A dynamic perspective to the internationalization of small-medium enterprises

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Abstract Despite the fact that the dominant theories of the internationalization of small-medium enterprises (SMEs) prescribe a dynamic and evolutionary process for the firm, most of the empirical research on this topic has been based on in-depth studies of a few cases, or cross-sectional surveys, which cannot capture the dynamic nature of exporting decisions that occur over many years. In this study we propose an empirical framework for studying the internationalization of SMEs that: (a) identifies latent internationalization stages based on multiple indicators of the firms' engagement and strategies in foreign markets over multiple years, and (b) analyses the firms' movements among these latent states over time, as a function of main characteristics of the firms and their markets at each point in time.

Keywords Globalization · Small-medium enterprises · Internationalization · Exporting · Foreign diversification

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Introduction

In the past few decades the world has seen a rapid pace of internationalization, with trade across the world 15 times greater in 2007 than in 1950. Global trade has grown at an average of 6% since 1990, faster than global GDP (EC 2007). Small-medium enterprises (SMEs) are increasingly active in the international arena, and some countries have implemented policies aimed at encouraging SMEs to increase their international activities to boost economic growth (EC 2007).

The internationalization of small-medium enterprises has been one of the most researched topics in the international business literature in the past three decades, producing an extensive body of work already in print. Fortunately, many comprehensive reviews have already appeared covering this important topic (Andersen 1993; Coviello and McAuley 1999; Fillis 2001; Leonidou and Katsikeas 1996; Ruzzier et al. 2006; Westhead et al. 2001; Wright et al. 2007), making it easier to understand what has already been accomplished and to identify areas that deserve further attention.

One might trace the origin of this vast literature back to the seminal work by the "Uppsala" group (Johanson and Vahlne 1977; Johanson and Wiedersheim-Paul 1975), who characterized internationalization as a gradual evolution through well-defined discrete stages, as firms gather resources and learn to operate in foreign markets. Firm internationalization has been regarded as an incremental process wherein firms initially move toward psychologically close markets and only later expand to others in a gradual, stepwise fashion.

This incremental, multi-stage process of internationalization was challenged by other authors, who argued for a more nuanced and more complex process. First, some firms may internationalize rapidly, skipping some or many of the

intermediate steps (Madsen and Servais 1997; Oviatt and McDougall 1994; Ruzzier et al. 2006; Turnbull 1987). In fact, some authors point to the new phenomenon of "born-global" enterprises as a challenge to the classic multi-stage process of internationalization (Crick and Jones 2000; Knight and Cavusgil 1996; Oviatt and McDougall 1994). In another challenge to the incremental stage model, some authors argue that the same firm may select different internationalization paths for different markets and different lines of business, depending on cultural affinity, prior market knowledge, etc. (Chang and Rosenzweig 2001), which negates the sequential internationalization process at the firm level. Other authors argue that internationalization does not necessarily increase, with some firms actually choosing to reduce their global exposure at some point in time (Benito and Welch 1997; Turnbull 1987).

A thorough analysis of the vast literature on the internationalization of SMEs shows that most of this literature is theoretical and conceptual in nature; purely theoretical pieces predominate, relative to fewer empirical studies, and even fewer using real panel data. Moreover, despite the fact that the internationalization phenomenon and theories posited to explain it pertain to the longitudinal engagement of enterprises in the global arena, most of the empirical studies of this phenomenon are based on cross-sectional surveys, which are unable to reveal its true dynamic nature (Andersen 1993; Coviello and McAuley 1999; Westhead et al. 2001). In fact, this dissociation between theory and empirical evidence has already been noted by several reviews of this literature, calling for longitudinal research as a more realistic view of the internationalization process over the life of an enterprise (Coviello and McAuley 1999; Leonidou and Katsikeas 1996; Melin 1992).

The empirical study we present here is an attempt to fill some of the gaps mentioned above. First, instead of imposing a pre-defined and deterministic set of internationalization stages, we use the different modes of engagement and the strategies a company pursues with various foreign markets to empirically identify latent states that are probabilistically occupied by each SME at different points in time. The fact that one SME may use multiple modes of entry at the same time is a reflection of the fact that most firms operate in multiple markets with multiple products. The latent states we identify through observed behaviors across markets and products, based on theoretical under-pinnings from the literature, are empirical implementations of the concept of internationalization "states" or "epochs" as posited by Wright et al. (2007).

Second, rather than imposing a pre-determined sequence of movements through internationalization states, we allow firms to "leapfrog," skipping some states, and to re-trench, empirically determining the likely movements across firms

and over time. Our dynamic approach considers the possibility that some exporting SMEs may withdraw from exporting and later re-enter foreign markets as conditions change (Crick 2004; Wright et al. 2007).

Third, we develop a model that attempts to explain movements among the latent internationalization states over time and across firms, using drivers based on three of the main views of the internationalization of SMEs: (1) the *resource-based view* (RBV) that internationalization decisions depend on the resources and capabilities under control of the firm (Barney 1991; Makhija 2003; Peteraf 1993; Wernerfelt 1984), (2) the *market-based view* (MBV) that firms are driven to foreign markets by pressures they observe in their current markets (Makhija 2003; Reynolds 1987; Westhead et al. 2001), and (3) the *network-based view* (NBV) that firms expand to new markets, taking advantage of the network ties they form with suppliers and other collaborators, which function as formal and informal sources of information, contacts, and other resources (Johanson and Mattsson 1987; Sharma and Blomstermo 2003; Zahra et al. 2003).

