brouthers, 2001; Lopez-Duarte and Vidal-Suarez, 2011), with cultural distance taken as the informal dimension and country risk (as a component of the regulative dimension) as the formal.

It is also worth noting that institutional theory has been little used to explain the internationalization of SMEs (Schwens et al., 2011). This theory, however, could be extremely valuable for developing the literature on SMEs, firms that by nature are more sensitive to environmental factors than are large firms (Erramilli and D'Souza, 1995). Most research concentrates on the direct investment decisions of large firms via samples with single countries of origin and/or destination. Conversely, research into the entry modes of SMEs has tended to focus on comparing ownership and non-ownership forms (e.g., Brouthers and Nakos, 2002; Schwens et al., 2011). As a result of their limitations, SMEs often opt for non-ownership entry modes. Many non-ownership entry types exist and merit consideration, however.

Our work attempts to cast more light on the choice of entry mode in SMEs, primarily paying attention to the individual impact of each informal dimension on this decision. The study's first objective, then, is to analyze how institutional differences in the origin and destination countries affect the choice of entry mode (examining the separate effects of normative and cultural-cognitive distances). A second objective is to take into account the formal dimension of institutional context. In line with this, we explore a possible interaction effect of each of the informal distances and the regulatory development of the destination country, as well as how this may influence the choice of entry mode.

The study contributes to the literature from various angles. From a theoretical point of view, we set out to examine the effect of institutional distance in informal terms (separately considering the normative and cultural-cognitive dimensions) on the choice of international entry modes in SMEs. We also look for the existence of a moderation effect of a formal dimension on these relationships. In addition, we go beyond a simple comparison between exports and direct investment to consider entry modes based on collaboration. This wider outlook provides a more complete picture of the possibilities open to SMEs, options often not considered in previous research. In empirical terms, the study allows us to advance previous work by using a large sample of European SMEs with rich information on international strategy. This database provides information on the different entry modes (exports, collaboration and foreign direct investment) of each firm and for each decision. We have data, then, on the destination and origin country for each internationalization decision and are able to perform an appropriate multilevel analysis. This approach allows us to reach rigorous results that are generalizable to multiple sectoral and national contexts.

The study is organized in the following manner. The next two sections consider the theoretical aspects of institutional factors and international entry modes of SMEs and formulate the study's hypotheses. The study then goes on to describe and discuss the methodology used, the results obtained and their implications, and some limitations and future lines of research.

2. Theoretical framework

2.1. Institutional Theory and International Entry Modes

From an institutional perspective, firms operate in a framework of norms and values that determines appropriate or acceptable economic behavior (Oliver, 1997). These norms and values include the assumptions that: individuals are motivated to comply with external social pressures; decisions are taken in accordance with the social context of the firm; and external pressures reduce variation in the firm's structures and strategies (Oliver, 1997). Institutions, then, determine the formulation, implementation and creation of a competitive advantage (Ingram and Silverman, 2002). And it is the dynamic interaction that exists between institutions and organizations that drives strategic choices (Peng, 2002).

The use of institutional theory to analyze entry mode decisions is a fairly recent development in the study of internationalization strategy. Research has centered on the context of the destination country or on the institutional distance between origin and destination countries (Kostova, 1999). Specifically, the received knowledge is that institutional differences between countries add uncertainty to strategic internationalization strategies (Henisz and Delios, 2002). The institutional perspective, then, adopts the argument of legitimacy when it comes to performing international

operations. This would explain why organizations do not compete only for resources and clients, but also for political power and institutional legitimacy (DiMaggio and Powell, 1983).

Most work has not applied institutional theory to the entry forms of SMEs, although some studies do indicate the need to extend its use to these firms (Jonsson and Lindbergh, 2010; Schwens et al., 2011). While firms in general face the "liability of foreignness" when entering other countries (Zaheer, 1995), the limitations of SMEs may leave them vulnerable to particularly high associated costs (which may even outweigh the initial benefits) (Lu and Beamish, 2001). Different entry forms also bring with them varying levels of risk, control or flexibility (Hill et al., 1990), which makes it important to consider all the options when trying to gauge the impact of institutional dimension.

2.2. Informal Institutional Differences and the Regulatory Development of the Destination Country

Normative and cognitive institutions are more closely related to culture than are regulative institutions (Kostova, 1999). Consequently, many papers examine the normative and cognitive dimensions together via culture (e.g., Kogut and Singh, 1988; Jensen and Szulanski, 2004; Salomon and Wu, 2012). Indeed, culture molds behavior from the values that make up the perceptions of the world and societal norms (Root, 1987). As Kostova (1999) points out, in some cases scholars emphasize the cognitive nature of culture, while in others they stress its normative component. Thus, some studies use cultural factors to analyze the cognitive dimension (e.g., Gaur et al., 2007; Pogrebnyakov and Maitland, 2011), while others use culture to examine the normative dimension (e.g., Busenitz, Gómez and Spencer, 2000; Yiu and Makino, 2002).

The normative dimension (according to the definitions established by the literature) refers to how things should be done, the standards of behavior that exist in a group or category of people (Hoftsede, 1991). These standards include the informal norms, values and practices that guide behavior and decisions (Chao and Kumar, 2010). In the same way, therefore, the management practices of a country describe the standard behavior and norms operating in the business world (Xu et al., 2004).

For its part, the cognitive dimension refers to the thoughts and values imposed or internalized by social actors (and shared in a specific country) that affect the way in which people recognize, categorize and interpret contextual stimuli (Kostova, 1999). Some authors label this dimension as "cultural-cognitive", thereby recognizing that the internal interpretative processes conform to the external cultural frameworks (Scott, 2001). Given this situation, distinguishing between cultural-cognitive and normative dimensions is necessary if we want to further our understanding of how these informal factors affect the internationalization decisions of SMEs. In this work, we consider the normative dimension to analyze the social aspects and business practices of institutions (Xu et al., 2004; Chao and Kumar, 2010) and the cultural-cognitive dimension to analyze cultural factors (Gaur et al., 2007; Pogrebnyakov and Maitland, 2011).

Additionally, it is notable that only a few studies analyze the interaction effect between the different institutional dimensions. Brouthers and Brouthers (2001) and López-Duarte and Vidal-Suárez (2011), for example, observe the interaction between cultural distance and country risk on entry modes, though the two studies reach different findings. Some authors maintain that research into the formal institutions of a country should go beyond questions of country risk (Slangen and van Tulder, 2009). This requires an analysis of the governmental infrastructure of a state (Globerman and

Shapiro, 2003; Slangen and van Tulder, 2009) and an observation of whether this can modify the relation between the informal differences and the entry decisions of SMEs. Our work also attempts to advance in this direction by throwing light on this possible moderating effect.

3. Hypotheses

3.1. Normative Distance

As firms have to acquire and maintain legitimacy in the environments in which they operate, they are likely to adapt to local practices (Kostova and Roth, 2002). In addition to external legitimacy, firms may want to maintain internal legitimacy by acting in a manner consistent with their own organizational values (Davis et al., 2000). Despite the twin concerns of internal and external consistency, some scholars argue that obtaining external legitimacy is of primary importance for firms, even when this causes a loss of internal legitimacy (Xu et al., 2004). It is not easy, however, to respond to local pressures and achieve external legitimacy in a destination country when the normative system is markedly different from that of the origin country (Chao and Kumar, 2010).

In contrast to what occurs with the regulative dimension, normative institutions are of an informal nature, which may make it difficult to acquire information about them before market entry (Kostova and Zaheer, 1999; Yiu and Makino, 2002). For tacit questions, then, gaining access to knowledge about particular norms and their effects may become more complicated as the differences between origin and destination countries grow (Gaur and Lu, 2007). Despite these difficulties, adapting to the norms of the destination country increases normative legitimacy as it paves the way for acceptance of the firm's mode of operation by local actors (Jensen and Szulanski,

2004). It also averts the possibility of non-fulfillment or adherence, along with the threat of social and professional sanctions (Kshtetri, 2010).

As far as normative distance is concerned, therefore, we may be able to infer from this that SMEs will attempt to juggle the lack of knowledge on institutions in the destination country with the need to adapt to them. These firms, then, may attempt to maintain a dynamic approach by opting for the flexibility provided by non-ownership modes (Schwens et al., 2001), while also committing themselves to adapting to the norms of the destination country. Madhok (1997) states that differences between origin and destination countries erode the appropriability and applicability of the firm's routines by increasing implementation and adaptation costs, and that this leads to a greater preference for collaboration. In line with this, Schwens et al. (2011) indicate that when operating in environments where large institutional differences exist, SMEs adopt entry modes that give them flexibility. Collaboration is one such instrument that allows greater flexibility than ownership forms; it also provides more opportunities to adapt to the destination country and obtain information than do export forms. Moreover, since SMEs tend to suffer from limited resource endowments, collaboration can offer a good way of overcoming these shortages, as Oviatt and McDougall (1994) point out in the context of new firms. Thus, SMEs may choose to collaborate with local operators when the normative differences between origin and destination country are great. This form of entry may provide legitimacy and knowledge and ease the adaptation to new normative systems. Based on these arguments, we put forward the following hypothesis:

> **Hypothesis 1:** *Normative institutional distance is positively related with the likelihood that SMEs will prefer collaboration over exports or foreign direct investment.*

3.2. Cultural-cognitive Distance

Some studies mention the paradox of cultural distance (Brouthers and Brouthers, 2001; Lopez-Duarte and Vidal-Suarez, 2011; Quer, Claver and Rienda, 2007). As with other dimensions of institutional context, this paradox refers to the lack of agreement on the relation between cultural distance and choice of entry mode. According to one point of view, cultural distance results in a lack of familiarity with the destination country, a weakness that firms attempt to minimize by opting for low-commitment entry forms such as licenses (Kim and Hwang, 1992). Another point of view sees this lack of familiarity as the reason firms internalize operations and attempt to maintain tighter control (Chen and Hu, 2002). Scholars generally agree, however, that greater cultural distance makes managers more likely to avoid high-commitment entry forms, mainly because they do not agree with or understand the values of the destination country (Root, 1987). Specifically, managers prefer to have less control as cultural distance grows (Goodnow and Hansz, 1972). As set out in hypothesis 1, then, collaboration agreements are examples of non-ownership forms that provide firms with flexibility and access to local knowledge without assuming the risks of investment. In accordance with this, we propose the following hypothesis:

> **Hypothesis 2:** *Institutional cultural-cognitive distance is positively related with the likelihood that SMEs will prefer collaboration over exports or foreign direct investment.*

3.3. Interaction Effect of Regulatory Development in Destination Country with Normative and Cultural-cognitive Distances

Work exists that attempts to show the interaction effect between different institutional dimensions. Some studies (though results differ), for example, examine the interaction effect between cultural distance and regulatory factors (e.g., country risk) on entry modes (Brouthers and Brouthers, 2001; Lopez-Duarte and Vidal-Suarez, 2011). Brouthers and Brouthers (2001) suggest that firms are more likely to opt for total ownership over joint ventures as cultural distance and the risk associated with the destination country increase. In contrast, Lopez-Duarte and Vidal-Suarez (2011) find the opposite relation.

As previously stated, greater normative or cultural-cognitive distances result in diminished levels of knowledge of practices and norms in the destination country (Henisz and Delios, 2002) and greater difficulties to understand existing values (Root, 1987). This relation may be reinforced when the level of regulatory development in the destination country is lower. In fact, in these cases the difficulties of adapting to normative and cultural-cognitive differences are greater because of the increased insecurity of the legal system in the destination country. This situation could encourage firms to look for a local partner as a means of overcoming these difficulties in both formal and informal terms. Conversely, higher levels of regulatory development in the destination country –even when a large institutional distance exists in normative and/or cultural-cognitive terms– may reduce the need for collaboration. For this reason, then, we postulate the following hypotheses:

Hypothesis 3: *The positive relation between normative institutional distance and collaboration-based entry modes in SMEs increases with lower levels of regulatory development in the destination country.*

Hypothesis 4: *The positive relation between cultural-cognitive institutional distance and collaboration-based entry modes in SMEs increases with lower levels of regulatory development in the destination country.*

4. Empirical analysis

4.1. Sample

The study uses the *Internationalisation of European SMEs, European Commission, DG Enterprise and Industry, 2010* survey to perform the empirical analysis. This survey contains data on the internationalization of European SMEs from 2006 to 2008. The survey was produced from a study commissioned by the European Commission (Directorate General Enterprise and Industry) and implemented by EIM Business & Policy Research.

The database has entries on 9,480 SMEs with between one and 249 employees. The sample considers three types of SMEs according to size: micro (1-9 employees); small (10-49 employees); and medium (50-249 employees). These firms are also classified by business sector. The data correspond to 33 European countries; specifically, the EU-27 plus Croatia, Iceland, Liechtenstein, FYR Macedonia, Norway and Turkey. The large number of firms and countries included in this survey makes its results widely generalizable to different countries and contexts.

Not all of the firms in the database have internationalized, with approximately half of them only operating in their national markets. The independent and control

variables reduce the sample to 2,882 firms that perform at least one of the following entry modes: exports; collaboration (understood as technology transfer); and foreign direct investment. In cases where a firm takes multiple entry decisions, the database provides information on the origin and destination countries for each one. From the total of 2,882 firms (from 25 European countries), we obtain 7,535 observations that correspond to the entry mode decision level in the different destination countries.

4.2. Variables

4.2.1. Dependent variable

Entry mode: This variable indicates the entry mode chosen, classified via three categories. The variable takes value 1 if the firm performs entry modes based on *exports*; value 2 in the case of *contractual collaboration*; and value 3 in the case of *foreign direct investment* via joint ventures and subsidiaries.

4.2.2. Independent variables

Normative distance: This is a quantitative variable that measures the difference between regulatory development in the origin and destination countries. The study uses data from the *Global Competitiveness Report 2008/2009* (published by the *World Economic Forum*) for this purpose; previous research has also made use of this database (Chao and Kumar, 2010; Delios and Beamish, 1999; Xu et al., 2004; Wan and Hoskisson, 2003). To construct the measure we perform a factorial analysis of the main components (Busenitz et al., 2000; Gaur et al., 2007; Gaur and Lu, 2007; Globerman and Shapiro, 2003; Xu et al., 2004) with the indicators used by Chao and Kumar (2010) and Xu et al. (2004)**:** Customer orientation (goods market efficiency – quality of demand conditions); Pay and productivity and Reliance on professional management (labor market efficiency – efficient use of talent); Willingness to delegate; Value chain

breadth (business sophistication – sophistication of firms' operations and strategy); Staff training (higher education and training – on-the-job training); and Efficacy of corporate boards (institutions – private institutions).

Cultural-cognitive distance: This is a quantitative variable. We use the index developed by Kogut and Singh (1988), who base the calculation of the measures on the dimensions identified by Hofstede: power distance; uncertainty avoidance; individualism; and masculinity. The index is calculated via the differences between the cultural-cognitive dimension of each origin and destination country. The results are then squared and divided by the variance of each dimension in question. To obtain a single value, the values obtained are added together and divided by four.

Regulatory development of destination country: This is a quantitative variable that measures the level of regulatory development in the destination country, with high values indicating high levels of development. The calculation of this variable is based on *Governance Matters VIII* (Kaufmann, Kraay and Mastruzzi, 2009). The different editions of this database have been widely used to analyze empirically the impact of regulatory or formal institutions (Cuervo-Cazurra and Genc, 2008; Dikova and Van Witteloostuijn, 2007; Globerman and Shapiro, 2003; Pogrebnyakov and Maitland, 2011; Slangen and Beugelsdijk, 2010; Slangen and van Tulder, 2009). The database compiles and measures six governmental indicators considered in a single dimension via an analysis of the main components.

4.2.3. Control variables

Geographic distance: This is a quantitative variable that is calculated via the logarithm of geographical distance (in kilometers) between the origin and destination countries.

Experience: This is a quantitative variable that is calculated via the number of years the firm has been operating in international markets with one of the entry modes under study.

Size: This is a quantitative variable calculated via the number of employees in the firm's workforce in 2008.

Sector: To control for the industrial sector of the firm, we calculate a series of dichotomous variables (taking value 1 if the firm belongs to the sector in question; otherwise 0). The sectors identified are: Manufactures; Construction; Wholesale; Retail; Transport; Business services; and Personal services. In the models, however, we only include six sectors to avoid problems of multicollinearity; Personal services is excluded and used as the baseline category.

4.3. Methodology

Our unit of analysis is the entry decision in a specific location. These entry decisions are nested in firms, which are in turn nested in origin countries. Thus, the probability that an entry form *i* in a firm *j* from a country *k* occurs is expressed by the following function:

$$\Pr(f_{ijk}) = \frac{\exp\,(V_{ijk}^{f})}{\sum_{a=1}^{A} \exp\,(V_{ijk}^{a})}$$

where the A possible categories of the answer variable are represented by *a* and the lineal predictor is specified by V^{a}_{ijk}, where a=1,…, A.

Given the hierarchical structure of the data, we use two-level variables: level-1 and level-2 independent and control variables. In this way, we have variables that change for each observation (level-1 variables) and variables that remain constant for all the observations of a single firm (level-2 variables). Thus, the observations for a single firm are not independent of each other. Failing to consider the multilevel structure of the data, then, may result in biased results because of the non-independence of the observations (Arregle, Hébert and Beamish, 2006). In addition, given the categorical nature of the dependent variable, we use a multilevel logistic regression model for polytomous data (Skrondal and Rabe-Hesketh, 2003).

Table 1 summarizes the description of the variables included in the models (with the exception of the variables corresponding to the industrial sector) and table 2 displays the correlation matrix.

Table 1: Descriptive statistics

Level	Variable	Obs	Mean	Std. Dev.	Min	Max
Decision	Normative distance	7535	1.001	0.837	0.000	3.621
	Cult-cognitive distance	7535	1.541	1.322	0.031	8.998
	Regulative development host country	7535	1.055	0.712	-1.817	1.976
	Geographical distance	7535	6.951	1.098	4.088	9.860
Firm	Size	2882	52.693	58.018	1	249
	Experience	2882	17.489	17.894	1	209

Decision (level 1); Firm (level 2)

We estimate different models to test the hypotheses postulated. Model 1 includes only the control variables; model 2 includes the independent variables, the normative distance (H1) and the cultural-cognitive distance (H2); and model 3 includes the interaction effect of both distances with the regulatory development of the destination country (H3 and H4).

Table 2: Correlation matrix

		1	2	3	4	5	6	7	8	9	10	11	12
1	Normative distance	1											
2	Cultural-cognitive distance	0.135**	1										
3	Regulatory develoment host country	-0.010	-0.275**	1									
4	Geograph.Distance	0.308**	0.253**	-0.506**	1								
5	Experience	-0.035**	0.028*	-0.056**	0.073**	1							
6	Size	0.034**	0.038**	-0.007	0.016	0.176**	1						
7	Manufacture	0.013	-0.021	-0.023*	-0.006	0.122**	0.168**	1					
8	Construction	-0.010	-0.002	0.030**	-0.038**	-0.057**	0.007	-0.173**	1				
9	Wholesale	-0.001	0.003	0.013	-0.026*	0.044**	-0.003	-0.258**	-0.063**	1			
10	Retail	-0.010	0.0105	0.007	-0.034**	-0.009	-0.056**	-0.267**	-0.066**	-0.098**	1		
11	Transport	0.013	0.005	0.003	0.014	-0.022	-0.031**	-0.207**	-0.051**	-0.076**	-0.079**	1	
12	Business services	-0.018	0.009	-0.021	0.038**	-0.127**	-0.140**	-0.449**	-0.110**	-0.164**	-0.170**	-0.132**	1

* $p<0.05$, ** $p<0.01$

5. Results

Table 3 contains the results of the previously described models; for each model we include two columns. Given that the construction of the dependent variable is based on different categories, each of the models aims to compare these categories against one another. Thus, the first column of each model presents the results for each of the independent and control variables on the likelihood of using *Exports* as an entry form compared to *Collaboration* (reference category). And the second column displays the results for each of the independent and control variables on the likelihood of using *Foreign direct investment* as an entry form compared to *Collaboration.*

The results of model 2 indicate that the likelihood of choosing exports or direct investment as entry forms compared to collaboration diminishes as normative distance grows. Put differently, greater normative distance increases the probability of using collaborative entry modes; this finding provides support for hypothesis 1. Similarly, model 2 also reveals that that the probability of choosing exports or direct investment compared to collaboration falls as cognitive-cultural distance increases, although this result is only significant when exports are compared with collaboration; this finding provides partial support for hypothesis 2.

Model 3 allows us to analyze the moderating effect of level of regulatory development, as put forward in hypotheses 3 and 4. We find a positive relation for the interaction between normative distance and regulatory development, indicating that the likelihood of using exports and direct investment (compared to collaboration) increases with a growth in regulatory development and normative distance. Thus, for a specific normative distance, a lower level of regulatory development boosts the chances of

choosing collaboration over the other entry modes; this finding provides support for hypothesis 3. The same occurs with the interaction between regulatory development of the destination country and cultural-cognitive distance, thereby providing support for hypothesis 4.

The coefficients for *Regulatory development of destination country* are negative and significant for models 2 and 3. As this variable is assigned higher values as the regulatory development of the destination country increases, a negative relation indicates that more developed regulatory contexts in the destination make the use of exports and direct investment less likely (compared to collaboration), respectively. In the case of exports, this inverse relation can be explained by the fact that firms prefer entry modes that require a lower commitment of resources when entering countries with lower regulatory development (Hill et al., 1990) –and exports require a lower commitment of resources than collaboration. When foreign direct investment is compared with collaboration, this explanation is not valid as a negative relation would indicate that lower regulatory development in the destination country increases the likelihood of adopting direct investment compared to collaboration. And yet, this entry form requires a higher commitment of resources than any of the others. In this case, a possible explanation may lie in the fact that the countries with the lowest levels of regulatory development are also those that are less economically developed, thus making direct investment an attractive option as a means of reducing costs.

Of the control variables at the decision level, the coefficients for *Geographic distance* are negative and significant for both exports and direct investment compared to collaboration. This finding indicates that greater distance is related to a higher probability of opting for collaborative forms. Of the variables at the firm level, we first

consider the impact of *Experience* on the dependent variable. We find that international experience has a positive and significant effect only on the probability of using exports compared to collaboration. This may be because most SMEs begin internationalizing via exports and consequently have greater experience with them. For its part, *Size* is positively related to foreign direct investment. Indeed, the coefficient of the comparison of exports with collaboration is negative, thereby negatively relating size with exports, although the relation is not significant. Of the control variables relating to *Sector* (*Personal services* is excluded as the reference category), the following coefficients are positive and significant: *Manufactures; Wholesale; Retail* (although in this case only for exports compared to collaboration); and *Transport*. No significant relations are found for the other categories.

Table 3: Results.

	(MODEL 1)		(MODEL 2)		(MODEL 3)	
	Export	FDI	Export	FDI	Export	FDI
Norm. Dist.			-0.119†	-0.208**	-0.281**	-0.464***
			(-1.85)	(-2.67)	(-2.76)	(-4.06)
Cult-cog. Dist			-0.073*	-0.034	-0.217***	-0.162**
			(-1.99)	(-0.76)	(-4.22)	(-2.82)
ND x RegDev					0.135†	0.262**
					(1.86)	(3.12)
C-CDx RegDev					0.162***	0.136**
					(3.94)	(2.93)
Reg. Develop.			-0.406***	-0.891***	-0.955***	-1.502***
			(-5.47)	(-10.30)	(-6.22)	(-8.50)
Geograph.Dist	-0.424***	-0.300***	-0.398***	-0.382***	-0.412***	-0.403***
	(-11.43)	(-6.77)	(-7.59)	(-6.01)	(-7.79)	(-6.29)
Experience	0.008*	0.006†	0.007*	0.005	0.007*	0.005
	(2.35)	(1.76)	(2.00)	(1.16)	(2.02)	(1.21)
Size	-0.001	0.007***	-0.001	0.007***	-0.001	0.007***
	(-0.64)	(6.90)	(-0.50)	(6.23)	(-0.56)	(6.18)
Manufacture	1.327***	0.846***	1.396***	0.817**	1.408***	0.838***
	(7.40)	(4.04)	(6.58)	(3.27)	(6.62)	(3.34)
Construction	-0.259	-0.121	-0.445	-0.543	-0.433	-0.530
	(-1.02)	(-0.40)	(-1.40)	(-1.40)	(-1.36)	(-1.37)
Wholesale	1.637***	1.616***	1.608***	1.546***	1.623***	1.576***
	(6.81)	(5.93)	(5.56)	(4.68)	(5.60)	(4.76)
Retail	1.218***	0.989***	1.041***	0.517	1.053***	0.531†
	(5.55)	(3.84)	(3.94)	(1.61)	(3.98)	(1.65)
Transport	1.094***	1.844***	1.221***	1.973***	1.250***	2.009***
	(4.09)	(6.27)	(3.83)	(5.62)	(3.91)	(5.70)
Business	-0.001	0.664**	-0.077	0.524*	-0.077	0.537*
services	(-0.01)	(3.11)	(-0.35)	(2.06)	(-0.35)	(2.10)
_cons	3.808***	0.736	4.341***	2.514***	5.038***	3.285***
	(11.28)	(1.88)	(9.27)	(4.53)	(9.99)	(5.56)
N. level 1	10535		7535		7535	
N. level 2	3709		2882		2882	
N. level 3	32		25		25	
Log Likelihood	-8248.7		-5731.3		-5718.8	
LR test (chi2)			5034.7***		25.12***	
df			6		4	

t statistics in parentheses
† p<0.1; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
N. indicates the number of observations for each level

6. Discussion and conclusions

The objective of this study is to analyze the impact of informal institutional differences on the choice of international entry forms in SMEs. The chapter studies both normative and cultural-cognitive institutional differences, stressing the need to consider both dimensions independently to advance our knowledge of informal institutional factors. In addition, we attempt to observe if the regulatory development of the destination country interacts with each of the informal distances identified and influences the choice of entry form. This study, then, adds to previous research indicating the need to examine the moderating effects of third variables (Brouthers and Brouthers, 2001; Lopez-Duarte and Vidal-Suarez, 2011). We also set out to complete our knowledge of the international entry decisions of SMEs. This goal includes determining how certain institutional factors may directly affect these decisions; this is important as some studies state that these factors only exert an indirect direct on the choice of entry mode (Schwens et al., 2011).

Specifically, we postulate that SMEs have to juggle their lack of knowledge about the destination country's norms and values with their need to adapt to them –a particularly difficult task as the need for knowledge and understanding grows with increasing normative and cultural-cognitive distances. We suggest that collaborative modes permit SMEs to obtain the local knowledge necessary to adapt to the destination country and gain legitimacy, without having to assume the high risks that come with investment. In line with these hypotheses, our findings suggest that greater normative distance diminishes the likelihood of entry via exports or direct investment compared to collaboration. Likewise, as cultural-cognitive distance increases so does the preference for collaboration as a mode of entry. We also postulate that an interaction effect exists

between regulatory development and normative and cultural-cognitive distances, respectively. Destination countries with high levels of regulatory development, then, increase the chances of knowing 'the rules of the game' and offer more secure and stable legal systems. In these instances, the likelihood of using entry forms based on exports and direct investment increases, even when normative and cultural-cognitive distances are high. In contrast, the likelihood of using contractual collaborative-based entry forms is greater when SMEs face difficulties in informal terms, resulting from higher normative or cultural-cognitive distances coupled with lower levels of regulatory development in the destination.

These results shed light on the impact of formal and informal institutional dimensions on the choice of entry modes in SMEs, as well as contributing to overcoming some of the limitations detected in the literature. While most studies in the literature overlap the normative and cultural-cognitive dimensions, we consider them separately (Scott, 2001). In addition, we use the regulatory development of the destination country as a variable to capture full detail on the formal aspects of institutions in the destination, thus allowing us to follow the recommendation by Slangen and van Tulder (2009) and extend the work of most studies that typically adopt country risk as the variable.

Our study also adds to the stream of work that affirms the need to extend the literature on how institutional dimensions affect the entry forms of SMEs (Jonsson and Lingdbergh, 2010; Schwens et al., 2011). Additionally, we include contractual agreements in the analysis, thereby making it possible to extend on previous literature that largely focuses on exports or on comparing ownership with non-ownership forms. The inclusion of this intermediate contractual form allows us to observe the effect of

institutional factors on the likelihood of using collaboration rather than other entry forms, a particularly important consideration for SMEs that typically suffer from limited resource endowments. Moreover, we use a wide sample of SMEs with information on the origin and destination countries for each entry decision, thus going beyond the more common samples of firms from a single country or with a single destination country. In empirical terms, then, the availability of various observations per firm makes multilevel models the most appropriate choice as they take into account the non-independence of the observations for each firm and allow us to avoid biased results (Arregle et al., 2006).

Apart from the advances we have presented in academic terms, this study also has implications for the managers of SMEs. These managers should be aware that informal institutional aspects directly affect internationalization strategies. To be specific, these managers need to know that institutional differences in the normative and cultural-cognitive dimensions have an impact on the choice of entry mode. As these are tacit questions whose answers are difficult to ascertain before market entry in the destination country, collaboration agreements may represent the best option. Managers of SMEs should also realize that the difficulties resulting from normative and cultural-cognitive differences may be greater when the destination country has low levels of regulatory development. In these cases, therefore, contractual collaborative forms may be even more highly recommended as a means of overcoming SMEs' lack of knowledge (in formal and informal terms) about the environment they are entering.

This work is not free from limitations. First, we use indices that include scores or rankings of countries for different institutional dimensions. Various studies find that databases of this kind exert a simplifying effect (Hutzschenreuter, Voll and Verbeke, 2011; Quer et al., 2007). Despite this weakness, these indices do provide a

comprehensive picture of the different institutional issues and have been commonly used in the literature (Schwens et al., 2011). Second, our work only studies the moderating effect that the formal institutional dimension may produce on the relation between the informal institutional distances and the choice of entry mode. It would be interesting, however, to observe moderating effects with other variables. Variables, for example, that capture the length of time a firm has been operating in each of the destinations or the diversity of destinations in which it operates. Future research could analyze the impact of institutional distance on entry modes depending on the time the firm has been operating in the destination in question or on the presence of the firm in multiple destinations with diverse institutional differences. In addition, for each entry decision it would be interesting to know how much information on the destination country a firm is able to gather from government agencies or trade organizations, information that helps to reduce the informal distance perceived by the firm.

In summary, this work reveals the need to observe different informal institutional dimensions beyond cultural distance. The study also shows that low levels of regulatory development in the destination country may increase the difficulty of understanding informal institutional issues. Furthermore, our results indicate that collaboration agreements provide a way for SMEs to overcome their knowledge limitations, as well as improving their ability to adapt and gain legitimacy in the destination country.

CHAPTER 3

THE EFFECT OF THE MAGNITUDE AND DIRECTION OF REGULATIVE INSTITUTIONAL DISTANCE ON THE CHOICE OF INTERNATIONAL ENTRY MODES[2]

[2] This chapter has been recently published in the Journal of World Business (in press). Doi: 10.1016/j.jwb.2014.02.002.

A version of this chapter was also awarded with the Copenhagen Prize for the best paper written by a young scholar in International Business (2011), during the 37th EIBA Annual Conference.

1. Introduction

Different studies examine how environmental institutional factors affect the strategic decisions of firms. These studies indicate that institutional factors, along with firms' resource endowments and capacities and the level of competition in the sector, determine corporate strategies such as internationalization (Gao et al. 2010; Peng et al., 2008).

Some of the literature analyzing the impact of institutions on firms' decisions examines the differences between origin and destination countries via institutional distance (Kostova, 1999). As a country's institutional context is composed of regulative, normative and cognitive dimensions (Scott, 2001), some authors indicate the need to avoid oversimplification and concentrate on specific dimensions of institutional distance rather than broad analyses (Zaheer, Schomaker and Nachum, 2012). In line with this idea, this study focuses on the regulative dimension, as it has been observed to have a strong impact on internationalization decisions such as the choice of entry mode (Chao and Kumar, 2010; Yiu and Makino, 2002). Regulatory institutions include laws, regulations, and political and social configurations (Dikova and van Witteloostuijn, 2007) that determine the governance framework for economic, legal and social relations (Globerman and Shapiro, 2003). On the one hand, these institutions define in a coercive manner what is and what is not allowed; firms, then, do not have the option of freely deciding to follow these regulations or not, they are obliged to do so (Eden and Miller, 2004). As Slangen and Beugelsdijk (2010) suggest, this situation may imply that governance imperfections are exogenous hazards that have to be taken as a given by firms. And on the other hand, since any modification to this situation depends on the regulators, a change in the regulations is more rapid and can quickly affect business

decisions, in contrast to informal institutions whose change is slower (Estrin et al., 2009; North 1990). Lastly, regulatory institutions in distinct countries can be classified via degree of development. Specifically, different authors include with regulative distance the fact that the regulatory development of destination countries may be more or less weak than that of the origin country (Håkanson and Ambos, 2010; Wu, 2013). It is, then, possible to talk of an asymmetric effect of regulative distance (Cuervo-Cazurra and Genc, 2011; Phillips et al., 2009; Zaheer et al., 2012), an effect that depends on whether the firm enters countries with better or worse regulatory conditions than those of the origin country. This consideration follows the recommendation posited by Shenkar (2001) about addressing the illusion of symmetry in the analysis of distance. For this reason, then, we need to consider the two directions of distance: negative distance (when a firm enters countries with less developed regulatory conditions than the origin country); and positive distance (when a firm enters countries with more developed regulatory conditions than the origin country).

The inclusion of asymmetry in the study of institutional distance is a recent phenomenon. The literature on institutional distance –and specifically regulative distance– has traditionally conducted its analysis in absolute terms, solely considering the magnitude of the distance. This focus has resulted in no distinction being made between firms entering countries with higher or lower levels of regulatory development than the origin country (positive and negative regulative distance). This limitation could explain why studies based on transaction cost economics (considering efficiency criteria) and institutional theory (considering legitimacy criteria) –the two theoretical approaches used to examine the impact of regulative distance on entry mode choice– find contradictory results. Some papers argue that greater regulative distance leads firms

to prefer entry forms requiring lower resource commitments (Dow and Larimo, 2009; Xu et al., 2004; Xu and Shenkar, 2002); other research, however, suggests the opposite relation (Estrin et al., 2009; Gaur and Lu, 2007). We believe that the analysis of the asymmetric effect of regulative distance requires the inclusion of both criteria in order to reveal how firms tackle the choice of entry mode as they seek efficiency under institutional constraints (Kim and Gray, 2008; Roberts and Greenwood, 1997). Firms, then, are not performing efficiency optimization by only focusing on the costs and risks in their operations, but efficiency maximization as they are subject to institutional influences in order to achieve external legitimacy (Roberts and Greenwood, 1997).

The study looks to contribute to the literature in different ways. First, the focus on the regulative dimension advances our understanding of the asymmetrical effect of this particular dimension on firms' decisions. Although the regulative dimension is central to internationalization decisions, few studies analyze the asymmetric effect of distance. Second, our examination of the direction of the distance by integrating economic and institutional perspectives makes it possible to consider how firms respond to the dual need for legitimacy and efficiency. This enables us to shed light on the contradictory findings of previous studies that limit their focus to the magnitude of institutional distance. Third, and in line with the recommendation by Bruton et al. (2010), this study also goes beyond most other studies, which are restricted to a single origin or destination country. The richness of the available data (with a sample of European SMEs from more than 30 countries operating in over 100 destination countries around the world and from different manufacturing and service sectors) allows us to perform a multilevel analysis considering factors at the decision, firm, and firm's home country levels.

The study is organized as follows. The next section addresses the relevant theoretical aspects and research hypotheses, before going on to discuss the methodology. The final sections present an analysis of the results and their implications, concluding with some comments on limitations and future lines of research.

2. Literature review and hypotheses

The impact of institutions –and of institutional distance– on the choice of entry mode has typically been viewed from the perspectives of transaction cost theory and institutional theory (Demirbag, Glaister and Tatoglu, 2007; Gelbuda, Meyer and Delios, 2008; Kim and Gray, 2008). The former focuses on efficiency criteria, while the latter examines legitimacy criteria. The studies based on transaction cost economics suggest that firms prefer entry forms requiring lower resource commitments in order to minimize the effect of uncertainty when the regulative distance is great (Dow and Larimo, 2009). This focus on costs and risks, however, has also given rise to contrary arguments. As Gaur and Lu (2007) state, one way of mitigating costs in countries separated by a wide regulative distance is by using entry forms that offer greater control over operations. This argument is based on the belief that greater institutional distance produces uncertainty and unfamiliarity, resulting in higher transaction costs in market operations and thereby favoring entry forms associated with heavier resource commitments (Kim and Gray, 2008; Tihanyi et al., 2005).

Of the studies that analyze institutional differences from the institutional theory perspective, some suggest that firms prefer entry modes that require lower resource commitments when distance grows because they allow them greater flexibility and minimize the conflicts between external legitimacy and internal consistency (Xu et al.,

2004; Xu and Shenkar, 2002). Other papers, however, argue that entry forms that offer higher levels of control make it possible to manage regulatory differences more easily (Estrin et al., 2009) –an approach that gives priority to internal consistency over the acquisition of external legitimacy (Davis et al., 2000). The empirical evidence from this approach, though, suggests that it is external legitimacy that is vital for the survival of MNEs (Xu et al., 2004). Moreover, this external legitimacy may be especially important for SMEs, as these firms are more influenced by external forces than are large firms (Cheng and Yu, 2008).

Given that institutions provide the structure for transactions to take place and affect the firm's choice of entry mode, both perspectives seem to be required (Delios and Beamish 1999). Specifically, we follow the line of those authors who believe that they are complementary, as firms are obliged to manage the needs of legitimacy and efficiency in their decisions (Kim and Gray, 2008; Roberts and Greenwood, 1997). And yet, although these papers make an effort to integrate both approaches, they only analyze the magnitude of the distance. We feel that by including the impact of direction we are able to clarify the relation between regulative distance and entry mode choice. This is the case because the needs of legitimacy and efficiency may exert different effects on firms' decisions depending on the direction of the distance.

Some studies explore asymmetry in the relation between cultural distance and firms' decisions, such as the assignation of expatriates in subsidiaries or the degree of influence of the headquarters over subsidiaries (Brock et al., 2008; Drogendijk and Holm, 2012). Other research extends the reach of asymmetric effects to other institutional dimensions (Cuervo-Cazurra and Genc, 2011; Phillips et al., 2009). A few studies even focus on the regulatory dimension and point to the influence of institutional

distance –depending on whether it is positive or negative– on the success of product innovations (Wu, 2013). Nevertheless, the analysis of regulative distance via the premise of the existence of asymmetry is underdeveloped in the study of entry mode decisions.

Taking this idea of asymmetry as a starting point, our reasoning is based on the argument that the direction component makes it possible to consider institutions as constraints for firms' decisions only in some circumstances. The legitimacy criterion, then, is only a determining factor in certain cases; any assumption that institutions are constraints in all cases would involve presuming symmetrical effects in which the problems of obtaining legitimacy are the same for a firm regardless of whether it operates in a country with a stronger or weaker regulatory environment than its origin. Moreover, equating the existence of institutional distance with a lack of institutional knowledge (Eriksson et al., 1997) implies that greater distance has the same effects on the entry mode decision independently of the relative position of the origin and destination countries because the firm does not possess sufficient complementary resources to comprehend a new institutional environment (Cuervo-Cazurra, Maloney and Manrakhan, 2007). Håkanson and Ambos (2010) show, however, that absolute differences in governance systems are not alone in affecting the psychic distance perceived between countries, direction also plays a role. The reason for this is that stronger and weaker institutions do not have the same limiting role when firms seek legitimacy (Ang and Michailova, 2008).

All in all, considering both factors (magnitude and direction of the distance) makes it seem reasonable to assume that distance will have a different effect on firms' decisions (specifically on the resource commitment of the entry mode) depending on the

favorability or unfavorability of the regulatory infrastructures compared to those of the origin country. We should, then, bear in mind not only the differences among institutions, but also the impact of the varying degrees of institutionalization in the origin and destination countries (Phillips et al., 2009; Wu, 2013). Put more simply, we need to note *how* regulatory institutions differ in addition to *by how much* (Zaheer et al., 2012). This leads us to consider two different scenarios: situations in which the regulatory development in the destination country is lower than in the origin country; and situations in which the regulatory development in the destination country is higher than in the origin country.

2.1. Regulatory development in the destination country is lower than in the origin country: negative regulative distance

The most common example of internationalization decisions in countries with lower levels of regulatory development occurs when firms from developed countries move into developing countries. Developing countries commonly offer advantages related to lower labor costs and the availability of natural resources, among others (Dunning, 1998). In this situation, however, the mismatch between the two systems produces greater risk and uncertainty, essentially stemming from a lack of knowledge about how to handle such levels of risk (Berry, 2006).

Countries with high levels of regulatory unpredictability typically display frequent and unexpected changes in government policies, government intervention in business, and inadequate means to enforce laws and contracts (Slangen and van Tulder, 2009). The existence of high levels of corruption has also been shown to have a negative impact on investment (Javorcik and Wei, 2009), while ambiguous and complex

local regulations are likely to generate hazards in technology transfers (Coeurderoy and Murray, 2008) or to hinder the success of product innovations (Wu, 2013).

The previously mentioned factors imply a regulatory uncertainty in the destination country, an uncertainty that significantly affects the ability to conform to local legitimating requirements (Chan and Makino, 2007). Destination countries with weak institutions characterized by restrictions and limitations pose great problems of adaptation for firms, specifically because they lack correctly functioning formal institutions (Schwens et al., 2011). These arguments suggest that a poorer understanding of less developed institutions increases the perception of the difficulties to manage regulative distance (Håkanson and Ambos, 2010).

Firms then, need to give priority to the possibility of obtaining legitimacy in the host environment, as they have to seek efficiency by considering the institutional constraints. Thus, in situations with small distance gaps (e.g., when firms from countries with low levels of regulatory development enter even more poorly regulated countries), the difficulty to adapt to the regulatory institutions of the destination country is lower. In these cases, the institutions are similar to those of their origin country (Cuervo-Cazurra and Genc, 2008). In contrast, the difficulty is greater for firms from countries with more developed regulatory frameworks. These firms will find it harder to achieve legitimacy in destination countries where the regulative institutional distance is high (Xu and Shenkar, 2002), especially in destination countries where they are not familiar with the regulatory 'rules of the game' and where the rules may not even be clearly established. As distance increases in a negative direction, then, firms will face greater deficits of institutional knowledge and more adaptation problems caused by the growing gap between regulations of the origin and destination countries. Since firms need to

choose entry modes that first satisfy their needs for external legitimacy, they may prefer low commitment entry modes that could alleviate these adaptation problems (Xu et al., 2004).These considerations lead us to put forward the following hypothesis:

Hypothesis 1: *As negative regulative distance increases, firms will be more likely to prefer entry modes requiring a lower level of resource commitment*.

2.2. Regulatory development in the destination country is higher than in the origin country: positive regulative distance

The literature on firms going in the opposite direction (i.e., from countries with lower levels of regulatory development to destinations with higher levels) typically analyzes the entry decisions of firms from developing countries that plan to begin operating in developed ones. These studies highlight different reasons for this type of internationalization, such as looking to overcome the limitations of their countries of origin; gaining access to new technologies or a more developed customer base; or aiming to improve their reputation or brand image (Luo and Tung, 2007; Wright et al., 2005). In any case, the analysis should not be limited to the differences between developed and emerging countries. Indeed, many regulatory differences exist among the so-called developed countries, and the level of regulatory development is also important in the internationalization decisions of firms in these countries.

Globerman and Shapiro (2003) observe that firms have a better chance of performing FDI operations in countries with relatively good governance (i.e., with a transparent, impartial and effective legal system that protects property and individual rights; with stable, credible and honest public institutions; and with government policies that promote open and free markets). Infrastructures of this kind make for strong institutions that are able to establish predictable rules that support the efficiency of

transactions (Gelbuda et al. 2008). Additionally, Kostova and Zaheer (1999) point out that regulatory issues are easier to observe, interpret and understand when they are formalized, and that firms can obtain external legitimacy by conforming to the regulatory domain of the destination country. Firms, therefore, should be able to operate with greater ease in scenarios in which the 'rules of the game' are more clearly established (Cuervo-Cazurra and Genc, 2011) and act in accordance with the coercive mechanisms of regulations (Phillips et al., 2009). In other words, when firms enter destinations where the regulatory development is higher, they are able to adapt more easily as the distance grows, because they are entering less uncertain environments. In these cases, then, firms would need to give priority to efficiency criteria when taking entry decisions, given that legitimacy criteria are easier to achieve.

These efficiency criteria cause firms to consider the potential risks and costs of greater distance. According to the theory of transaction costs, the costs derived from regulatory differences are associated with the existence of environmental uncertainty. Thus, greater distance implies higher costs and risks, which results in firms choosing entry modes with a lower resource commitment (Brock et al., 2008; Tihanyi et al., 2005). But firms considering the magnitude of the distance in conjunction with positive direction may perceive less environmental uncertainty; in these cases, greater distance does not bring with it higher costs and risks for their operations. Indeed, firms that enter better regulated countries will perceive that they can benefit from the institutional advantages in those markets (Chan, Isobe and Makino, 2008). These considerations lead us to put forward the following hypothesis:

Hypothesis 2: *As positive regulative distance increases, firms will be more likely to prefer entry modes requiring a higher level of resource commitment.*

3. Empirical analysis

3.1. Sample

The study uses the *Internationalisation of European SMEs, European Commission, DG Enterprise and Industry, 2010* survey to perform the empirical analysis. As its name suggests, this survey contains data on the international deployment of European SMEs; the survey was generated from a study commissioned by the European Commission (Directorate General Enterprise and Industry) and implemented by EIM Business and Policy Research. It was conducted in the spring of 2009 and contains a cross-section of data from 2008. Studies such as Hessels and Parker (2013) use previous editions of this survey to perform their analyses (in this specific case, the ENSR Enterprise Survey, 2003).

The database has entries on 9,480 SMEs with between 1 and 249 employees. The sample considers three types of SMEs according to size: micro (1-9 employees); small (10-49 employees); and medium (50-249 employees). These firms are also classified by business sector. The data correspond to 33 European countries; specifically, the EU-27 plus Croatia, Iceland, Liechtenstein, FYR Macedonia, Norway and Turkey. The large number of firms and countries included in this survey makes its results widely generalizable to different countries and contexts. Of the total number of firms, 4,422 (46.6%) declare having performed one of the following activities to enter foreign markets: exporting; collaboration (understood as technology transfer); and foreign direct investment. Given that our study seeks information on strategic international entry mode decisions (depending on institutional distance) and that the responding firms may have used more than one entry mode, we adapted the database to account for observations in terms of decisions rather than firms. This adaptation

provides us with a total of 18,066 observations on entry mode decisions. As, however, the study examines the relation between regulative distance and entry forms, we only consider internationalization decisions in which the origin and destination countries are known. This reduces the total to 10,560 observations on entry mode decisions. These decisions correspond to 3,703 firms from 32 countries.

3.2. Measures

3.2.1. Dependent variable

Entry mode indicates the entry form chosen, classified via the degree of resource commitment required. Entry modes have been classified via different criteria such as level of control, resource commitment, dissemination of risk and flexibility (Driscoll and Paliwoda, 1997). As Hill et al. (1990) posit, environmental variables influence the entry mode choice primarily through the level of resource commitment. Because we are looking at institutional regulative differences of home and host environments, the resource commitment construct is appropriate for the analysis. Specifically, we analyze the firm's level of resource commitment in its entry modes in gradual terms (Hill et al., 1990; Shrader et al., 2000). In this way, we constructed an ordinal categorical variable in which exports take value 1; collaboration agreements (such as technology transfers and licenses) take value 2; and foreign direct investment takes value 3. This classification allows us to enrich the analysis by going beyond the examination of FDI decisions or the comparison between equity and non-equity entry modes (Álvarez and Marín, 2010).

3.2.2. Independent variables

Regulative distance is a continuous variable that measures the difference between regulatory development in the destination and origin countries. The literature

uses reports and databases from various organizations to measure the variables on different institutional aspects. These reports and databases all differ in terms of the countries analyzed, the year of publication, scales and dimensions considered, etc. Some academics focus on the limitations of this approach and question its applicability (Glaeser, La Porta, Lopez-de-Silanes and Shleifer, 2004). Nevertheless, the use of reports and databases is accepted for generating proxy variables for different institutional matters. Specifically, one of the most widely used databases in the regulative dimension is *Governance Matters VIII*, compiled by Kaufmann et al. (2009). The different editions of this database have been much used in the literature to analyze empirically the impact of regulatory or formal institutions (Dikova and Van Witteloostuijn, 2007; Globerman and Shapiro, 2003; Pogrebnyakov and Maitland, 2011; Slangen and Beugelsdijk, 2010; Slangen and van Tulder, 2009). This database compiles and measures six governance indicators: voice and accountability; political stability and absence of violence/terrorism; government effectiveness; regulatory quality; rule of law; and control of corruption. The database covers 212 countries and contains information from 35 sources provided by 33 different organizations. In line with previous literature (Gaur et al., 2007; Gaur and Lu, 2007; Globerman and Shapiro, 2003; Xu et al., 2004), these indicators are considered in a single variable via a factorial analysis of the main components. After establishing the level of regulatory development for each origin and destination country, we calculate the absolute difference between the two to find the explanatory variable (regulatory development of destination country minus regulatory development of origin country).

Distance direction is a dummy variable that takes value 1 when the regulative distance is positive (i.e., regulatory development of the destination country is greater

than that of the origin country); it takes 0 when the opposite is the case and the distance is negative (i.e., the regulatory development of the destination country is lower than that of the origin country). This variable allows us to identify the observations via the relative position of the origin country compared to the destination country in terms of regulative distance.

The study constructs a third independent variable –*Regulative distance*Distance direction*– by means of the interaction of these variables. The interpretation of the coefficients of the independent variables will be explained in detail in section 3.3 (Model Estimation).

3.2.3. Control variables.

As pointed out in the literature, variables at different levels are needed to control for important effects on internationalization decisions (Coeurderoy and Murray, 2008). Numerous studies recognize this fact in their analyses of entry mode decisions, incorporating control variables at the decision, firm and country of origin levels (Chan and Makino, 2007; Coeurderoy and Murray, 2008; Javorcik and Wei, 2009; Meyer, Estrin, Bhaumik and Peng, 2009; Nielsen and Nielsen, 2011). In this study we have taken account of these levels of analysis and based our selection of control variables on the theoretical and empirical literature on entry mode choices. Specifically, as this study analyzes entry mode decisions in different markets by firms from different countries, we need to control for the variation in the data from the different levels of analysis under consideration: at the decision level (level 1); the firm level (level 2); and the home country level (level 3).

Control variables are included at the decision level (level 1) by taking into account factors linked to conditions in the destination country that are theoretically distinct from institutional variables (Coeurderoy and Murray, 2008). First, we consider different dimensions of distance that have an impact on entry decisions (Berry, Guillén and Zhou, 2010; Dow and Larimo, 2009). *Geographical distance* is measured by the logarithm of distance (in kilometers) between the capital cities of the origin and destination countries (Coeurderoy and Murray, 2008; Slangen and Beugelsdijk, 2010). And *Economic distance* is measured by the logarithm of the absolute distance of GDP per capita of the origin and destination countries (Tsang and Yip, 2007). Second, in line with other studies of entry modes in different countries, we include variables to control for the market potential of the destination country Specifically, we control for the market size of the destination country –*GDP of destination,* measured via the logarithm of GDP– and its degree of economic development –*GDP per capita of destination*, measured via the logarithm of GDP per capita (Álvarez and Marín, 2010; Chan and Makino, 2007; Javorcik and Wei, 2009; Meyer et al., 2009; Talay and Cavusgil, 2009). The market potential of the host country has a positive impact on the choice of entry modes requiring higher resource commitments, as indicated by other studies (Agarwal and Ramaswamy 1992; Kwon and Konopa, 1993).

Next, variables are included at the firm level (level 2) because the entry mode decision is also influenced by factors related to the resources and capabilities of the firm (Arregle et al., 2006). We include the variable *Experience in internationalization* (measured via the number of years since the firm's initial involvement with any of the international operations described), because this factor reduces uncertainty and makes it possible to commit more resources to the entry form (Dow and Larimo, 2009; Erramilli,

1991). Likewise, the variable *Age* (Hessels and Parker, 2013) captures the life span of the firm, measured by the number of years the firm has been in existence. We also consider the possible effect of size (Cui and Jiang, 2009; Schwens et al., 2011), as this has been shown to influence entry mode selection (Agarwal and Ramaswami, 1992). The study measures size with three dummy variables that distinguish among *Micro*, *Small* and *Medium-sized firms* (firms are classified in these categories based on their number of employees). To avoid problems of perfect multicollinearity, the models incorporate two of the three categories; the study uses *Medium* as a baseline category. The literature also indicates that ownership and governance structures can influence internationalization decisions (Fernández and Nieto, 2006; Majumdar, Vora and Nag, 2012). In this study, we include a variable to control for the legal form of the firm with a dummy variable (*Legal form*). This variable takes value 1 if the enterprise is a cooperative or has sole proprietors and 0 if the firm is a public limited or a private limited enterprise (Wiklund and Shepherd, 2008). In addition, and in accordance with the literature, we control for different sectors (Brouthers, 2002; Brouthers and Nakos, 2004). The study captures the effect of these sectoral characteristics via dummy variables. The sample includes manufacturing and service firms, as environmental conditions are important factors for both types of firms when choosing entry forms (Erramilli, 1991; 1996; Erramilli and D'Souza, 1995). The observations correspond to firms from nine sectors in manufacturing and services. Within the manufacturing sectors, we distinguish among *High, Medium and Low Technology Manufacturers* (Tseng and Johnsen, 2011), as these firms display different internationalization strategies depending on the added value and scientific knowledge of their products and processes (Bell, Crick and Young, 2004). Within the service sectors, we identify

Construction; *Wholesale*; *Retail*; *Transport*; *Business services*; and *Personal services*. In the models, however, we only include eight sectors to avoid problems of perfect multicollinearity, with *Personal services* representing the baseline category.

Lastly, we include controls at the home country level (level 3). Different studies relate variables of home country with the choice of entry mode (Erramilli, 1996; Hennart and Larimo 1998; Kogut and Singh, 1988). Because we are analyzing firms from different countries, it is especially relevant to control for home country differences. Indeed, different studies include control variables for variations arising from the country of origin (Brouthers and Nakos, 2004; Estrin et al., 2009; Meyer, 2001; Meyer et al., 2009). We capture market size with the variable *GDP of origin* and the level of economic development of the home market with the variable *GDP per capita of origin,* measured via the logarithm of GDP and GDP per capita of the home country, respectively.

3.3. Model Estimation

Different studies agree multidimensional models are required to analyze market entry modes because this decision can be explained according to different levels (e.g., the decision or firm level) (Brouthers and Nakos, 2004; Demirbag et al., 2007; Yiu and Makino, 2002). And yet, although these studies present multilevel conceptual models with variables measured at different levels, they ignore the multilevel dimension in their methods (Arregle et al., 2006). Since our model seeks to explain the decision behind international entry modes (classified by resource commitment) of different firms from different countries, we need to consider this hierarchical structure of the data. Specifically, we treat each decision as an observation. One firm may enter different countries in the same period, thus giving us multiple decisions for a single firm. As each

of these decisions represents a different observation, the observations corresponding to each firm are not independent. This lack of independence in the observations requires the use of a multilevel analysis in order to avoid biased statistical results (Arregle, Beamish and Hébert, 2009; Arregle et al., 2006; Chan, Makino and Isobe, 2006; Nielsen and Nielsen, 2011). Multilevel models address statistical problems of intra-class correlation, misestimated precision and aggregation bias (Bliese and Hanges, 2004; Raudenbusch and Bryk, 2002).

Table 1 summarizes the descriptive statistics included in the models (with the exception of the sectoral dummies), and table 2 displays the matrix of correlations. To identify potential problems of multicollinearity, we performed an analysis of the variance inflation factor (VIF). Individual VIF values greater than 10, combined with average VIF values greater than 6, indicate a problem of multicollinearity (Neter, Wasserman, and Kutner, 1989). In our case, the values obtained were within the acceptable limits.

Table 4. Descriptive statistics

Level	*Variable*	*Obs*	*Mean*	*s.d*	*Min*	*Max*
Decision	Regulative distance	10560	0.707	0.607	0.001	3.69
	Distance direction	10560	0.4685	0.499	0	1
	Geographical distance	10560	6.91	1.072	4.09	9.86
	Economic distance	10560	9.39	1.259	4.35	11.62
	GDP pc destination	10560	10.17	0.952	5.23	11.63
	GDP destination	10560	27.204	1.846	20.09	30.29
Firm	Experience	3703	15.66	16.36	1	209
	Age	3703	28.14	29.13	1	325
	Micro	3703	0.25	0.43	0	1
	Small	3703	0.36	0.48	0	1
	Medium	3703	0.40	0.49	0	1
	Legal form	3703	0,23	0,42	0	1
	High tech manufact	3703	0.05	0.22	0	1
	Medium tech manufact	3703	0.12	0.33	0	1
	Low tech manufact	3703	0.17	0.38	0	1
	Construction	3703	0.05	0.22	0	1
	Wholesale	3703	0.09	0.29	0	1
	Retail	3703	0.12	0.33	0	1
	Transport	3703	0.06	0.23	0	1
	Business services	3703	0.21	0.41	0	1
	Personal services	3703	0.09	0.28	0	1
Origin	GDP pc origin	32	10.23	0.75	8.47	11.63
	GDP origin	32	25.85	1.87	21.28	28.92

Decision (level 1); Firm (level 2); Origin (level 3)

As table 1 shows, we include variables for level 1 (decision), level 2 (firm) and level 3 (home country). We need to consider this distinction for each observation, given that the variables for levels 2 and 3 do not change within the same firm. Thus, each decision is treated as an independent observation, with the variables for levels 2 and 3 repeated for each level-1 observation. As previously mentioned, multilevel models are suitable for this analysis as they make it possible to handle the non-independent nature of the observations. Given the ordinal nature of the dependent variable, we use a multilevel model for ordinal categorical variables with random intercepts (Rabe-Hesketh and Skrondal, 2005). Ordinal logistic regressions are well-suited to capture the

ordinal properties of the dependent variables (Chu and Anderson, 1992; Li and Meyer, 2009). The three-level data structure can be described in this way: $i=1,...,n_{jk}$ level-1 units are nested within $j=1,...,n_k$ level-2 units, which are in turn nested within k=1,...,n level-3 units. More formally, the empirical model has the following econometric specification:

$$\begin{aligned}\text{Logit } \{Pr(y_{ijk}>s|x_{ijk}, \zeta_{jk}, \zeta_k)\} = {} & \beta_1 (\text{Regulative distance})_{ijk+} \beta_2 (\text{Distance direction})_{ijk} + \beta_3 \\ & (\text{Regulative distance} * \text{Distance direction})_{ijk} + \\ & \beta_4 (\text{Geographical distance})_{ijk} + \beta_5 (\text{Economic distance})_{ijk} + \\ & \beta_6 (\text{GDP dest})_{ijk} + \\ & \beta_7 (\text{GDP pc dest})_{ijk} + \beta_8 (\text{Experience})_{jk} + \beta_9 (\text{Age})_{jk} + \beta_{10} \\ & (\text{Micro})_{jk} + \beta_{11} (\text{Small})_{jk} + \beta_{12} (\text{Legal form})_{jk} + \\ & \beta_{13}(\text{High manufact})_{jk} + \beta_{14} (\text{Medium manufact})_{jk} + \\ & \beta_{15} (\text{Low manufact})_{jk} + \beta_{16} (\text{Wholesale})_{jk} + \\ & \beta_{17} (\text{Retail})_{jk} + \beta_{18} (\text{Transport})_{jk} + \\ & \beta_{19} (\text{Business service})_{jk} + \beta_{20} (\text{GDP origin})_k + \\ & \beta_{21} (\text{GDP pc origin})_k + \zeta_{jk}^{(2)} + \zeta_k^{(3)} - \kappa_s\end{aligned}$$

Where s=1,...,S ordered categories. $\zeta_{jk}^{(2)}$ is a random intercept varying over firms (level 2), and $\zeta_k^{(3)}$ is a random intercept varying over home countries (level 3).

It should be noted that in those observations in which the destination country displays a lower level of regulatory development than the origin country (*Distance direction* equals 0), the model is determined by the following equation:

$$\text{Logit } \{Pr(y_{ijk}>s|x_{ijk}, \zeta_{jk}, \zeta_k)\} = \beta_1 (\text{Regulative distance})_{ijk} + (\ldots) + \zeta_{jk}^{(2)} + \zeta_k^{(3)} - \kappa_s$$

And in the opposite case, for those observations in which the destination country displays a higher level of regulatory development than the origin country (*Distance direction* equals 1), the model is determined by:

$$\text{Logit } \{Pr(y_{ijk}>s|x_{ijk}, \zeta_{jk,} \zeta_{k})\}= \beta_2 + (\beta_1+\beta_3) (\text{Regulative distance})_{ijk} + (\ldots)+ \zeta_{jk}^{(2)}+ \zeta_{k}^{(3)} - \kappa_s$$

In terms of interpreting the results, then, the coefficient of *Regulative distance* (β_1) is used to test hypothesis 1 and the coefficients of *Regulative distance* and *Distance direction*Regulative direction* are used to test hypothesis 2 (requiring us to add β_1 and β_3 together). The coefficient of *Distance direction* (β_2) represents the difference in the constant term of the observations of *Distance direction* with values equal to 0 and 1.

For their part, β_4 to β_7 represent the slopes of the rest of the covariates at level 1; β_8 to β_{19} represent the slopes of the covariates at level 2; and β_{20} and β_{21} represent the slope of the covariates at level 3. κ_s are category-specific parameters called thresholds.

Table 5: Correlation Matrix

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Regulative distance	1													
2	Distance direction	-0.09**	1												
3	Geographical distance	0.33**	-0.055**	1											
4	Economic distance	0.45**	0.08**	0.19**	1										
5	GDP pc destination	-0.46**	0.47**	-0.164**	0.011	1									
6	GDP destination	-0.05**	0.13**	0.33**	0.063**	0.45**	1								
7	Experience	0.01	-0.12**	0.11**	0.041**	0.0165	0.112**	1							
8	Age	-0.0024	-0.12**	0.076**	0.012	0.021*	0.091**	0.63**	1						
9	Micro	-0.023*	-0.026**	0.0032	0.012	0.0205*	-0.003	-0.1**	-0.154**	1					
10	Small	-0.024*	-0.003	-0.002	-0.012	0.0078	-0.008	-0.056**	-0.047**	-0.375**	1				
11	Medium	0.042**	0.025*	-0.0007	0.002	-0.024*	0.01	0.137**	0.171**	-0.467**	-0.645**	1			
12	Legal form	0.066**	0.143**	0.011	-0.003	-0.042**	-0.034**	-0.062**	-0.08**	0.0247*	0.03**	-0.049**	1		
13	GDP pc origin	-0.17**	-0.324**	0.076**	0.07**	0.165**	0.205**	0.275**	0.297**	0.061**	-0.0057	-0.045**	-0.32**	1	
14	GDP origin	-0.0012	-0.0112	0.17**	-0.07**	0.065**	0.192**	0.197**	0.237**	0.027**	-0.026**	0.0019	-0.017	0.4**	1

*Correlation is significant at the 0.05 level; ** Correlation is significant at the 0.01 level
Sectoral dummies not included

5. Results

Table 3 presents the results for models 1 and 2. Model 1 is estimated exclusively with the control variables and model 2 is estimated including the independent variables. We performed a Log Likelihood test to compare both models. This test shows a better fit when the independent variables are included.

Specifically, in model 2 we include *Regulative distance*, *Distance direction* and the interaction between both (i.e., *Regulative distance*Distance direction*). As can be observed in model 2, the coefficient for *Regulative distance* is negative and significant. This finding provides support for hypothesis 1 by showing that when the distance is negative, regulative distance has a negative and significant impact on entry modes requiring a higher resource commitment (β_1= -0.279).

In contrast, the coefficient for *Regulative Distance*Distance direction* is positive and significant (β_3=0.555). As previously mentioned, the effect of regulative distance for those observations in which the destination country displays greater levels of regulatory development than the origin country is equivalent to adding the coefficient of *Regulative distance* to the coefficient of *Regulative distance*Distance direction.* Thus, when the regulatory development of the destination country is greater than that of the origin, the resulting coefficient is positive ($\beta_1+\beta_3$=0.276). This finding, then, provides support for hypothesis 2 by indicating that when the distance is positive, regulative distance has a positive impact on entry modes requiring a higher resource commitment.

Table 6: Results for ordered regression using relative institutional distances

Level		(1)	(2)
Decision	Regulative distance		-0.279***
			(0.081)
	Distance direction		0.222*
			(0.096)
	Regulative distance * Distance direction		0.555***
			(0.154)
	Geographical distance	0.145***	0.153***
		(0.033)	(0.033)
	Economic distance	0.174***	0.179***
		(0.024)	(0.029)
	GDP pc destination	-0.136***	-0.296***
		(0.035)	(0.059)
	GDP destination	0.0825***	0.0811***
		(0.019)	(0.019)
Firm	Experience	-0.0127***	-0.0127***
		(0.003)	(0.003)
	Age	0.0016	0.0016
		(0.002)	(0.002)
	Micro	-0.839***	-0.844***
		(0.101)	(0.101)
	Small	-0.571***	-0.575***
		(0.085)	(0.085)
	Legal form	0.00499	-0.00250
		(0.102)	(0.103)
	High tech manuf.	-0.764***	-0.772***
		(0.190)	(0.191)
	Medium tech manuf.	-0.857***	-0.867***
		(0.148)	(0.148)
	Low tech manuf.	-1.131***	-1.138***
		(0.141)	(0.141)
	Construction	0.283	0.283
		(0.182)	(0.183)
	Wholesale	-0.525**	-0.527**
		(0.161)	(0.162)
	Retail	-0.636***	-0.636***
		(0.152)	(0.153)
	Transport	0.162	0.164
		(0.180)	(0.180)
	Business services	0.425***	0.416**
		(0.126)	(0.127)
Origin	GDP pc origin	0.286**	0.417***
		(0.104)	(0.119)
	GDP origin	-0.157***	-0.157***
		(0.04)	(0.042)
	N level 1	10560	10560
	N level 2	3703	3703
	N level 3	32	32
	Log likelihood	-8462.5	-8454.8
	Log likelihood test		15.21**

Note: Intercept cut points are excluded from the output. Regulative distance is mean centered.
Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
N indicates the number of observations for each level.

The control variables produced the following results. At the decision level (level 1), *Geographical distance* displays a positive and significant relation, revealing that firms that target more geographically distant countries choose entry modes that require a higher resource commitment. Possible explanations for this could be that greater control is necessary when the physical distance grows (Harzing, 2003) or that long geographical distances increase transport costs, substituting exports for forms that require a greater resource commitment (Brainard, 1997). *Economic distance* also displays a positive and significant relation. These results contradict those of Dow and Larimo (2009), but do square with those of Tsang and Yip (2007). This latter study finds that countries with similar levels of economic development offer fewer opportunities to exploit or explore resources different to those of the origin country. For this reason, then, firms may have greater incentives to adopt entry forms requiring a high commitment of resources as the economic distance increases. Lastly, *GDP of destination* is positively related to the likelihood of choosing an entry form requiring a higher resource commitment, thereby signaling a positive relation between market size and the willingness of the firm to dedicate more resources to this market. And *GDP per capita of destination* shows a negative relation. Although some studies find that purchasing power in the host country positively influences the likelihood of performing FDI, others argue that less economically developed destination countries can favor FDI because of their lower income levels and labor costs (Chan et al., 2006). It is, then, this second explanation that may account for the negative sign for GDP per capita in our results.

At the firm level (level 2), *Experience in internationalization* is negatively related with entry modes requiring a greater resource commitment. Although most of the literature suggests a positive relation, works such as Erramilli (1991), Li and Meyer

(2009) or Davis et al. (2000) point out that the question remains controversial. Studies exist showing that a lack of experience could lead firms to prefer entry modes that guarantee greater control (Davidson and McFetridge, 1985; Zhao and Zhu 1998), while others even suggest that the relation is not significant (Brouthers, 2002; Davis et al., 2000; Kogut and Singh, 1988). In our case, the negative sign may be due to the inertia that can potentially lock firms with greater international experience into set patterns of behavior, in contrast to firms without previous experience that are more open to launching their international experience with entry forms that require a higher resource commitment (Autio et al., 2000; Sapienza et al., 2006). This last argument may also explain the non-significant effect found for the age of the firm (*Age)*. Theoretical frameworks explaining the phenomenon of international new ventures (Oviatt and McDougall, 1994) stress the importance of certain resources developed by the new venture –in the home country and from its inception– to overcome the difficulties of internationalization. This, then, reduces the impact of the age of the firm on the entry mode selected, while increasing the importance of the similarities or dissimilarities between the knowledge developed by the firm in the origin country and the knowledge that can be applied in the selected country (Cuervo-Cazurra, 2011). The two coefficients for the variables *Micro* and *Small* are negative and significant. These negative impacts may be because smaller firms tend to have fewer resources compared to medium-sized firms (the baseline category), thus making the choice of high-commitment entry forms more difficult. For its part, the coefficient for *Legal form* is positive, but not significant, indicating that there are not significant differences between firms with different legal form when choosing entry modes. Concerning the sectoral variables, in both models the coefficient for *Business services* is positive and significant. *Construction* and *Transport*

reveal no significant relations and *High, Medium and Low Technology Manufacturing*, *Retail* and *Wholesale* have a negative and significant relation with the commitment of resources compared to the baseline category. These results are expected, as the reference category (*Personal services*) corresponds to service firms that typically require a physical presence to operate.

Lastly, the control variables at the home country level (level 3) – *GDP* and *GDP per capita of origin*– are significant, but with opposite signs. *GDP of origin* has a negative relation with the resource commitment of entry modes. Globerman and Shapiro (1999) suggest that a negative effect of GDP on FDI could be explained by the fact that firms find investment in their own markets more attractive than foreign investments. For its part, *GDP per capita* has a positive relation with the commitment of resources. In this case, greater economic development in the country of origin may enable firms to commit higher levels of resources in the destination country.

5. Discussion

The aim of this research is to analyze the impact of regulative institutional distance on the international entry mode decision. Specifically, we study the different impacts that this distance may have on the choice of international entry mode, with reference to both the magnitude and direction of the distance. Although numerous studies examine institutional distance, most of them do so without considering the direction of the movement (Cuervo-Cazurra and Genc, 2011). This situation may explain the absence of conclusive results in the literature on the relation between institutional distance and the choice of entry mode. Some scholars suggest that institutional distance may have an asymmetric effect on the decisions of firms (Shenkar,

2001; Zaheer et al., 2012), which is why some studies take it into account in their analyses (Brock et al., 2008; Drogendijk and Holm, 2012; Phillips et al., 2009). As far as we are aware, however, no studies explore the asymmetric effect of regulative distance on entry mode choice. Our study contributes to advancing our understanding of the impact of regulative distance on this decision, bearing in mind that this impact will be different depending on the direction (positive or negative) of the distance.

In theoretical terms, we adopt both institutional and transaction cost perspectives. The transaction cost perspective is based on economic principles and posits that the entry mode decision is made on the basis of efficiency criteria. For its part, the institutional theory posits that firms choose the entry mode with an eye on gaining legitimacy. Both perspectives help to provide a more complete understanding of the determinants of the international entry mode decision as organizations seek efficiency in their operations, but are constrained by institutions that also influence the decision-making process. Moreover, we argue that the effects of this distance are different depending on whether firms enter better or worse regulated destinations than the home country. For this reason, we believe that the relative position of the firm's country of origin compared to that of the destination country helps to explain the choice of international entry mode.

Consistent with the hypotheses postulated, our findings suggest that both the magnitude and the direction of the distance have an impact on this choice. Specifically, firms from more developed regulatory environments face greater problems to obtain legitimacy when they enter destination countries with less developed regulatory frameworks –and these problems grow as the institutional distance between the countries increases. In these situations, firms, pressured by the difficulty to achieve

external legitimacy, choose more flexible entry modes to alleviate the adaptation problems (while the search for efficiency will be affected by these regulative constraints). In contrast, when firms move in the opposite direction (i.e., from a less developed regulatory environment to a more developed one), they find it easier to operate in environments in which the 'rules of the game' are better established. Because external legitimacy can be more easily achieved, efficiency criteria come to the fore when choosing the entry mode. When firms enter destination countries with more clearly established regulatory institutions, risks and costs diminish, which allows them to choose entry modes that require a higher resource commitment. These arguments suggest that the direction of the distance has an impact on the choice of entry mode: negative distance favoring options requiring lower resource commitments; and positive distance favoring options requiring higher resource commitments.

This study advances our knowledge of the impact of the direction of regulative distance and stimulates debate on the asymmetric effect of institutional distance on internationalization decisions. Distance direction may be behind the lack of consensus in the results of previous studies (from the perspectives of both transaction costs and institutional theories). Studies that find that greater regulative distance drives firms to opt for entry forms with lower resource commitments (Dow and Larimo, 2009; Xu et al., 2004) may correspond to situations where the distance is negative. Conversely, those studies that conclude that greater institutional distance pushes firms to choose entry forms requiring a higher commitment of resources (Estrin et al., 2009; Gaur and Lu, 2007) may correspond to contexts where the regulative distance is positive. In these cases the firm, despite the large differences between regulatory environments, perceives that the new environment is easier to understand (thereby reducing the difficulty of

obtaining external legitimacy) and gives priority to evaluating the costs and risks of the entry form. Future studies of the effect of regulative distance on firms' decisions, then, should pay attention to the direction of the distance, as a failure to do so could result in contradictory results that are a product of not comparing like with like.

The study also helps improve our understanding of the role regulatory institutions play in entry mode decisions. Our focus on the level of regulatory development makes it possible to investigate the different regulatory components of the international entry mode decision and to go beyond the consideration of country risk seen in most other works (Slangen and van Tulder, 2009). These regulatory frameworks define in a coercive manner what is and what is not permitted, leaving firms with no option other than following them (Eden and Miller, 2004). Moreover, the level of regulatory development of different countries can be classified, thus making it possible to identify situations in which firms enter countries with better or worse conditions than in their home base.

Likewise, from an empirical point of view we advance on some of the limitations found in previous research. We use a very large sample with detailed information on the origin and destination of each internationalization decision for each of the firms. In contrast, most previous work on entry mode choices uses samples that are typically limited to a single origin or destination country. The hierarchical structure of our data allows us to perform a multilevel analysis considering factors at the decision, firm, and firm's home country levels. This method is appropriate for multilevel phenomenon such as the choice of entry mode. Lastly, our research is able to offer generalizable results, because it examines a large number of firms from different sectoral and national contexts.

5.1. Managerial relevance

The insights generated in this research enhance our understanding of the determinants of international entry mode decisions and have managerial implications. Indeed, our study makes it possible to present managers with a reference framework that they can use as a basis for their strategic decisions on internationalization. Traditionally, studies of institutional differences find that managers who recognize these differences are in a better position to decide on entry mode (Schwens et al., 2011). Our findings corroborate the importance for managers of considering regulative distance, but indicate that this is not the only factor to bear in mind. Managers should also consider the relative position between origin and destination countries when choosing entry modes, together with the internal aspects of the firm and sectoral competition. Although greater regulative distance results in lower levels of knowledge, our results show that this need not always be an obstacle to selecting entry modes requiring a higher level of resource commitment. Thus, managers should not limit themselves to a consideration of regulatory differences in absolute terms. In contrast, they should look beyond distance. The relative differences in the regulatory context (in terms of stability and transparency of the legal system) may benefit the firm when the direction is positive. Put differently, although the destination country may greatly differ from the origin, the better conditions on offer may encourage firms to choose entry firms requiring a high commitment of resources, as it will be relatively easy to adapt and obtain legitimacy. Moreover, in these circumstances, the firm perceives a lower psychic distance decreasing the risks and costs, which stimulates investment. Managers who do not consider these factors run the risk of missing entry opportunities in countries with high levels of regulative distance but better levels of regulatory development.

Our results also have potential implications for policy makers interested in attracting foreign investment to their countries. Policy makers should note that foreign firms are more likely to choose entry modes requiring a greater resource commitment in countries with higher levels of regulatory development. Therefore, governments could encourage direct investment in their countries by developing effective legal systems and stable public institutions that promote secure transactions and that guarantee appropriate protection for foreign investments.

6. Conclusions

Our study confirms that institutional differences between origin and destination countries have an impact on entry mode decisions. Firms need to bear in mind questions of legitimacy and efficiency when dealing with these differences, which is why we consider the transaction costs and institutional approaches in this study. Moreover, our research goes a step further by postulating that it is not only important to determine *how much* two countries differ, but also *how* they differ (requiring an examination of the direction of the distance). As expected, our empirical results show that firms are more likely to opt for entry modes requiring a lower level of resource commitment when the regulative distance is negative; our findings also indicate that this tendency increases as the regulative distance grows. And vice versa, firms that move in the opposite direction (when the distance is positive) are more likely to opt for entry forms requiring a higher level of resource commitment as the regulative distance increases. Researchers, then, should consider extending the analysis of institutional factors to include the potential asymmetric effect of institutional differences caused by the relative positions of the origin and destination countries.

Our study has uncovered many issues that merit attention and suggest lines for future research. This study focuses solely on the level of regulatory development; it does not consider other institutional factors. It would be interesting for future work to analyze other institutional factors (e.g., normative and cultural) to discover if they have different effects depending on the magnitude and direction of their distances. Additionally, although we analyze the resource commitment of entry mode decisions in gradual terms, future research should consider more fine-grained measures of this construct. Moreover, in this study we analyze the direct effect of regulative distance on international entry mode decisions, without examining other variables that may moderate or mediate the relation. Future research could study variables that capture the degree of internationalization diversity of countries or regions in which they are present, and observe whether they have a significant impact on the relation between institutional distance and entry mode choice. Although we believe that our study contributes to an improved understanding of the internationalization strategies of firms, future research could extend our work by analyzing international entry mode choices with regard to the direction of regulative distance and its effects on firm performance.

CHAPTER 4.

INWARD-OUTWARD CONNECTIONS AND THEIR IMPACT ON FIRM GROWTH

1. Introduction

The benefits that firms can reap from internationalization have been analyzed in detail in the literature. Research shows that internationalization contributes to obtaining new opportunities, exploiting economies of scale and/or scope, and minimizing the impact of fluctuations in the national market, among other advantages (Ghoshal, 1987; Kim, Hwang, and Burgers, 1993). Most of the literature indicates that the ability to create and replicate new knowledge via expanding markets has an impact on firm growth (Kogut and Zander, 1993). Not all types of knowledge, however, share the same potential for generating a competitive advantage. Researchers distinguish between objective and experiential knowledge (Penrose, 1959), with the latter being more complex to transfer both within firms and between them because it is tacit and acquired by experience (Grant, 1996a).

Traditionally, most studies analyze how firms accumulate experiential knowledge of internationalization by being active in foreign markets, via international outward operations. These operations allow firms to sell products or services in foreign markets through activities such as exporting, foreign licensing or foreign direct investment in overseas subsidiaries. This experiential knowledge is considered to be more important than objective knowledge for international strategies (Blomstermo et al., 2004; Eriksson et al., 1997; Johanson and Vahlne, 1977). Some research divides this international experiential knowledge between: (i) *internationalization knowledge* –referring to how firms develop and execute their internationalization strategies; identify and evaluate opportunities; screen country markets, etc.; and (ii) *market knowledge* –including both specific knowledge of clients and competitors in the foreign market (*business knowledge*), as well as how institutions operate in the foreign market (*institutional*

knowledge) (Eriksson et al., 1997). A third type of experiential knowledge that is relevant for international activities is *technological knowledge* –referring to the knowledge required to produce goods and services (Bohn, 1994; Nordman and Melén, 2008). Firms can accumulate this knowledge internationally thanks to contact with new technology trends and innovation systems in foreign markets (Zahra et al., 2000). Although outward operations can give access to technological knowledge, most research on gaining access to technological knowledge via internationalization focuses on international inward operations. These operations allow firms to achieve inputs in foreign markets via activities such as importing, outsourcing or foreign direct investment (Fletcher, 2001; Welch, Benito and Petersen, 2007), with research into them gaining in importance in recent decades from a strategic point of view (Di Gregorio et al., 2011; Kotabe and Murray, 2004; Quintens et al., 2006). A by-product of inward operations can be the acquisition of knowledge about foreign suppliers, particularly their technologies and skills (Grosse and Fonseca, 2012). Indeed, tapping into this technological knowledge is one of the forces that the literature typically identifies as driving global sourcing strategies (Bozarth, Handfield, and Das, 1998). These considerations also explain why an ever-growing number of studies examine the relation between foreign supply operations and firm performance (Chiao et al., 2008; Hessels and Parker, 2013).

Obtaining access to knowledge only represents a first step for firms, however, as they then need to absorb, integrate and use this knowledge in their applications (Cohen and Levinthal, 1990). To achieve this, firms can accumulate knowledge via one single type of operation or via simultaneously undertaking both types of operations. This idea is in accord with an organizational learning perspective that sees firms as knowledge-producing and exchanging sub-systems (Schulz, 2001) that learn from their experiences

(Levitt and March, 1988) and whose organizational learning processes determine the internationalization-performance relationship (Ruigrok and Wagner, 2003). Although firms can benefit from the separate impacts of inward and outward operations, this study follows those authors who analyze the positive effects that derive from the interactions between the two (Karlsen et al., 2003; Korhonen et al., 1996; Holmlund, et al., 2007; Welch and Luostarinen, 1993).

The literature uses the term inward-outward connections to define the various ways in which inward operations are linked and influence each other (Karlsen et al., 2003; Korhonen et al., 1996; Welch and Luostarinen, 1993). Some research examines whether undertaking both types of operations allows firms to generate different advantages thanks to foreign market knowledge transfers. In line with this, studies exist that: (i) analyze how inward operations can promote the development of outward operations (Bertrand, 2011; Di Gregorio et al., 2009; Grosse and Fonseca, 2012; Hätönen, 2009; Karlsen et al., 2003); (ii) describe the internationalization process by observing the temporal sequence and patterns of inward and outward operations (Grosse and Fonseca, 2012; Holmlund et al, 2007; Jones, 1999; 2001; Korhonen et al., 1996); and (iii) explain the international configuration by considering the intensity with which firms perform the different operations (Knudsen and Servais, 2007). Nevertheless, weaknesses in the literature remain that require more analysis of the connections between these operations. First, inward operations may influence outward operations (e.g., Di Gregorio et al., 2009; Grosse and Fonseca, 2012), and yet the connections between both operations can function in the opposite direction too (Welch and Luostarinen, 1993). Second, most studies are based on a descriptive analysis of the internationalization behavior of the firms, with no attempt to relate this to its impact on performance (e.g., Holmlund et al., 2007; Korhonen et al., 1996). A need exists, then, to

further our understanding of the connections between the two operations, the synergies that could derive from them (Bertrand, 2011), and how different configurations of the internationalization strategy are related to firm performance (Knudsen and Servais, 2007).

The premise of this study is that inward and outward operations may be connected and inter-related (Karlsen et al., 2003; Korhonen et al., 1996; Holmlund et al., 2007; Welch and Luostarinen, 1993) – and that these connections enable firms to share different types of knowledge. The organizational learning literature recognizes that access to diverse knowledge may increase the absorptive capacity of firms and ultimately contribute to the acquisition of a competitive advantage (Zahra and George, 2002). Undertaking both operations, then, may be particularly beneficial for performance. With this in mind, the following research question emerges: Does undertaking both inward and outward activities increase the likelihood of firm growth? Specifically, this study posits that inward and outward connections may help firms to positively reinforce the benefits of each activity, and consequently achieve greater growth than when they perform just one type of international operation. Moreover, the study postulates that if firms undertake both types of operations in the same foreign country, the positive relation will be greater, because the connections between inward and outward operations provide access to specific knowledge about business and institutions in that market and its technology.

In summary, this work sets out to contribute to the literature in different ways. The study widens the debate on inward and outward operations by analyzing its inter-connections. The study focuses on different types of experiential knowledge (internationalization, market and technological) that are accumulated via inward and

outward operations and increased via the interactions between them. In addition, the research broadens the literature by analyzing the impact of performing simultaneous operations on firm growth (previous research focuses on internationalization patterns or the effect of one type of operation on the intensity of the other). This approach makes it possible to compare different internationalization strategies (only one type of operation versus both operations simultaneously) and go beyond the typical analysis of the impact of outward operations on performance (Brouthers et al., 2009; Hitt, Hoskisson and Kim, 1997; Pangakar, 2008; Qian, 2008; Zahra et al., 2000; among others). The work feeds into the organizational learning literature in order to explain the benefits derived from accumulating related and diverse knowledge (e.g., increased absorptive capacity), benefits that result in generating a competitive advantage for firms. Furthermore, this analysis is conducted on a broad sample of European SMEs. This sample is especially suitable for examining this relation as knowledge is fundamental for the growth of these firms (Mejri and Umemoto, 2010) and growth is in itself a fundamental objective (Golovko and Valentini, 2011; Lu and Beamish, 2006). Moreover, the richness of the available data may make it possible to generalize the results to different national and sectoral contexts. This is particularly important given that many of the studies examining inward-outward connections are conceptual or based on case studies (Holmlund et al., 2007). A clear need, then, exists to widen the literature via studies based on large samples that permit generalizable results (Fletcher, 2001). Likewise, the examination of a variety of inward operations (i.e., imports, outsourcing and foreign direct investment to acquire inputs) and outward operations (i.e., exports, collaborations and foreign direct investment to serve foreign markets) allows this study to go beyond other studies that focus solely on importing and exporting (Holmlund et al., 2007; Korhonen et al., 1996).

The study is structured in the following way. The next section considers the theoretical aspects of knowledge in the internationalization process, along with the relation between internationalization and firm performance. The following sections then go on to formulate the research hypotheses and describe the methodology used. The final sections of the work analyze and discuss the results and their implications, closing with some limitations and lines for future research.

2. Literature review and hypotheses

2.1. Inward and outward operations

Implementing an internationalization strategy is a fundamental way to boost firm sales. Among the benefits generated by outward operations, entry into foreign markets offers opportunities for growth and improved firm performance (Lu and Beamish, 2001; Pangakar, 2008). Likewise, inward operations (even though not initially linked to access to new clients) can open the door to enhanced resources that provide a competitive advantage and greater growth (Hessels and Parker, 2013). Traditionally, inward operations were considered routine and lacking in strategic implications, which led to the belief that their advantages were limited to questions of cost (Karlsen et al., 2003). Recently, however, researchers have identified strategic reasons for inward operations such as their potential role in boosting innovation results (Nieto and Rodríguez, 2011) and ultimately firm performance (Chiao et al., 2008; Hessels and Parker, 2013). In any case, undertaking one or other type of operation entails costs. Outward operations, for example, bring with them risks and uncertainty (Ghoshal, 1987), which translate into costs related to coordination, the management of complex information, and communication, among others (Ruigrok andWagner, 2003). In the case of inward

operations, asset specificity and transaction frequency are factors to bear in mind in global sourcing strategies (Murray, Kotabe, and Wildt, 1995). Other relevant factors include the hidden costs associated with administrative and budget issues during the development and performance of these operations (Trent and Monckza, 2003), the lack of information on suppliers, communication difficulties, and problems derived from demand changes in the country of origin (Ghymn et al., 1999).

The costs derived from international operations largely stem from a lack of knowledge–and firms can only reduce the uncertainty associated with operating abroad by accumulating the missing knowledge (Liesch and Knight, 1999). Moreover, firms must identify how to absorb, internalize and exploit knowledge (Zahra and Hayton, 2008). The literature refers to this skill as absorptive capacity and defines it as the ability to recognize and assimilate the value of new, external information and subsequently apply it for commercial purposes (Cohen and Levinthal, 1990, p128). In order to generate this ability, firms need to accumulate relevant experience and incorporate it to a previously existing knowledge base (Eriksson and Chetty, 2003; Lane and Lubatkin, 1998). As the organizational learning perspective posits, then, it is crucial for firms to acquire and share knowledge (Levitt and March, 1988) and combine it through exploration and exploitation mechanisms (March, 1991). This line of reasoning is particularly applicable to the international arena, where the accumulation of knowledge and international experience may generate a specific advantage for firms (Clarke et al., 2013).

Research has typically concentrated on how firms accumulate internationalization, market or technological knowledge through outward or inward operations individually. The traditional approach has been to analyze how the two

operations provide access to different types of knowledge. In line with this, works examining outward operations focus on how firms exploit them to tap into internationalization knowledge (Brouthers et al., 2009; Erramilli and Rao, 1990; Pan and Tse, 2000). Similarly, works examining inward operations focus on how these operations supply potential improvements in quality, flexibility, or technology (Di Gregorio et al., 2009; Kotabe and Murray, 2004; Quintens et al., 2006). Outward operations, however, may also provide access to technological knowledge by identifying technological changes (Zahra et al., 2000), while inward operations may allow firms to accumulate market information via contact with different agents in foreign markets (Bertrand, 2011). Thus, each type of operation provides access to internationalization, market and technological knowledge that is relevant for both. These types of knowledge, though, are not acquired equally by one or other operation. Outward operations have a higher impact on the acquisition of internationalization and market knowledge than on the acquisition of technological knowledge. And vice versa, inward operations are more related with access to technological knowledge (Naldi and Zahra, 2007).

The implications of developing inward and outward operations simultaneously, then, require analysis. Firms that perform both operations simultaneously can gain access to these different types of experiential knowledge, expanding and completing them from different sources. Moreover, the opportunity for exchanges of knowledge to take place within firms arises because the acquisition of information occurs both via inward and outward operations, as the two operations follow similar processes. In both cases firms recognize a need, determine its characteristics, search for options, consider alternatives and evaluate the results (Knight and Liesch, 2002; Liang and Parkhe, 1997). The information obtained in inward and outward operations becomes knowledge for

firms once it has been processed. The knowledge acquired via a particular type of activity will also be useful if firms plan to develop other international operations. Additionally, the inter-connections between them may help to increase firms' knowledge bases and their levels of absorptive capacity, which could affect the likelihood of generating a competitive advantage. In summary, then, the connections between these two operations may result in an effect that is greater than the sum of its parts. This possibility provides the justification for this study's more detailed examination of inward-outward connections and their effects on firm growth.

2.2. Inward-outward connections and firm growth

Research into the relation between internationalization and firm growth has produced inconclusive results. For example, Lu and Beamish (2006) find a positive relation between exports and FDI and firm growth, while Westhead, Wright, and Ucbasaran (2001) find no significant relation between exports and sales growth. These results reveal that solely engaging in international operations does not guarantee superior performance. The literature agrees, however, that firms need to gain access to knowledge and build absorptive capacity in order to increase their ability to obtain superior performance (Zahra and Hayton, 2008). Generating a competitive advantage, then, depends on the ability of firms to create and transfer knowledge (Kogut and Zander, 1992). Moreover, firms must consider demand-side factors (i.e., how far its productive activities answer a market need) and supply-side factors (i.e., how it serves the market needs and if it does so more effectively and efficiently than other firms) (Grant, 1996). Thus, inward and outward connections may play an important role in positively affecting firm performance by increasing and complementing the knowledge obtained from the demand and supply sides.

Studies of inward and outward connections posit that the former may involve making contacts, learning new commercial and negotiating techniques in foreign market conditions, and drawing up procedures for foreign operation modes that can be integrated into the latter (Hätönen, 2009; Karlsen et al., 2003; Korhonen et al., 1996; Welch and Luostarinen, 1993). Inward operations, then, provide access to internationalization knowledge that could be used in outward operations. Specifically, inward operations permit firms to know what knowledge is required to operate in different environments. Other studies extend the advantages supplied by inward operations to include enhanced competitiveness and increased scope of outward operations. Apart from the access to internationalization knowledge derived from foreign suppliers and their contact networks abroad, firms can obtain technological knowledge that brings cost reductions, higher flexibility or location-specific benefits (Di Gregorio et al., 2009; Bertrand, 2011). Firms, therefore, can take advantage of the internationalization and technological knowledge obtained via inward operations when they undertake outward operations. In particular, firms will be better placed to recognize opportunities when they consider technological knowledge in conjunction with knowledge of how best to serve international markets (Shane, 2000). Thus, performing inward and outward operations simultaneously may deliver better results for firms by helping them develop higher quality products and services –with better technology, produced more efficiently and at lower cost– in the different markets in which firms operate.

Although most studies focus on how the knowledge obtained from inward operations can be used to perform outward operations, it is important to note that the connections can operate in the opposite direction (Karlsen et al., 2003). In fact, the connections take place during the whole internationalization process –and as this

process advances, the direction of the influence becomes more difficult to identify (Welch and Luostarinen, 1993). It is, then, reasonable to think that outward operations exert a positive effect on inward operations, as the former also supply internationalization and technological knowledge that is useful to perform the latter. Specifically, outward operations give access to technological knowledge because they can provide information on the technologies of other firms (Bengtsson, 2004), as well find solutions to customer problems and needs (Shane, 2000). Similarly, outward operations enable firms to take advantage of inputs that are not available (or at least not at the same price or quality) in their local markets. This state of affairs promotes the involvement in established networks of manufacturers and other technology providers abroad (Zahra et al., 2000). Furthermore, these activities make it possible to accumulate internationalization knowledge derived from operating in different markets. And this knowledge can help firms search for, recognize and evaluate opportunities to acquire these inputs from foreign markets. Performing both outward and inward operations simultaneously, then, may be beneficial as firms can undertake inward operations more efficiently and thereby obtain cheaper and/or higher quality inputs, along with new product and process technologies.

Undertaking the two international operations simultaneously, therefore, may generate different knowledge benefits. First, firms may tap into different sources and types of knowledge in a more complete way. In this way, firms gain deeper access to knowledge diversity. Second, some knowledge sourced via both types of operations is related. This level of relatedness opens lines of communication between individuals managing the operations. Logically, then, levels of diversity and relatedness should be higher when inward and outward operations are undertaken simultaneously. Indeed, when firms gain access to both diverse and related knowledge, they generate knowledge

complementarity and increase the chances of learning (Lofstrom, 2000). Inward-outward connections, then, could generate higher levels of knowledge complementarity, which could in turn improve a firm's absorptive capacity (Yao et al., 2013; Zahra and George, 2002) and ultimately its competitive advantage (Zahra and George, 2002). In other words, doubled-up benefits may exist that allow these firms to gain a greater boost to performance than those that engage in only one operation (inward or outward). The following hypothesis captures this idea:

> **Hypothesis 1***: Undertaking inward and outward operations simultaneously allows firms to achieve greater growth than undertaking only one type of international operation.*

2.3. Inward and outward operations in the same foreign country

Until now, this study has argued that inward-outward connections may boost the access to and absorption of general (i.e., not country specific) internationalization and technological knowledge. In addition to the connections derived from the transfer of knowledge in general terms, however, some studies include the transfer of specific knowledge. Bertrand (2011) finds that undertaking inward operations has a positive impact on the intensity of outward operations, especially when both operations take place in the same foreign country. This relation is explained on the premise that the interaction of firms with suppliers and other agents from a host country permits them to learn about market-specific client preferences. Likewise, Grosse and Fonseca (2012) suggest that inward operations can give access to knowledge of market institutions that may lead firms to select specific outward operations.

This specific knowledge could extend beyond market questions and also affect technology issues. In line with this, Bertrand (2011) finds that performing inward

activities in the same market as the outward activities makes it possible for firms to gain access to the local technical advantages of the suppliers. Although some scholars suggest that this technological knowledge is not country but firm specific (Fletcher and Harris, 2012), not all countries have the same level of technological readiness (Almeida and Phene, 2004; Álvarez and Marín, 2010; de Jong, Phan, and van Ees, 2011). For this reason, firms may use the technological knowledge obtained in a foreign country to undertake outward operations in the same market without the need to tailor inputs or incur customization costs (Bertrand, 2011). Performing inward and outward operations in the same foreign country, then, can result in more specific knowledge (both technological and market) that can permit firms to adapt to local client needs and thereby increase sales. In a similar way, outward operations in a specific market may also exert a positive effect on the performance of inward operations in the same market. Wiklund and Shepherd (2003), for example, find that market knowledge makes it easier to determine the market value of technological breakthroughs and changes. Operating in a specific market with outward operations may even allow firms to discover resources or technologies that are not available in their home markets –inputs that encourage them to perform inward operations from that foreign market. Thus, the performance of outward and inward operations in the same foreign country provides firms with greater access to market and technological knowledge that can satisfy their resource requirements and optimize the supply of inputs from that particular market.

In summary, firms that undertake both operations simultaneously in the same foreign country will accumulate general knowledge of the internationalization process and technologies. Furthermore, these firms may also obtain specific knowledge about a particular market and the technology present in it. Specifically, undertaking inward and outward operations in the same foreign country allows firms to gain access to diverse

and related specific knowledge that also encourages knowledge complementarity. The connections that emerge allow firms to reinforce the virtuous circle created via knowledge transfers between inward and outward operations compared with cases in which there is no coincidence of countries. Undertaking both operations in the same market could allow firms to employ the knowledge acquired to decrease or eliminate surcharges and maximize the benefits of inward-outward connections to a higher degree. Overall, firms gain access to diverse knowledge –technological, internationalization and market– that is both general and specific. This circumstance may also increase levels of relatedness, as the knowledge shared is not only of a particular kind, but also country specific. These factors, then, will increase the likelihood of developing the absorptive capacity of firms and thereby improve their levels of competitiveness and growth. These arguments lead to the following hypothesis:

> **Hypothesis 2:** *Undertaking inward and outward operations simultaneously in the same foreign country allows firms to achieve greater growth than undertaking both types of international operation simultaneously but not in the same foreign country*

3. Empirical analysis

3.1. Sample

The empirical analysis uses the *"Internationalisation of European SMEs, European Commission, DG Enterprise and Industry, 2010*" database. The database is based on a survey of the internationalization of European SMEs from 33 countries with between one and 249 employees. The goal of this survey is to contribute to a better

understanding of the level and structure of internationalization of these firms. The survey was designed by EIM Business and Policy Research. The fieldwork was undertaken between January and April 2009 by the Global Data Collection Company in Rotterdam (Holland) via telephone interviews with staff in management positions. The questionnaire was designed in English and then translated into 26 other languages to allow the interviews in the different countries to be conducted in the participants' native languages. A stratified random sample based on the whole group of European SMEs was performed. The stratification plan was developed along three dimensions: size (in three size categories); industry sector (26 sectors); and country (33 countries). The interview was completed by 19 percent of the firms contacted, producing a final sample of 9,480 respondents. To achieve the objective of this study, the final sample was limited to those firms that were operating since at least 2006, thereby leaving a total of 8,226 observations available to the study.

Information is available for the characteristics of the firms in the sample (size, activity, country of origin, ownership structure, etc.) and their strategic behavior, particularly regarding specific issues of international strategy (modes of internationalization, timing and sequence of modes, internationalization barriers, etc.). As is shown in table 1, almost 63 percent of the firms perform internationalization operations, although only 38 percent perform both inward and outward operations simultaneously. In this study, outward operations are identified via the data on exports, collaboration agreements and foreign direct investment related to sales. For their part, inward operations are identified via the data on imports, outsourcing and foreign direct investment related to the acquisition of inputs. The study was performed in spring 2009, capturing cross-sectional data from 2008. The surveys–ordered by the European

Commission–have been used recently by several academic studies, such as that by Hessels and Parker (2013) (which utilized the ENSR Enterprise Survey, 2003).

3.2. Variables

3.2.1. Dependent variable

Growth is the dependent variable and is measured via the sales turnover growth of the firm between 2007 and 2008. Sales growth is a common measure of performance in the literature (Chandler and Lyon, 2009; Singh and Mitchell, 2005; Zahavi and Lavie, 2013; among many others). Chandler and Hanks (1993) posit that it is one of the most relevant performance dimensions. Sales growth, for example, provides opportunities for achieving economies of scale and learning curve effects; additional market power; and spreading fixed costs over more revenue –all factors that can contribute to improved firm performance (Brush, Bromiley and Hendrickx, 2000). In fact, some studies contend that if only one indicator is to be selected as a measure of firm growth, the preferred choice is sales (Delmar, Davidsson, and Gartner, 2003). Moreover, sales growth is a suitable proxy for performance in the context of SMEs. Growth is a fundamental objective for these firms (Golovko and Valentini, 2001; Lu and Beamish, 2006) and is closely linked to their success and survival (Phillips and Kirchhoff, 1989), as well as being considered a critical precondition for their longevity (Storey, 1994). In this way, the study attempts to reflect the strategic component of firms' results (Murray et al., 1995; Reuber and Fischer, 2002; Zahra et al., 2000; Zhou, Wu, and Luo, 2007). The variable is defined in categories, depending on if the different percentage increases or decreases. The use of categorical variables to measure firm growth is common in the literature (Hessels and Parker, 2013; Nguyen Van, Laisney and Kaiser, 2004; among others). This study identifies five categories. The first category takes value 1 and includes firms whose sales turnover decreased by more than 20 percent in 2008 (year-

on-year comparison with 2007); the second takes value 2 and includes firms whose turnover fell between 20 percent and 5 percent; the third takes value 3 and includes firms whose turnover remained more or less stable (i.e., fluctuations of up to a maximum of 5 percent in either direction); the fourth takes value 4 and includes firms whose turnover increased between 5 percent and 20 percent; and lastly, the fifth takes value 5 and includes firms whose turnover increased by more than 20 percent.

3.2.2. Independent variables

To test hypothesis 1, independent variables are included to identify the different options available to the firm when implementing its international strategy:

Only one international operation (Only one) is a dichotomous variable that takes value 1 if the firm engaged in one international operation –inward or outward– between 2006 and 2008 (it takes value 1 when this is the case; otherwise it takes value 0). This variable is mutually exclusive of the previous one; in other words, firms that perform inward and outward operations simultaneously are not included in this category.

Inward and outward operations (Inwoutw) is a dichotomous variable that indicates if the firm undertook inward and outward operations simultaneously between 2006 and 2008. It takes value 1 when the firm undertook both types of operation simultaneously; otherwise it takes value 0. To construct the variable, the study considers whether the firm performed at least one outward operation of any kind (i.e., via exports, collaboration or foreign direct investment–sales office or local production) and at least one inward operation of any kind (i.e., via imports, outsourcing or foreign direct investment to acquire inputs).

No international operations (Nointer) is a dichotomous variable that indicates if the firm undertook no outward or inward operations between 2006 and 2008. It takes value 1 when the firm is domestic; otherwise it takes value 0. To avoid problems of multicollinearity, this variable is designated as the baseline category.

To test hypothesis 2, an additional variable is required: *Coincidence of inward and outward operations in the same country (Coinc).* This variable captures if the firm performed inward and outward operations simultaneously in the same foreign country in at least one country where it undertakes international operations. It takes value 1 when this is the case; otherwise it takes value 0.

3.2.3. Control variables

To account for different factors that may have an impact on firm growth, the study includes control variables to capture the firm's specific characteristics, its sector and country of origin, as identified by previous studies (He and Wong, 2004; Hessels and Parker, 2013; Kyläheiko et al., 2011; Lu and Beamish, 2006; Naldi and Davidsson, 2013; Zahra and Hayton, 2008).

First, variables related to firm characteristics are considered. Specifically, *Size* (measured by the logarithm of the total number of employees in 2007) is included. Size is a commonly used control variable in research –to analyze both firm performance and the results of internationalization strategies– because it is viewed as a proxy for the firm's resource endowment (Di Gregorio et al., 2009; Fernández and Nieto, 2006; Hessels and Parker, 2013; Jonsson and Lindbergh, 2010). Similarly, the impact of the firm's experience in international markets is captured via the logarithm of the number of years the firm declares it has performed international operations of any type (*Inter experience*). This variable measures the effect of the resource endowments and skills

obtained in international contexts (Kundu and Katz, 2003). In order to control for the firm's level of technological assets, the study incorporates an innovation related proxy, in accordance with previous studies of firm growth (Hitt et al., 1997; Qian, 2002; Robson and Bennett, 2000). This variable (*Innov)* takes value 1 if the firm achieved product or process innovations between 2006 and 2008; otherwise it takes value 0. The study also controls for the legal form and ownership structure of the firm. The analysis explicitly determines whether the firm is a public limited enterprise *(Public)*; a private limited enterprise *(Private);* or a partnership or sole proprietorship *(Other,* which is the base category). Studies analyzing firm growth commonly include variables related to firm liquidity (Zahra and Hayton, 2008) or the financial and organizational capital of the firm (Stam and Wennberg, 2009). Different ownership structures have specific characteristics such as those related to the possibility of obtaining managerial, intangible and financial resources (Fama and Jensen, 1985). These differences may ultimately affect firm performance (Thomsen and Pedersen, 2000).

Firm growth may also be influenced by sectoral-specific factors (He and Wong, 2004; Hessels and Parker, 2013; Kyläheiko et al., 2011; among others). For this reason, binary variables are included to capture the effect of the variation among industrial sectors. Six sectors are identified in this study: *Manufacture; Construction; Trade; Transport and communications; Business services;* and *Personal services*. To avoid problems of multicollinearity, *Manufacture* is designated as the reference category in the econometric analyses. The inclusion of sectoral dummies is common in the literature on firm performance (Chiao et al., 2008; Hessels and Parker, 2013; Hitt et al., 1997; Qian, 2002).

Lastly, at country level categorical variables are used to indicate the country of origin of the firm. This control variable is common in studies with firms from different countries in the sample (He and Wong, 2004; Hessels and Parker, 2013). These country dummies control for potential country-related biases. As was the case at the sectoral level, to avoid problems of multicollinearity, this study includes 32 dichotomous variables corresponding to 32 of the 33 countries represented in the sample.

3.3. Analytical approach

Tables 1 and 2 respectively display the descriptive statistics and correlation matrix (with the exception of the dummy variables for country). To identify potential problems of multicollinearity, a variance inflation factor (VIF) analysis of the variable was performed in the different models. As the individual VIF values are lower than ten and the mean value is lower than six, problems of multicollinearity do not exist (Neter et al., 1989).

The study uses an ordinal probit model for the estimation of both hypotheses. This model is appropriate when the dependent variable is sorted in categories, as shown by other studies (Steffens, Davidsson & Fitzsimmons, 2009). The general specification of models (a) and (b) to test hypotheses 1 and 2 respectively are:

(a) $Growth_i = \beta_0 + \beta_1\ Inwoutw + \beta_2\ Onlyone\ + \beta_i\ X_i + \varepsilon_i$

(b) $Growth_i = \beta_0 + \beta_1\ Inwoutw + \beta_2\ Inwoutw*Coinc + \beta_3\ Onlyone\ + \beta_i\ X_i + \varepsilon_i$

where β_i represents the coefficients of the independent and control variables, X_i is the vector of control variables, and ε_i is the terminal error in each equation.

Table 7. Descriptive analysis

Variable	Obs	Mean	Std. Dev.	Min	Max
Turnover gr	8226	3.21	1.09	1	5
Onlyone	7838	0.25	0.43	0	1
Inwoutw	7838	0.38	0.49	0	1
Coinc	7838	0.23	0.42	0	1
Size	8226	2.92	1.41	0	6.80
Inter exp	8226	1.55	1.43	0	5.35
Innov	8226	0.53	0.50	0	1
Public	8226	0.14	0.35	0	1
Private	8226	0.59	0.49	0	1
Other	8226	0.27	0.44	0	1
Manufact	8226	0.26	0.44	0	1
Constr	8226	0.09	0.28	0	1
Trade	8226	0.23	0.42	0	1
Trans	8226	0.05	0.22	0	1
Bussserv	8226	0.23	0.42	0	1
Persserv	8226	0.14	0.34	0	1

Table 8. Correlation matrix

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Turnover gr	1															
2	Onlyone	0.02	1														
3	Inwoutw	0.045**	-0.45**	1													
4	Coinc	0.059**	-0.31**	0.69**	1												
5	Size	0.046**	-0.027*	0.23**	0.165**	1											
6	Inter experience	0.029**	0.23**	0.62**	0.44**	0.21**	1										
7	Innov	0.08**	0.006	0.306**	0.23**	0.19**	0.29**	1									
8	Public	-0.005	-0.03*	0.06**	0.06**	0.16**	0.055**	0.038**	1								
9	Private	0.013	0.017	0.023*	0.03**	0.013	0.04**	0.01	-0.48**	1							
10	Other	-0.011	0.003	-0.08**	-0.08**	-0.14**	-0.09**	-0.041**	-0.24**	-0.73**	1						
11	Manufact	-0.011	-0.013	0.234**	0.165**	0.15**	0.2**	0.137**	0.031**	0.029*	-0.056**	1					
12	Constr	0.002	-0.028*	-0.1**	-0.06**	-0.045**	-0.12**	-0.11**	-0.031**	-0.011	0.036**	-0.183**	1				
13	Trade	-0.026*	0.081**	0.021	-0.04**	-0.029*	0.104**	-0.031**	-0.03**	-0.021	0.047**	-0.333**	-0.170**	1			
14	Trans	-0.003	0.00002	0.016	0.06**	0.005	0.022	-0.045**	0.0028	0.023*	-0.027*	-0.133**	-0.068**	-0.123**	1		
15	Bussserv	0.02	-0.024*	-0.1**	-0.05**	-0.13**	-0.13**	0.0054	0.019	0.02	-0.03**	-0.330**	-0.168**	-0.306**	-0.122**	1	
16	Persserv	0.02*	-0.031**	-0.133**	-0.098**	0.034**	-0.15**	-0.026*	-0.001	-0.04**	0.042**	-0.237**	-0.121**	-0.220**	-0.088**	-0.218**	1

** $p<0.05$; *** $p<0.01$

4. Results

Table 3 displays the results of the different models used to test the research hypotheses. Model 1 includes the control variables only, while models 2 and 3 include the different explanatory variables required to test the study's hypotheses. Specifically, model 2 is used to test hypothesis 1; this model analyzes the marginal value of performing both types of international operations simultaneously as opposed to just one type. Model 2 includes, then, the control variables together with the variables *Onlyone* and *Inwoutw*; in this model the category reference is the variable identifying national firms. To test hypothesis 2, model 3 includes the variable *Inwoutw* and *Coinc*. In this way, the study compares the impact of performing both inward and outward operations simultaneously in the same foreign country with the rest of the possible options.

The results of model 2 show that engaging in international operations – regardless of whether only one type of operation is performed or both types are performed simultaneously– is positively related to turnover growth. The coefficient for *Inwoutw* is greater than that for *Onlyone*. A Wald test was conducted, however, to test the significance of the difference between both coefficient estimates and to check for this increased impact. The results of this test on model 2 indicate that it is not possible to rule out the null hypothesis of equality. Undertaking inward and outward operations simultaneously, therefore, does not provide a significant boost to turnover growth beyond that produced by undertaking just one type of international operation. These results do not provide empirical support for hypothesis 1.

Table 3. Inward and outward operations and turnover growth

	(1)	(2)	(3)
Onlyone		0.251***	0.254***
		(5.49)	(5.56)
Inwoutw		0.279***	0.217***
		(5.41)	(3.88)
Coinc			0.112**
			(2.81)
Innov	0.190***	0.170***	0.167***
	(7.54)	(6.46)	(6.36)
Size	0.0267**	0.0254**	0.0250**
	(3.03)	(2.79)	(2.75)
Inter experience	-0.00416	-0.0723***	-0.0736***
	(-0.46)	(-4.65)	(-4.73)
Public	0.0650	0.0755	0.0754
	(1.43)	(1.61)	(1.60)
Private	0.0701*	0.0666*	0.0660*
	(2.26)	(2.10)	(2.08)
Constr	0.0775†	0.121*	0.120*
	(1.66)	(2.51)	(2.48)
Trade	-0.00323	0.0119	0.0168
	(-0.10)	(0.35)	(0.49)
Trans	0.0739	0.0601	0.0501
	(1.31)	(1.00)	(0.83)
Bussserv	0.0816*	0.115**	0.114**
	(2.39)	(3.27)	(3.23)
Persserv	0.100*	0.141***	0.142***
	(2.51)	(3.43)	(3.45)
Country dummies	Included	Included	Included
cut1_cons	-1.502***	-1.447***	-1.441***
	(-16.97)	(-16.03)	(-15.96)
cut2_cons	-0.628***	-0.572***	-0.566***
	(-7.21)	(-6.44)	(-6.37)
cut3_cons	0.124	0.189*	0.195*
	(1.43)	(2.13)	(2.20)
cut4_cons	1.352***	1.419***	1.426***
	(15.35)	(15.78)	(15.85)
N	8226	7838	7838
χ^2	555.9	574.6	582.5
Df	42	44	45
Log likelihood	-11739.9	-11161.7	-11157.8
Comparison test	$\beta^{Inwoutw} > \beta^{Onlyone}$	$\chi^2(1)=0.71$	$\chi^2(1)=0.85$
	$\beta^{Inwoutw} + \beta^{Coinc} > \beta^{Onlyone}$		$\chi^2(1)=4.14$*

t statistics in parentheses
† $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The results of model 3 show that *Onlyone*, *Inwoutw* and *Coinc* are positive and significant. These results provide support for hypothesis 2, because the incremental effect of performing inward and outward operations in the same foreign country is positive and significant. This finding implies that firms that undertake both operations in the same foreign country perform significantly better than those that perform the two operations but not in the same foreign country. Moreover, a Wald test was performed to rule out the null hypothesis of equality between coefficients and to check if this effect was significantly greater than performing only one type of operation.

Of the coefficients for the control variables, *Size* exerts a positive and significant effect on turnover growth. Debate, however, persists over the pros and cons of smallness (Steffens et al., 2009). On this issue, these results are consistent with studies indicating that despite SMEs' advantages in terms of flexibility, they may suffer from limited resource endowments that reduce their prospects for growth. Other studies such as Hessels and Parker (2013) also find that size has a positive effect on turnover growth. For its part, the coefficient for *Inter experience* is negative and significant. This result contradicts those of other studies which find that this variable has a positive effect on performance (Zahra et al., 2000). It is not possible, however, to interpret this finding as evidence that firms with greater international experience suffer from inertia that limits their growth potential. Studies that obtain similar results to this one posit that some firms with many years of international experience may only be operating on a small scale, while others with less experience may be operating on a larger scale (Brouthers and Nakos, 2005). *Innov* also merits attention as it is positive and significant. This is in line with research that points to innovation as a means of developing better products/services or reducing costs and thereby increasing sales (Freel, 2000). Lastly, of the two variables related to ownership structure, only the coefficient for *Private* is

positive and significant. The reasons for this result may lie in the fact that private limited enterprises are halfway along the road to public limited enterprises, partnerships and sole proprietors. Thus, private limited enterprises may enjoy better growth prospects because they have easier access to capital compared to partnerships or enterprises with sole proprietors; they are also less averse to risk and more flexible than corporations such as public enterprises, with their diverse shareholders and higher information requirements (Majumdar et al., 2012).

Regarding sectoral variables, the study finds a positive and significant relation with turnover growth for the following categories (compared to the baseline category of *Manufacture*): *Construction*; *Business services*; and *Personal services.* Additionally, although the coefficients for the origin country dummies are not shown, it is possible to identify those countries in which significant differences exist with *Austria* (the baseline category). *Romania* is the only country that presents a positive and significant coefficient, possibly because it entered the EU in 2007 –just within the period under analysis. On the opposite side of the coin are seven eastern European countries (*Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta* and *Slovakia*) that joined the EU in 2004 and may have experienced greater turnover growth during these years before leveling off in the succeeding periods. Negative and significant coefficients are also found for the following countries: *Belgium, Croatia, France, Germany, Ireland, Italy*, *Luxembourg, Portugal, Spain, Turkey* and the *United Kingdom.* No significant effect for the rest of the countries is found. These results are consistent with the economic situation of *Austria,* which is regarded as having an export-oriented economy.

5. Discussion and conclusions

5.1. Discussion

The study of internationalization operations has traditionally centered on the analysis of outward operations, with most scholars until recently largely neglecting the strategic importance of inward operations (Quintens et al., 2006). Similarly, although research on inward-outward connections has been gathering speed, it remains an area of study where many questions await answers (Bertrand, 2011). This study contributes to advancing knowledge in this field by analyzing the impact of inward-outward connections on the performance of firms, bearing in mind that both operations can play a role in obtaining and transferring knowledge during the internationalization process. The study takes the resource 'knowledge' as a starting point to understand the importance of inward-outward connections and examines the different types of experiential knowledge. It considers internationalization knowledge and market knowledge (including business and institutional knowledge), both of which are acquired through internationalization (Eriksson et al., 1997). In addition, the study considers technological knowledge, given its importance for international operations (Fletcher and Harris, 2012) and the positive effect it exerts on firm performance (Zahra et al., 2000). The study contributes to the organizational learning literature, with its emphasis on the role of experience and the exploration and exploitation of knowledge in generating learning for the firm (Levitt and March, 1988; March, 1990) and developing absorptive capacity (Cohen and Levinthal, 1990; Eriksson and Chetty, 2003).

The study's first hypothesis postulates that internationalization via undertaking inward and outward operations simultaneously will have a greater positive impact on turnover growth than when just a single type of operation is employed. The findings do not provide support for this hypothesis. Although engaging in individual operations

(either inward or outward) and engaging in both operations simultaneously are positively related to turnover growth, the study does not find that the impact is greater in those firms that perform both types of operation compared to those that perform just one (either inward or outward). These results reveal that the greater internationalization and technological knowledge provided by undertaking inward and outward operations simultaneously is insufficient to exert a significant positive impact on turnover growth, as compared to undertaking one single type of operation. This could be because inward-outward connections provide general knowledge that does not give additional value compared to that generated individually by each kind of operation. Thus, despite increasing the interactions and knowledge exchanges derived from undertaking both operations simultaneously, firms do not increase their learning opportunities enough to lead to significantly higher levels of performance.

The findings do indicate, however, that firms that jointly develop inward and outward operations in the same foreign country achieve better turnover growth than those firms that do not present this coincidence of operations and country. In this case, the results show a significant differential effect when compared against other internationalization strategies (e.g., undertaking just one type of operation; or undertaking both, but not in the same country). This finding confirms the relation postulated in hypothesis 2. In theoretical terms, the coincidence of country and operations allows the firm to exploit in an inward operation the specific experiential knowledge it has acquired via an outward operation –or vice versa. Specifically, in these situations firms can increase levels of knowledge diversity. In addition to tapping into different kinds of knowledge from different sources, the knowledge gained is specific. Moreover, sharing this specific knowledge also increases its levels of relatedness. Therefore, the coincidence of foreign countries where inward and outward operations

are undertaken positively moderates the effects of the connections described, increasing the levels of knowledge complementarity and the absorptive capacity of firms. This specific knowledge refers to the business conditions and institutional issues of operating in a particular country (Eriksson et al., 1997), as well as the specific technologies simultaneously present in a particular market, their market value, and the advantages provided. This finding, then, implies that performing inward and outward operations simultaneously in the same foreign country results in the acquisition of knowledge that is specifically useful and interesting for firms –and that this specific knowledge has a positive impact on turnover growth. It is clear, then, that inward-outward connections are important when they allow firms to share specific knowledge of the internationalization process. Thus, specific market and technological knowledge provided by undertaking inward and outward operations simultaneously in the same foreign country is particularly important for improved firm performance.

5.2. Implications, limitations and future research

From an academic point of view, the study contributes to the continuing debate over inter-connected international strategies and their impact on firm performance. The research advances understanding of the consequences of internationalization strategies according to the type of operations developed and the markets selected. From an empirical point of view, the study also makes headway on some limitations noted in the literature on inward-outward connections. First, this study considers different types of inward and outward operations. Other papers on these connections typically undertake a more limited analysis. Bertrand (2011), for instance, focuses on offshoring activities within inward operations and export sales within outward operations. Similarly, Holmlund et al. (2007), Korhonen et al. (1996) and Knudsen and Servais (2007), among others, analyze only imports within inward operations and exports within outward

operations. And second, whereas many papers examine inward-outward connections via case studies (e.g., Karlsen et al., 2003; Roolaht and Varblane, 2009), the use of a sample of firms from a large number of countries and sectors makes it possible to obtain results that are generalizable to different national and sectoral contexts.

This study also has implications for management and public policy. One lesson for managers is that they should consider not only the potential benefits of undertaking different international operations separately, but also the benefits that may flow from the connections arising among them. Undertaking one type of operation or another has an impact on the acquisition of internationalization knowledge, which is important for evaluating international initiatives accurately (Eriksson et al., 1997) and developing more successful operations. In particular, firm performance is better when inward and outward operations are undertaken together in the same foreign country, as opposed to performing just one operation or performing the two operations in different countries. The specific experiential knowledge acquired leads to higher quality information on market opportunities, business practices and institutional issues in one country. Moreover, the implications could be especially important for the managers of SMEs. Despite their limited resource endowments, these firms also find that entry into international markets offers opportunities for growth and improvements in performance (Pangakar, 2008). In addition, intangible resources such as knowledge are fundamental for them, given the risk and uncertainty that international operations generate and the great impact these actions can have on the evolution and survival of these firms if internationalization is unsuccessful. The resulting accumulation and transfer of knowledge via inward and outward operations, then, may be especially attractive for these firms. Due to the size and flat organizational structure of SMEs, their managers can convert the information derived from both operations more rapidly into knowledge

for the organization (Di Gregorio et al., 2009; Korhonen et al., 1996). As far as public policy is concerned, this study agrees with Korhonen et al. (1996) in concluding that governments should sponsor programs that not only promote entry into international markets, but that also pave the way for international sourcing.

This work has some limitations that may offer promising lines for future research. First, it should be noted that this study only considers the propensity to engage in both types of operations. Future work, then, could examine the intensity with which firms undertake these operations using instruments that go beyond dichotomous measures of inward and outward operations. Similarly, future research could include continuous performance measures. Second, the analysis could be enriched with information on markets (e.g., the institutional distance between the origin and destination countries), on firm characteristics (e.g., the length of time operating in a specific market, small versus large size), or on managers' characteristics (e.g., entrepreneurial attitudes or founder ambitions). The inclusion of these external or internal dimensions may moderate some of the relations considered in this study and lead to further findings for academia or management. Attempting a more fine-grained analysis of the mechanisms that firms use to share general or specific experiential knowledge would also be interesting. Additionally, given that this study uses a cross-sectional database, other studies could employ longitudinal data to extend the analysis and observe the learning effects over time, as well as the evolution of results in the long term. Lastly, even though this study has data on a large number of countries, it would be useful to replicate the analysis with data from non-European countries. In summary, inward-outward connections merit further attention to understand how combining international operations improves firm performance.

5.3. Concluding remarks

The study highlights how inward-outward connections can improve firm growth. The findings show that these connections help firms to generate experiential knowledge, but they also reveal the differences that exist between general and specific knowledge. Specifically, the empirical evidence indicates that firms that perform inward and outward operations simultaneously in the same foreign country are able to take greater advantage of the acquired specific knowledge and achieve better results in terms of turnover growth. However, the evidence also indicates that when this coincidence of operations in the same foreign country is absent firms do not perform better than those that only undertake one kind of operation. Although this study has some limitations, it makes an important contribution to this line of research by considering the existence of synergies that may arise when firms undertake both operations, as well as the possible different effects derived from the type of knowledge shared within organizations.

CHAPTER 5.

INTERNATIONAL LOCATION AND FOREIGN OPERATION MODE COMBINATIONS ALONG THE VALUE CHAIN: EFFECTS ON FIRM INNOVATION

1. Introduction

In 90's Porter (1991) established that one of the ways of analyzing the firm strategy is through its value chain configuration. However, its interest has grown recently because of the more attention given to the phenomenon of globalization. Some factors have contributed to this phenomenon. The geographical separation of production and consumption, of stages of value adding activities and of specific tasks through the global factory, has allowed firms consider the whole world for configuring their value chains (Buckley, 2011). Moreover, the removal of trade and investment barriers and technological advances in IT, communications and transports have made it easier for firms to access resources all around the world. But at the same time, it has dispersed competencies to new locations. Many firms, then, have reconfigured their value chain in order to maintain their competitiveness.

Studies analyzing the global value chain, however, have focused on examining how firms organize them in a dispersed or a concentrated way (Beugelsdijk et al., 2009; Hansen et al., 2009); the factors that affect its configuration (Qian, Agarwal and Hoetker, 2012); or the interdependencies between activities located in different countries (Asmussen, 2007; 2009). More research is needed in this field, as less research has focused on the implications. Then, in order to shed some light to this respect, we consider different decisions firms take in the configuration of the global value chain that can determine the levels of knowledge they can access to and that affect to their innovation outcomes. Firstly, we investigate the effects of the diversity derived from combining locations in developed and in developing countries (which is also how we operationalize the global value chain configuration). We take into account that firms seek the optimal location for their value chain activities (Buckley and Ghauri, 2004). Then, firms may consider the benefits they can obtain in one or the other type of

location. Developed countries are locations in which firms have traditionally found more innovative opportunities and have attracted more advanced activities (Jensen and Pedersen, 2011). However, emerging markets are also becoming potential locations for different activities including the so-called high value-added activities (Kedia and Mukherjee, 2009). Then, we argue that if firms combine developed and developing locations they can exploit unique comparative advantages of dissimilar markets as well as access to more diverse knowledge. This may inspire more innovative and creative solutions (Yaprak, Xu and Cavusgil, 2011). Thus, we hypothesize that using a global value chain configuration allows firms to achieve more innovative results. Secondly, we investigate the effects of diversity derived from combining different operation modes along the value chain, also on innovation outcomes. Operation modes can vary in terms of control, flexibility, costs involved, etc. but also in the level of external and internal knowledge that imply. Literature has broadly identified among transactions, contractual and equity modes (Benito, Petersen and Welch, 2012). As Benito, Petersen and Welch (2011) posit, research in operation modes has been specially focused on the analysis of the factors that affect the election of a particular mode. But, some studies have pointed the necessity of considering how firms combine modes in a particular activity or among different activities in the value chain (Benito et al., 2012; Hashai et al., 2010; Welch et al., 2007). Specifically, literature defines mode configuration as the diverse ways in which multiple modes might be arranged (Benito, Petersen and Welch, 2009). In fact, some authors posit that there is a potential role in mode combinations for firms when they use them in a proactive and strategic way (Benito et al., 2012). Then, although each mode has its own characteristics and its own implications, we argue that there can be complementarities between them. Specifically, these complementarities may increase the levels of knowledge diversity and affect firms' outcomes, such as their innovation

propensity. Lastly, following the idea of Asmussen et al. (2007; 2009) about not considering decisions in an isolated way, we try to explore the effects of coordinating different operation modes and different locations in the value chain. Firms face to costs related to the necessity of coordinating and managing diverse knowledge. Too much diversity could imply knowledge leakages that could negatively affect innovation outcomes (Kafouros et al., 2008). This last aspect makes us to consider possible interaction effects among high levels of diversity in both decisions. Then, we also hypothesize that combining develop and developing location together with several foreign operation modes along the value chain, would imply a complex global structure that could exceed the benefits (Cavusgil, Yeniyurt and Townsend, 2004; Contractor et al., 2010). And these aspects, could, in the end, negatively affect to firms' innovation.

In summary, we attempt to contribute to the literature in different ways. First of all, the study sums to the line of research that focus on the analysis of the value chain and not on specific activities. Secondly, we go beyond the aspects that affect the decision of configuring the value chain, to examine the implications of such configuration. In order to address those issues, we develop an analytical framework that integrates different theoretical perspectives. Specifically, the theories of international economics, with the examination of the comparative advantage among locations, and the organizational learning, with the analysis of diverse knowledge, help us explain the benefits of the diversity achieved thank to operate in locations with different features. Additionally, transaction cost economics, network theory and learning theory help us explain why firms may find advantages derived from employing a diversity of operation modes. In order to examine empirically the relations specified, we use a sample of SMEs from different European countries and belonging to different sectors. Empirically, the richness of the data allows us to offer generalizable results.

The study is organized as follows. The next section addresses theoretical aspects and research hypotheses. Then, we describe the data and empirical models in section 3 and our results in section 4. Lastly, in the final section we interpret and discuss the results and conclude drawing also the implications and the lines for future research.

2. Theoretical background and hypotheses

Globalization has changed the way in which firms undertake their activities. Firms cannot assume that they can access to knowledge or talented people in a single location (Linares-Navarro, Pedersen and Pla-Barber, 2014). Then, more and more studies consider how firms can disaggregate and disperse their activities globally in order to capture the highest value from them (Mudambi, 2008). Moreover, the configuration of the global value chain may determine the amount and diversity of knowledge the firm can access to. As Casillas and Moreno-Menéndez (2014) argue, the accumulation of experiential knowledge in the internationalization process comes from both types of decisions: the choice of location and the operation modes employed. Then, in this process of becoming global players, firms have to consider where should they locate their activities but also which activities should they control and which do not (Mahutga, 2012).

The examination of those aspects results crucial for analyzing firms' outcomes but especially for innovation. Innovation is related to the diversity of knowledge firms can obtain and manage from international markets (Hitt et al., 1997; Wu and Wu, 2014). However, literature has traditionally focused on specific activities for examining this relationship. For example, the relationship between international diversification of activities related to the downstream side of the value chain and innovation performance

(Hitt et al., 1997; Zahra et al., 2000). Similarly, in the upstream side, literature has also explored how specific international activities can contribute to firm innovation. For example, how the offshoring of R&D could affect innovation outcomes (Nieto and Rodriguez, 2011; Grimpe and Kaiser, 2010). But international diversification is a multidimensional phenomenon that should be explored by including all foreign aspects of the firm value chain (Wiersema and Bowen, 2011). That situation makes necessary to include a variety of activities in the analysis. In fact, as firms do not take these decisions independently of each other, more and more research consider the necessity of analyzing multiple foreign modes and their locations together (Hashai et al., 2010). Specifically, when a company undertakes a global strategy by dispersing activities around the globe, the interdependencies between them cannot be ignored and it is necessary to analyze the whole corporation instead of individual decisions in isolation (Asmussen et al, 2009; Clark, Pugh and Mallory, 1997). In this research, we follow that line and try to explore their implications on firms' innovation.

Different theories explain why firms operate in different locations and employ different foreign operation modes. On one hand, the theory of international economics with the analysis of comparative advantages among countries (Ghoshal, 1987; Kogut 1985) supports the idea of taking advantages, for each activity in a specific location, from specialization and synergies derived from economies of scale, scope and learning. Countries vary in their resource endowments, demand and institutional conditions or their national systems of innovation (Dunning, 1980; Malerba and Orsenigo, 1996; Tong et al., 2008). As Rugman and Verbeke (1993) posit, more than a national environment could act as a source for firms' competitive advantage. Specifically, by building disperse and specialized competencies, global firms can arbitrage national differences and create complementarities across borders (Luo et al., 2011). The

organizational learning theory, with the analysis of the possibilities for exploiting and exploring knowledge (March, 1991) is also important. This theory highlights the idea of updating firms' current knowledge base with new and incremental knowledge. In fact, by operating in different locations firms can access to a diversity of knowledge that may allow them to achieve different product and production technologies (Eriksson et al., 2000). When firms operate in countries in which they can reproduce their routines or apply existing concepts, they can achieve the advantages of exploitation strategy. Exploration includes refinement, efficiency, execution, implementation, etc. (March, 1991). On the contrary, when they operate in countries that differ from their origin, they will achieve the advantages from an exploratory strategy. Exploitation includes search, variation, risk taking, experimentation, discovery, etc. (March, 1991). Then, learning is more effective when firms find a balance between both alternatives (Greve, 2007).

On the other hand, with respect to operation mode decisions, transaction cost economics, network theory and learning theory explain why firms employ different governance options in their value chains (Gereffi, Humphrey and Sturgeon, 2005). Specifically, transaction cost economics focus on the frequency, asset specificity or the opportunism in the transactions to explain the dichotomy between keeping an activity in-house or going to the market (Williamson, 1985). Network theory goes a step further and argues that there are a variety of modes between the market and the hierarchy of the firm that could also solve problems such as opportunism (Jarillo, 1980). Moreover, inter-firm divisions of labor could be more complex and create interdependencies within the firm and with external agents. Lastly, from a learning perspective, the learning required to engage in certain value chain activities is impossible to achieve fo r firms by their own. They may depend on external resources that complement their competencies and allow them to focus on the core ones (Prahalad and Hamel, 1990).

Moreover, the access to external resources allows them learn new external knowledge (Chiu, 2014).

All in all, these theories can contribute to explain not only firms value chain configurations but also the effects of them. In the next sections we consider those theoretical approaches and examine the global value chain configuration in both aspects more deeply, hypothesizing about how firms can increase their innovation results.

2.1. Location configuration of the value chain and its effect on innovation

Location aspects has gained importance in recent years, especially since Dunning (1998) proclaimed it as a neglected factor in international business research. Similarly, Buckley and Ghauri (2004) posited that a focus on economic geography was necessary in the analysis of globalization. As it was mention before, firms can arbitrage factor differences among countries (Asmussen et al., 2007). Then, firms that want to achieve the benefits of globalization should consider the optimal location for their activities considering the comparative advantages that exist among countries (Yaprak et al., 2011). Precisely, the goal of a global strategy is to operate considering the optimum combination of inputs and outputs derived from a variety of opportunities (Buckley and Ghauri, 2004). Moreover, the election of a location is the result of active decisions made by firms to maximize knowledge spillovers and to enhance their competitive position (Alcácer and Chung, 2007). Then, an international diversity of locations in their portfolio may impact on their innovative capacity and their technological learning, by enhancing their knowledge stock and their abilities for exploiting new ideas (Kafouros et al., 2008; Zahra et al., 2000). However, the analysis of the effects of globalization and international diversification of firms outcomes has been extensive but inconclusive. One of the problems is the way diversity is defined. Part of the literature has examined the

international diversity by considering the variety of countries in which firms operates. In that case international diversity construct may not take into account the diversity phenomenon as firms can operate in different countries belonging to one or few regions (Qian et al., 2008). Other studies focus on the analysis of diversity by considering regions, but similarly, firms use to concentrate their operations in regions with similar features such as the triad identified by Ohmae (1985) formed by three main developed regions: United States, European Union and Japan. Rugman (2003) also identified that world businesses are mainly concentrated on NAFTA, European Union and Asia. Diversity can also be better explained by considering if firms operate in develop and developing countries (Demirbag and Glaister, 2010; Makino, Chung-Ming and Yeh, 2002; Martinez-Noya et al., 2011; Mudambi, 2008, among others). Precisely, we consider that the analysis of diversity considering this last distinction could allow us to identify the global dimension of the value chain.

Developed and developing countries differ in several aspects. In the upstream side of the value chain, literature has traditionally agreed that developed countries provide technical capabilities and developing countries provide manufacturing capabilities and cost advantages (Hsu and Chen, 2009; Luo and Tung, 2007; Makino et al., 2002). However, as Wright et al. (2005) establish, a more strategic attention is needed on emerging markets. Developing countries also provide a huge human capital base that attracts foreign firms (Kedia and Mukherjee, 2009). Indeed, some scholars maintain that developing countries not only attract manufacturing but also a broad range of administrative services and R&D activities (Jensen and Pedersen, 2011). Then, although the most creative and knowledge intensive activities are still located in advanced economies (Mudambi, 2008), developing countries are being more and more important in innovative activities (Demirbag and Glaister, 2010; Martinez-Noya et al.,

2011). Additionally, the locus of innovation often lies with users, or it is related in the recognition of solutions to customers needs (Wiklund and Shepherd, 2003). From this downstream side, research has also focused on firms operating in developed countries where customers have high-income levels (Wright et al., 2005). But consumers of all markets are becoming more design conscious and resistant to standardized offerings (Mudambi, 2008). Specifically, developing countries are considered more and more important in these activities because many of them offer possibilities of expansion in the sector versus the maturity phase in developed countries (Mudambi, 2008). This situation makes developed and developing countries as potential locations for different activities that can contribute to firm innovation. Moreover, operating in both types of countries may create a level of knowledge diversity that may allow firms combine exploration and exploitation of knowledge (March, 1991). Too much exploitation, by operating in similar countries, implies the firm can easily absorb the knowledge but it has little to learn; conversely, too much exploration, by operating in distant countries, implies that little knowledge can be absorbed and put to commercial use (Barkema and Drogendijk, 2007). Firms, then, need to make an effort in balancing both the exploration and exploitation of knowledge abroad (De Clercq, Sapienza and Crijns, 2005). As firms combine exploration and exploitation efforts they can increase their levels of absorptive capacity and with it increase their innovative outcomes (Cohen and Levinthal, 1990).

All in all, we argue that applying a global value chain configuration by locating activities in developed and developing countries allows firms to achieve comparative advantages as well as higher levels of knowledge. Specifically, firms may capitalize the resources and advantages that may exist in those different locations, what makes possible generate more innovative results. Considering the arguments above, we posit the following hypothesis.

Hypothesis 1: *The likelihood of innovating is higher for firms that apply a global value chain configuration by operating in developed and developing countries.*

2.2. Operation modes configuration in the value chain and its effect on innovation

Additionally, firms have to consider how to coordinate the operation modes undertaken in the activities of their value chains. This aspect is also relevant as firms not only take into account the breadth of engagement on international markets but also the depth of engagement that imply the different foreign modes (Aggarwal et al., 2011). These modes have been classified by literature considering different factors such as control, commitment and risk (Anderson and Gatignon, 1986; Hill et al., 1990). These modes can be grouped in three broad categories: market, cooperative and equity modes. Each one can offer different advantages for firms (Hashai et al., 2010) and can play different roles in achieving foreign market objectives (Petersen and Welch, 2002). For example, market modes enable relatively broad technical learning, wholly owned modes enable a much deeper learning as a result of doing business in a particular foreign setting, and cooperative agreements enable the access to partners advantages (Hashai et al., 2010).

Literature has tried to explain why firms choose one or other operation mode in their international operations for specific activities such as sales (Brouthers, 2002; Davis et al., 2000; Nakos and Brouthers, 2002; among others). Literature has also analyzed the effects on firms' outcomes by comparing foreign modes in specific activities. Nieto and Rodríguez (2011), for example, compare the effect of captive and outsource offshoring of R&D on innovation. Moreover, literature has also explained the disadvantages that firms could find by focusing in a specific mode. For example, Grimpe and Kaiser (2010) point out the risk of dilution of firms' resource base at high degrees of

outsourcing, finding a positive moderation of internal R&D and R&D formal collaborations on the relationship between outsourcing of R&D and innovation. Furthermore, it should be considered not only mode combinations in a particular activity but also along activities in the value chain (Asmussen et al., 2009; Hashai et al., 2010). In fact, examining one specific activity of the value chain may result insufficient as it misses information about the knowledge derived from different modes that a firm can combine in the rest of activities. Specifically, that vision may imply forgetting the possible complementarities that can emerge from internal and external sources (Veugelers and Cassiman, 1999).

Firms, then, can combine different operation modes that may allow them to access to advantages derived from the division of labor inside and outside the boundaries of the firm. They may evaluate potential risks related to their innovation outcomes considering opportunity costs, asset specificity or the frequency of the transactions in each activity. This reasoning would go in line with a transaction cost approach, in which firms choose the most efficient operation mode in each of their activities. Moreover, combining modes may allow them achieve more flexibility, adapt more easily to changing circumstances and have greater strategic control over decisions such as "when" and "how" develop foreign operations (Benito et al., 2012). Firms can also combine different operation modes in ways that strength the process of foreign market penetration and dissipate other risks, such as becoming locked-in to a particular mode (Petersen and Welch, 2002). This adaptation derived from the search of the optimal mode for their international activities could help firms to innovate, as adaptation is also related to the implementation of a more effective strategy (Barnett and Burgleman, 1996). Additionally, from a network perspective, a network structure can be used as a proxy for information and knowledge heterogeneity (Rodan and Galunic,

2004). Then, as firms employs different foreign modes in the value chain they can create a network within and beyond the boundaries of the firm that may give access to several knowledge opportunities. Furthermore, from an organizational learning perspective, the access to diverse knowledge thanks to the integration of different sources of experience could increase the absorptive capacity of the firm (Cohen and Levinthal, 1990). It also contributes to increase their learning opportunities (Hashai et al., 2010). Precisely, accessing to knowledge of different sources may generate complementarities that positively affect to innovation outcomes (Roper, Du and Love, 2008).

All in all, we argue that the benefits related to the increased levels of efficiency and learning related to a diverse combination of foreign operation modes in the value chain makes possible the generation of more innovative results. We posit, then, the following hypothesis.

Hypothesis 2*: The likelihood of innovating is higher for firms that combine a diversity of international modes in their value chains.*

2.3. Interaction effects between location configuration and operation modes configuration on innovation

Apart from considering the individual effect of each decision, it is also necessary to consider interaction effects between them. Literature has argued that the location decision is closely linked to operation mode decision as firms have to decide about where to locate their activities and who will carry out them (Grünig and Morschett, 2012). In order to undertake both decisions, the firm has to combine its competencies and the ones from external agents, with the comparative advantages of the different locations to create a competitive advantage (Mudambi, 2008). Then, a global corporate

strategy implies adopting a global basis in planning and resource allocation, facilitating worldwide manufacturing capabilities, fostering a relatively centralized structure and decision-making with a high degree of coordination (Cavusgil et al., 2004). Indeed, managers fine-slice the activities, locate them in its optimal location and control them even when not owning all of them Buckley (2011).

But successful globalization may not be easy and its implementation imply several requirements (Roth, Scheiger and Morrison, 1991; Zou and Cavusgil, 2002). Some research has pointed that high levels of internationalization could imply knowledge leakages that could negatively affect innovation outcomes (Kafouros et al., 2008). The key, then, is to find the optimal degree of organizational and geographical dispersion of the international strategy and to avoid incremental costs derived from search, coordination and the management of a complex global structure that could exceed the benefits (Cavusgil et al., 2004; Contractor et al., 2010). Precisely, as more choices are involved in both decisions, coordination efforts increase (Benito et al., 2009). Then, when firms have to coordinate different operation modes and, at the same time, face to the peculiarities of different locations, the level of resources required for managing and assimilating the information and knowledge generated grows. Specifically, they may require the exchange of tacit knowledge among distant departments, partners, suppliers and clients. This could also generate a liability of expansion, referred to the situation in which firms add operations located in distant environments without having enough resources (Cuervo-Cazurra et al., 2007). This firm-specific difficulty in its internationalization strategy may also generate costs of transportation and communication as well as higher levels of complexity. Moreover, by combining high levels of diversity in one and other election may imply an imbalance between the exploration and exploitation strategies, giving priority to the exploration

side. Precisely, one of the arguments given for explaining the side effects of preferring an exploration strategy is that it may result in excessive costs and insufficient rewards from successful ones (Greve 2007; March, 1991).

All in all, we argue that managing high levels of diversity derived from operating in dissimilar locations could hinder the knowledge creation when the firm undertakes foreign operations employing different modes. In those situations, firms may have to manage diverse relationships and peculiarities of different modes and at the same time diverse knowledge from locations with different features. It could imply certain myopia for the organization, focused on coordinating and managing activities geographically and organizationally dispersed, instead of taking advantages generated thanks to the access to diverse knowledge. Taking all these arguments into account, we posit the following hypothesis.

Hypothesis 3*: The positive effects of combining a diversity of operation modes are mitigated when a global value chain configuration by operating in developed and developing countries is undertaken.*

3. Methodology

3.1. Sample and data

The source for our empirical analysis is the survey *Internationalisation of European SMEs* undertook by *European Commission, DG Enterprise and Industry in 2010*. The database is composed by 9.480 SMEs with between 1 and 249 employees that can be split according to size in micro-sized firms (1-9 employees); small-sized firms (10-49 employees); and medium-sized firms (50-249 employees). The database distinguishes also by business sector, including manufacturing and service enterprises.

The data correspond to 33 European countries, what makes the results widely generalizable to different countries and contexts. Of the total number of firms, 6.056 SMEs are involved in at least one international operation. Among the upstream activities, firms are asked for giving information about being involved in imports, outsourcing and/or foreign direct investment for producing or buying inputs. Among the downstream activities, firms are asked for giving information about if they have been involved in exports, technological cooperation, being a subcontractor of foreign contracts and/or foreign direct investment for sales or as a representative office. With respect to location information, 5.101 SMEs give information about the location where they perform those operations. As we are examining how firms configure their international activities in the value chain in terms of location and international operation modes, we focus on those enterprises that are internationalized excluding from the analysis those that remain domestic.

3.2. Variables

Dependent variable. *Innovation* is a dichotomous variable that takes the value 1 when the firm engages in any product or process innovation. This measure is commonly employed in other studies previously for analyzing the firm's innovation performance (Leiponen and Helfat, 2011; Nieto and Rodríguez, 2011).

Independent variables. Our explanatory variables relates to the location and operation mode configuration of the value chain. On one hand, we create the variable *Location configuration* that is a dichotomous variable that takes the value 1 when firm locates their activities in developed and developing countries and takes the value 0 when firm locates activities in developed countries or developing countries. In order to construct this variable we take into account the data provided by the World Bank,

considering as developed countries those that are classified as high income countries in 2008. As countries present differences in the level of development, we follow those studies that make this distinction among developed and developing countries (e.g. Demirbag and Glaister, 2010; Martinez-Noya et al., 2011; Mudambi, 2008). We consider that this variable is a good proxy of a global strategy in the location configuration of the value chain.

Additionally, we create the variable *Operation configuration,* a variable that counts the number of different modes that the firm employs in its international operations. As we consider information of different modes in upstream and downstream sides of the value chain, we identify the existence of transactions if the firm undertakes import or export operations; contracts if the firm undertakes technological cooperation, outsourcing, subcontractor agreements; and equity if the firm undertakes foreign direct investment for production or sales. Then, we count the different kinds of operation modes they employ in their value chains, so the variable can take values from 1 to 3.

Control variables. Following the literature, the study includes controls for firm-specific characteristics, sectoral and country dummies. Specifically, related to firm-specific variables we include the variable *Size.* Firm size is a proxy of the firm's resource endowment (Chen, Huang and Lin, 2012), so larger firms may have greater ability to achieve innovations (Leiponen and Helfat, 2011). This variable is measured by the logarithm of the total number of employees, what is common in the literature (Huse, Neubaum and Grabrielsson, 2005; Nieto and Rodríguez, 2011; Zahra et al., 2000). We also include the variable *Age.* This variable captures the life span of the firm, measured by the logarithm of the number of years the firm has been in existence (Grimpe and Kaiser, 2010). It is a proxy of the level of experience of the firm doing innovations

(Huergo and Jaumandreu, 2004). Additionally, the study controls for the legal form and ownership structure of the firm. We create a dichotomous variable, *Legal form,* which takes the value 1 when the firm is a limited enterprise (public or private) and 0 when the ownership is in hands of a sole proprietor or a partnership. The literature indicates that ownership and governance structures can influence strategic choices and technological strategies (Zahra, 1996). The European Commission (2011) explains some of the differences among different legal structures. For example, public limited enterprises and private limited enterprises are private joint-stock companies with limited liability for shareholders; whereas sole proprietors and partnerships, that include forms like cooperatives, face to unlimited liability.

With respect to the effect of sectoral characteristics, we identify seven sectors: *Manufacture; Construction; Wholesale trade; Retail trade; Transport and communications; Business services;* and *Personal services*. To avoid problems of multicollinearity, *Manufacture* is designated as the reference category in the econometric analyses. The inclusion of sectoral dummies is common in the literature on firm innovation (Grimpe and Kaiser, 2010; Nieto and Rodriguez, 2011). Lastly, as the sample include firms from different countries we include dummy variables for each country of origin in order to capture the effect of potential differences in innovation among firms because home country differences.

3.3. Analytical approach

To test for multicollinearity, an analysis of the variance inflation factor (VIF) was conducted. Individual VIF values greater than 10 indicate a multicollinearity problem (Neter et al., 1989), along with average VIF values greater than six. Moreover, Table 9 shows the description and correlation of the independent and control variables.

To test our hypotheses, we adopt a probit model as the dependent variable is dichotomous and takes value 1 if the firm innovates and 0 in the case it does not introduce any innovation. These models result appropriate in those situations. Specifically, the empirical model takes the following econometric specification:

$$\begin{aligned}\text{Prob (Innovation)}_i = {} & \beta_0 + \beta_1 (\text{Location configuration})_i \\ & + \beta_2 (\text{Operation configuration})_i \\ & + \beta_3 (\text{Location configuration x Operation configuration})_i \\ & + \beta_4 (\text{Size})_i + \beta_5 (\text{Age})_i + \beta_6 (\text{Legal form})_i + \beta_7 (\Sigma \text{Sector}_n)_i \\ & + \beta_8 (\Sigma \text{Country}_n)_i + \varepsilon_i\end{aligned}$$

where β_0 is the constant intercept, β_1 is the coefficient vector, and ε is the error term.

As it is reflected in the model, we consider different factors affecting innovation propensity, as independent effects as it is reflected by estimating the coefficients for β_1 and β_2. However, as we also hypothesized interrelated effects, considering that location configuration (β_1) and operation mode configuration (β_2) could affect each other, we also estimate the coefficient for this interaction effect (β_3).

Table 9. Descriptive analysis and correlations of the independent and control variables

		Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1	Location config	0.417	0.493	1											
2	Operation config	1.437	0.597	0.268**	1										
3	Size	3.075	1.369	0.147**	0.182**	1									
4	Age	2.970	0.873	0.0325*	0.0124	0.280**	1								
5	Legal form	0.757	0.429	-0.00258	0.0655**	0.0652**	0.113**	1							
6	Manufact	0.325	0.468	0.0947**	0.0699**	0.174**	0.132**	0.0304*	1						
7	Constr	0.067	0.249	-0.0664**	0.0180	0.00192	-0.0749**	-0.0227	-0.185**	1					
8	Whol	0.097	0.296	0.0792**	-0.0451**	-0.0342*	0.0325*	0.00551	-0.227**	-0.0875**	1				
9	Retail	0.168	0.374	-0.0339*	-0.129**	-0.0628**	-0.0294*	-0.0542**	-0.312**	-0.120**	-0.147**	1			
10	Transport	0.059	0.236	-0.0144	0.0243	-0.0200	-0.00719	0.0125	-0.174**	-0.0671**	-0.0823**	-0.113**	1		
11	Business serv	0.190	0.392	-0.0514**	0.0670**	-0.128**	-0.0865**	0.0443**	-0.336**	-0.129**	-0.159**	-0.218**	-0.121**	1	
12	Personal serv	0.094	0.292	-0.0513**	-0.0263	0.0226	-0.0204	-0.0350*	-0.224**	-0.0862**	-0.106**	-0.145**	-0.0810**	-0.156**	1

** p<0.05; ** p<0.01*

Note: Country dummies not included

4. Results

Table 10 displays the results of the different models. Specifically, three models are specified. The first model only includes the control variables. Models two and three test the hypotheses. Model two analyzes the impact of location configuration and the operation mode configuration of the value chain activities on innovativeness, the relations posit in hypotheses 1 and 2. In this respect, we observe, as it was expected, that locating the value chain activities in both developed and developing countries has a positive and significant impact on the likelihood of innovating. This result provides empirical evidence for hypothesis 1. Similarly, results confirm that undertaking a diversity of operation modes for their activities in the value chain has a positive and significant impact on the likelihood of innovating. This result provides empirical support for hypothesis 2. The third model includes the interaction among variables *Location configuration* and *Operation configuration,* in order to test the hypothesis 3. This interaction effect is found to be a negative and significant determinant of the likelihood of innovating, what gives support to hypothesis 3.

Considering the effect of other variables in the likelihood of innovating, results show that *Size* is positive and significant in all the models. Although some studies point that the effect of this variable on innovation has been found to be ambiguous in the literature (Grimpe and Kaiser, 2011), our results go in line with those studies that find a positive relationship between both variables (Nieto and Rodriguez, 2011). On the contrary *Age* is negative and insignificant. Although firm age is related to its experience and the possibilities of accumulate learning, some authors have explained a negative sign saying that younger firms tend to be more innovative than older firms (Grimpe and Kaiser, 2010). The results showed in the models could be reflecting both aspects, making the effect of firm age insignificant. For its part, *Legal form* exerts a positive and

significant effect on the likelihood of innovating. This result is consistent with studies indicating that corporations are more innovative than firms organized as proprietorships or partnerships (Ayyagari, Demirguc-Kunt and Maksimovic, 2007).

Regarding sectoral variables, we find a negative and significant relation with *Innovation* for the following categories (compared to the baseline category of *Manufacture*): *Construction*; *Transport and communications*. *Business services* and *Personal services* also exert a negative sign but insignificant. Additionally, although we do not show the coefficients for the origin country dummies, we are able to identify those countries in which significant differences exist with *Austria* (the baseline category). *Iceland* is the only country that presents a positive and significant coefficient. On the opposite side we find countries such as *Croatia, Cyprus, Romania, Slovakia* and *Slovenia* that present a negative and significant sign. Countries such as *Sweden, Finland* and *Luxembourg* also have a negative and significant relationship. We do not find any significant effect for the rest of the countries.

Lastly, the three models include different indicators showing its goodness of fit. Specifically, they reflect how models improve when the independent variables are included, for example with the higher values for the R^2. Additionally, we perform Log-likelihood ratio tests that confirm the increased explanatory power that models 2 and 3 compared to model 1 and model 2 respectively.

Table 10: Results

	(1)	(2)	(3)
Location config (dummy developed-developing countries)		0.198***	0.411***
		(4.71)	(3.79)
Operations config		0.452***	0.534***
		(12.10)	(9.91)
Location config X Operation config			-0.153*
			(-2.13)
Size	0.121***	0.0815***	0.0820***
	(8.13)	(5.33)	(5.35)
Age	-0.0135	-0.00753	-0.00654
	(-0.55)	(-0.30)	(-0.26)
Legal form	0.113*	0.0960†	0.0970†
	(2.19)	(1.83)	(1.85)
Constr	-0.521***	-0.501***	-0.499***
	(-6.55)	(-6.18)	(-6.15)
Whol	-0.185**	-0.161*	-0.164*
	(-2.69)	(-2.31)	(-2.35)
Retail	-0.375***	-0.290***	-0.290***
	(-6.59)	(-5.01)	(-4.99)
Trans	-0.570***	-0.587***	-0.590***
	(-6.87)	(-6.96)	(-7.00)
Bussserv	-0.0132	-0.0204	-0.0194
	(-0.23)	(-0.36)	(-0.34)
Persserv	-0.153*	-0.0923	-0.0935
	(-2.19)	(-1.29)	(-1.31)
Country dummies	Included	Included	included
Cons	0.310	-0.329	-0.438*
	(1.95)	(-1.95)	(-2.48)
N	4940	4940	4940
$\chi 2$	459.7	678.1	682.7
df_m	41	43	44
Log likelihood	-3032.9	-2923.6	-2921.4
Nagelkerke R^2	0.121	0.175	0.176
Log-likelihood ratio test		218.42***	4.56*

t statistics in parentheses
† $p< 0.1$; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

4.1. Robustness checks

In order to explore the robustness of our findings we take into account another measure for the diversity of locations in which the firm operates. Specifically, this alternative variable considers the global orientation of the firm by counting the number

of regions in which the firm operates and considering the following ones: Africa, Asia, Europe, North America, Oceania and South America (Aggarwal et al, 2011). As it was mentioned before, this measure was not employed in our original model as it takes into account the geographic diversity of the firm but it does not consider the effect of diversity in terms of the location characteristics. In fact, a firm could combine operations in countries located in different regions but with similar levels of development (e.g. Japan in Asia, UK in Europe and USA in North America). Precisely, operating this way would correspond to what Rugman and Verbeke (2004) describe as the regionalization or semi-globalization phenomenon. Then, although we consider that our measure about location configuration can better reflect the diversity aspect, we think that it is useful to show alternative models that confirm the effect of diversity on innovation from another point of view. Results are shown in Table 11. As it can be observed, the analysis of the location configuration via this new variable does not affect our main results in hypothesis 1. With respect to the interaction effect, the coefficient is negative and significant although the level of significance decreases to the 10%. In general terms, we can see that these results are consistent with those reported in table 2.

Table 11. Alternative models

	(1)	(2)	(3)
Location config (regions)		0.183***	0.301***
		(6.05)	(3.99)
Operations config		0.450***	0.572***
		(12.12)	(7.09)
Location config X operation config			-0.0794†
			(-1.72)
Size	0.121***	0.0827***	0.0828***
	(8.13)	(5.41)	(5.41)
Age	-0.0135	-0.0106	-0.0109
	(-0.55)	(-0.43)	(-0.44)
Legal form	0.113*	0.0908†	0.0904†
	(2.19)	(1.72)	(1.72)
Constr	-0.521***	-0.506***	-0.506***
	(-6.55)	(-6.25)	(-6.25)
Whol	-0.185**	-0.162*	-0.164*
	(-2.69)	(-2.31)	(-2.34)
Retail	-0.375***	-0.292***	-0.291***
	(-6.59)	(-5.04)	(-5.02)
Trans	-0.570***	-0.572***	-0.573***
	(-6.87)	(-6.78)	(-6.79)
Bussserv	-0.0132	-0.0438	-0.0412
	(-0.23)	(-0.76)	(-0.72)
Persserv	-0.153*	-0.106	-0.105
	(-2.19)	(-1.48)	(-1.47)
Country dummies	Included	Included	Included
_cons	0.310	-0.478**	-0.652**
	(1.95)	(-2.81)	(-3.28)
N	4940	4940	4940
$\chi 2$	459.7	693.2	696.1
df_m	41	43	44
Log likelihood	-3032.9	-2916.1	-2914.7
Nagelkerke R^2	0.121	0.179	0.179
Loglikelihood ratio test		233.5***	2.89†

t statistics in parentheses
†$p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

5. Discussion and conclusions

The study allows us to draw conclusions on the location and operation mode configuration of firms' value chain. Specifically we extend the analysis of the implications of the value chain configuration on innovation propensity. On one hand,

our results confirm that combining developed and developing locations along the value chain activities is positively related to innovation propensity. This result indicates that firms that try to access to comparative advantages among locations with an exploration-exploitation combined strategy in the value chain can allow firms achieve higher levels of innovativeness. Put another way, configuring the value chains with developed and developing locations offers the firm the possibility of accessing to knowledge diversity that contributes to improve their absorptive capacity and fosters the generation of innovation outcomes. This result also adds to the line of research that shows the positive effects of considering developing countries for activities beyond cost factors (Demirbag and Glaister, 2010; Jensen and Pedersen, 2011). Developing countries are offering more and more opportunities that go beyond the cost motives that these destinations have been traditionally associated with. However, the increasing importance of developing countries does not imply a substitutive effect with respect to developed ones. On the contrary, both types of locations act as complements for generating innovations, what supports the idea of the benefits that globalization has for firms in achieving a competitive advantage.

On the other hand, the study also confirms that combining different foreign operation modes in the configuration of the value chain activities positively affects to the likelihood of innovating. This result is in line with other studies that posit that different types of complementary learning may be generated by having a diverse foreign operation mode portfolio (Hashai et al., 2010). By undertaking a diversity of operation modes, firms can access to different types of knowledge from different sources and at the same time it shows how firms try to make the optimal choice for each specific situation. All in all, these results also support the idea of the benefits derived from combining an exploration and exploitation-knowledge strategy. An exploitation strategy

would imply focus on a specific operation mode. By combining different foreign operation modes could be reflecting a more proactive strategy in the search for new knowledge both inside and outside their boundaries.

Moreover, we also show how greater levels of diversity generated by combining a global configuration in the value chain in terms of locations and operations can diminish the positive effect of the more knowledge generated. Then, our results warn about the side effects of the management of high levels of diversity. This goes in the line with those studies that highlight the bigger needs of coordination that exist when the levels of diversity are too high (Contractor et al., 2010; Kafouros et al., 2008). Our findings show how the benefits derived from the diversity of knowledge have to be considered together with the cost that implies managing this diversity, as beyond a threshold too much diversity could hinder innovation outcomes. Our results could indicate that the knowledge obtained by operating in different locations or with different operation modes may be easy and generate positive results on innovation outcomes. But if both decisions imply high levels of diversity at the same time, the needs for coordinating foreign operations and locations along the whole value chain increases, what generate more costs. Precisely, these challenging needs of coordination could hinder the likelihood of generating innovations.

From an academic point of view, this study contributes to the literature focused on the analysis of the global value chain. Specifically, the study advances the understanding about the implications of its configuration. A global value chain configuration implies the access to a diversity of knowledge from different locations. Moreover, the study recognizes the necessity of considering how firms can use different operation modes when they take their operations in foreign markets. This diversity of

operation modes employed also allows firms to access to different sources of knowledge. These considerations add to the organizational learning literature, but without forgetting the arguments that other theoretical approaches give for explaining higher likelihood of innovativeness. For example international economics also allow us consider that firms that try to look for the comparative advantage that different locations can offer. Similarly, transaction cost economics and network theory allow us to add reasons to explain why operating with different operation modes could help firms to increase their innovation propensity, as firms can find different advantages from combining an internalization strategy with the use of the market or agreements with partners. From an empirical point of view the study also makes some advances. Literature has traditionally focused on the examination of specific activities and its impact on innovation outcomes. However our data allow us to consider the whole value chain as it gives information about different international operations related to upstream and downstream activities of it. Additionally, contrary to those studies that have examined the value chain configuration via case studies (Benito et al., 2009; 2011), we employ a big sample to test our hypotheses. Although case studies give move detailed information about different processes, we consider that this study can offer more generalizable results in this literature area.

This study also has implications for management. Our results show how managers can find in the diversity of knowledge acquired in developing and develop countries a way of increasing the firm's innovation outcomes. Specifically, managers should take into account that both types of countries can complement their knowledge bases. Similarly, managers should consider the benefits of undertaking different modes in their foreign operations, going beyond the inertia forces that could emerge during the internationalization process. Specifically, managers can find different advantages for

each operation mode, what also contributes to increase the diversity of the knowledge generated to offer more innovative potential. However, this study also warns managers about the negative effects that too much diversity can imply. Managers have to take care of considering the level of diversity they can manage and coordinate along the global value chain. Specifically, that combining countries with different levels of development and different foreign operation modes could create costs and certain myopic effects that diminish the positive effect of the more level of knowledge acquired. Results, then, encourage managers to choose a global strategy in the internationalization of the value chain but at the same time warn them about the negative side effects that this strategy could offer when is combined with high levels of diversity in their operation modes.

Nevertheless, this work also has some limitations that may offer promising lines for future research. Because of the data limitations, we cannot differentiate among activities in the value chain beyond two big categories: upstream and downstream sides of the value chain. Then, we do not know neither if they are related to ones with more or less valued added nor the countries in which each one are undertaken. Other studies could include information about specific activities and observe a more complete description of the benefits and drawbacks of managing knowledge diversity. Another interesting line of research could be focused on analyzing firm competencies that could alleviate the coordination costs required for managing multiple location and operation modes jointly. In empirical terms, future works could use longitudinal data and extend the analysis identifying the evolution of combinations in both location and operation modes aspects. In that way, an evolutionary perspective could go further and explain other issues, such as how firms change their operation mode combinations and how these changes affect innovation. It would be also important to employ other measures that could give a deeper understanding of innovation performance. Additionally, more

research is needed about the implications of value chain configuration over other firms' outcomes.

In conclusion, we have shown how the value chain configuration can affect innovation propensity. We consider that our results are important as they shed light to understand the effects of managing different levels of international diversity in two main decisions of the configuration of the global value chain: the location combination of firms' activities and the operation mode combination used with them. All in all, we consider that our empirical findings illustrate the individual benefits of diversity in locations and operation modes, on innovation. But they also show that these decisions are interrelated. This situation implies that firms have to be aware of the side effects of managing high levels of diversity derived from combining a variety of locations and operations modes at the same time.

CONCLUSIONS

The main conclusions of the different sections making up this research are detailed below, beginning with the results produced by each.

Chapter 2

The institutional environment in which the firm operates affects business decisions. Specifically, when the firm develops an international strategy it is dealing with two different institutional environments: that of the country of origin and that of the host country. Firms therefore have to take the institutional differences between the two countries into account in making their decisions. In this regard, the informal institutions, which are often more difficult to recognize since they are tacit, implicit features of society, may be the cause of a considerable knowledge gap as the distance between origin and destination grows. Furthermore, these informal aspects of the institutions must be taken into account separately, distinguishing between normative questions and cultural questions to determine whether different effects are produced. The results show that firms may require external assistance, by means of contractual agreements, to overcome the normative and cultural institutional distance between country of origin and destination. At the same time, in addition to the informal aspects of the institutions, firms must take into account the regulatory aspects of the host country. The regulatory institutions, unlike the normative and cultural ones, may be categorized in terms of development. A more extensive development of these institutions may facilitate the implementation of operations in the host location. They may therefore have a moderating effect on the relationship between the normative and cultural differences in relation to the entry mode choice. In particular, it can be seen that even when the normative and cultural differences are great, as the degree of regulatory

development in the host country increases, the probability of using modes other than contractual agreements, such as exports or direct investment, also increases.

Chapter 3

Continuing with the focus on the institutions, this chapter concentrates on the role of the regulatory institutions in the entry mode choice. In particular, it analyses how businesses have to combine the requirement for efficiency and legitimacy in their international operations, as set out in the transaction costs theory and the institutional theory, respectively. However, combining both requirements may impact on the entry mode choice differently, depending on not just how much these institutions differ, but also how they differ. We, thus, move on to the literature demonstrating the asymmetric effects generated by the impact of the regulative institutional distance in relation to the level of the resources committed, under which the different entry modes can be categorized - exports, cooperation agreements and direct investment. Our findings show, on one hand, that when the level of regulatory development in the host country is lower than in the country of origin, firms tend to opt for methods requiring a lesser commitment in terms of resources. In this case, firms are dealing with less developed institutions than those of the country of origin and need to give priority to acquiring legitimacy, as the quest for efficiency is shaped by the rules of the game established in the environment of the host country. Thus, as the distance increases in a negative direction, the entry modes entailing a lower commitment of resources are the ones that can alleviate problems of adaptation. On the other hand, when the institutions in the host country are more developed than those of the country of origin, the adaptation options are greater as firms have easier access to information on these institutions in the

destination country. In such cases, therefore, the firm can give priority to criteria of efficiency. Thus, a greater distance reduces the risks and costs of the operations and increases the perception of benefiting from institutional advantages in these countries, allowing the firm to prefer entry modes requiring a higher level of resource commitment. All in all, we shed light on the asymmetric effect of the regulative distance on firm decisions. Specifically, we establish how firms take decisions concerning the commitment of resources, not just in terms of the magnitude of the distance between country of origin and host country, but also in terms of its direction.

Chapter 4

This Chapter focuses on examining the effect of inward-outward connections firm growth. We take into account that knowledge is crucial to international operations since, as the literature has established, the way of creating and replicating it in the different markets in which it operates has an impact on the firm. For this purpose, we consider an organizational learning perspective, which makes it possible to explain the benefits derived from acquiring knowledge related to that which the firm possesses, and which at the same time is diverse both in terms of type (relating international markets or technology) and in terms of source (the different players with which firms are connected in different operations). By operating internationally, firms can acquire international and technological knowledge, which can also be general or specific. Firms acquire knowledge by means of inward operations -operations that allow firms to achieve inputs in foreign markets-, and by means of outward operations - operations that allow firms to sell products or services in foreign markets. However, they can also benefit from connections arising from undertaking both types of operations – inward and outward –

simultaneously. The findings of this chapter show that the specific knowledge derived from undertaking inward and outward operations in the same country enables the firm to achieve better results in terms of turnover growth. This specific knowledge refers to knowledge of doing business in a particular market and of specific market institutions, but also the technology developed in it. The firm can thus exploit the specific knowledge acquired by both types of operations, increasing its capacity for absorbing knowledge ultimately contribute to the acquisition of a competitive advantage.

Chapter 5

In Chapter 5, the dissertation continues to focus on the effects of a global value chain configuration in firm innovation. We explain this relation on the premise that knowledge provided by international operations can generate several advantages. Specifically, that knowledge diversity, in terms of both locations and the different foreign operations modes, has an important role in this relationship. To this end, the research considers different theories setting out arguments concerning the benefits and costs of combining locations (international economy, involving an analysis of the comparative advantage, and the perspective of organizational learning), and of combining foreign operation modes (transaction costs economics, network and organizational learning approaches). The analysis carried out takes into account upstream and downstream activities in the value chain, as firms do not take their decisions in isolation. The analysis of the location diversity in the value chain is carried out taking into account the differences existing between the developed and developing countries. Developed countries have typically been the target of advanced operations, while developing countries have traditionally attracted the business of those seeking to

reduce costs. However, developing countries are increasingly becoming the destination chosen by businesses to conduct operations that can have a positive impact on firms' innovation results. So, operating in both types of countries may give firms access to the comparative advantages derived from both. In addition, the combination of both types of countries can give them access to a certain diversity of knowledge, stemming from the exploration and exploitation of knowledge that operating in countries both similar to and different from the country of origin can bring. Our findings show that the two types of countries can act as complementary locations, with a positive effect on the propensity for innovation. Similarly, we also investigate the benefits of diversity through the use of different foreign operation modes in the value chain. The international operations modes can be distinguished in terms of risk, the commitment of resources, flexibility, etc., and can be categorized variously as transactions, cooperation agreements and direct investment. Each type of international operation has its own particular implications for firms and they can benefit from combining different modes all the way through the value chain. Specifically, a combination of modes would enable different types of knowledge to be acquired from different sources. Furthermore, the choice of the optimum mode for each operation can increase the efficiency of international operations. In fact, our findings show that the combination of different modes has a positive effect on the propensity for innovation. This research, in any case, highlights that high levels of diversity may come to have a detrimental effect on firms' goals. In particular, diversity produced by combining operations in developed and developing countries, and using different methods, may force firms to increase the coordination and management requirements of the global value chain. The costs of this coordination may therefore outweigh the advantages derived from this diversity and reduce the company's

propensity for innovation. Our findings show, indeed, that combining high levels of diversity in both dimensions hinder the likelihood of generating innovations.

Limitations and future areas of research

This dissertation has uncovered many issues that merit attention and suggest lines for future research. Limitations have been identified in the course of the different chapters. Nevertheless, in general terms we highlight some in order to propose different future areas of research. For example, with regard to the study of the normative and cultural institutional differences and the way they affect the foreign entry mode, it would be interesting to analyse other moderating effects such as experience in specific locations and the diversity of locations in which the firm conducts its operations. In this way, other potential moderating effects of the international experience in different spheres could be analyzed. It would also be interesting to analyze their impact on other international decisions and also the impact on performance. Concerning the study analyzing the asymmetric effect of the regulative distance, it is restricted to this dimension. Future studies could test whether this effect persists in relation to other aspects of the institutional distance. It would also be possible to explore potential moderating and mediating effects that could shape the aforementioned relationship (between the regulative distance and the entry mode choice) and the effects on firm performance.

With regard to the studies set out in the second part, focusing on the implications of different international strategies described, they also suffer from certain limitations. For example, the study analysing the inward-outward connections could be expanded by studying possible effects that could shape this relationship, such as, for

example, the institutional distance in relation to the countries in which they have international operations, and firm or managers characteristics. It would also be advisable to include a more detailed analysis of the mechanisms for sharing general or specific knowledge within the company, which could also moderate or mediate the relationship described. Finally, the study based on analysis of the implications of the global value chain suffers from limitations connected to the impossibility of distinguishing between different activities carried out by the company internationally and the host countries, beyond the distinction between upstream and downstream activities. So, future research could include more specific information, giving a more detailed description of the benefits and disadvantages of managing different degrees of diversity of knowledge. It would also be interesting to explore some variables which might affect the relationship described: for example, to observe whether specific firm's capabilities could reduce the coordination costs derived from operating in many locations and employing different foreign international modes.

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