Last, but not least, we test our empirical models on longitudinal data spanning fifteen years across a sample of over 1,100 SMEs, taking a dynamic and time-dependent perspective on a phenomenon that has been widely viewed as such but has commonly been studied empirically through qualitative in-depth analysis of a few carefully selected cases, or cross-sectional surveys on small samples of firms (Bjorkman and Kock 1997; Chetty and Hamilton 1996; Coviello and Munro 1997; Leonidou and Katsikeas 1996; McDougall et al. 1994).

We next present a brief review of the literature on the internationalization of SMEs, which does not intend to canvas the extensive body of work in this area, but aims to position our study in relation to previous work. This review is followed by a description of the modeling approach utilized in our dynamic analysis of the internationalization of SMEs, which is then applied to a sample of over 1,100 SMEs in Spain tracked annually from 1991 to 2005. The discussion of our empirical results is followed by final conclusions.

A brief review of the literature on the internationalization of SMEs

Even though they might differ on their theoretical under-pinnings, most authors view internationalization as a dynamic and evolutionary process by which firms increase both their awareness of international transactions as drivers for growth and their commercial engagement with other countries (Beamish 1990). Researchers who study interna-tionalization using *foreign direct investment theory* (Anderson

and Gatignon 1986; Buckley and Casson 1993) explain this phenomenon as the firm's choice of optimal location and structure for each stage of production to minimize transaction costs. Transactions perceived to be high risk and to require high resource commitments are internalized within the organizational structure. Internationalization therefore happens as a consequence of this managerial decision-making process (Anderson and Gatignon 1986; Buckley and Casson 1993), leading to an evolutionary process that reflects incremental investments as managers learn about new market environments (Douglas and Craig, 2011; Newbold et al. 1978).

The most popular model of internationalization is known as the *Uppsala model* (Johanson and Vahlne 1977, 2009; Johanson and Wiedersheim-Paul 1975), which proposes that internationalization is an evolutionary process manifested in stages. Due to limited resources and limited knowledge of markets overseas, firms initially engage in foreign operations via indirect methods (e.g., exporting agents, trading companies) to markets that are culturally and psychically close (Ellis and Pecotich 1998; Kogut and Singh 1988). As the firm becomes more involved in international business, it accumulates knowledge and increases its commitments to foreign markets, gradually moving to psychically distant ones and switching to more direct export methods (e.g., overseas distributors, sales office). If knowledge can be transferred from one country to another, firms will perceive a shorter psychic distance to a new country than they previously saw. Market knowledge and commitment affect the allocations of current resources and the way decisions are performed. These in turn change market knowledge and commitment, leading to further international commitments, culminating with direct investments, which further enhance management knowledge, leading to stronger commitments to its current markets and further commitments to more distant markets. The Uppsala model is a dynamic model where the outcome from one stage constitutes the inputs for the next stage; market knowledge and commitment affect the allocations of current resources and the way decisions are performed, which in turn change future market knowledge and commitment, leading to an increasing commitment of resources (Andersen 1993). The original authors of this model most recently propose "the business network internationalization process model" (Johanson and Vahlne 2009) that mainly introduces the concept of networks where partners develop and share knowledge during a trust-building process driven by learning. During this process firms learn about sources and capabilities of their counterparts and gradually increase their ties. The resource-based view considers this approach as a competitive capability in the extent that a company is able to establish relationships with banks, governments, supplier and other organizations

to carry out its objectives as a resource of competitive advantages over those with no such ties (Makhija 2003).

In addition to this resource-based view of the internationalization process, other authors use the *behavioral theory of the firm* (Aharoni 1966; Cyert and March 1963), suggesting that managers seek low-involvement modes (e.g., exporting agents) to try new markets, which change their perceptions and beliefs, which in turn leads to increased involvement with foreign markets, resulting in a similar evolutionary, stepwise process of internationalization (Andersen 1993; Barrett and Wilkinson 1986; Cavusgil 1982, 1984; Czinkota 1982; Lim et al. 1991; Moon and Lee 1990; Rao and Naidu 1992). Along these lines, Wortzel and Wortzel (1981) and Cavusgil (1982) propose five stages through which a domestic manufacturer could progress toward international markets, varying by the degree of control the firm exercises over overseas operations (Wortzel and Wortzel 1981) and by the degree of involvement (Cavusgil 1982).

Another way to study the internationalization of firms is to look at the firm as an actor embedded in business networks connecting it to its suppliers, distributors, customers, and other collaborators and competitors (Johanson and Mattsson 1993; Johanson and Vahlne 1990; McAuley 1999). This perspective draws on theories of social exchange and resource dependency (Dana and Wright 2004; Johanson and Mattsson 1992) to argue that internationalization happens as a consequence of the externalities arising from the firm's network of relationships with its customers, suppliers, government and private support agencies, and even competitors, which expand the boundaries of the firm's relationships. In this perspective, the emphasis is on the gradual development of market knowledge through direct (with firms that are partners in the same network) and indirect (involving firms that are not in the immediate network of the focal firm) interactions with other actors within the firm's business networks. Being part of a network provides external tangible and intangible resources that aid internationalization (Wright et al. 2007). Sharma and Johanson (1987) find that high tech firms operate in networks of connected relationships among organizations that serve as the "bridge" to foreign markets.

According to this network perspective, the firm is initially linked to a domestic network, which further becomes linked to networks in other countries through the business relationships of its members. This expansion of a firm's network happens through three processes: (1) *international extension*, where the firm's network is linked to country networks that are new to the firm, (2) *penetration*, the development of relationships within these new networks, and (3) *international integration*, the linkage of networks from different countries through their common connections. By considering both direct (firm-to-firm) and

indirect (firm-to-network) relationships, Johanson and Mattsson (1993) identified four stages of internationalization that are defined on the basis of their role within the business networks.

These internationalization models, and in particular the most popular (Uppsala) multi-stage model, have been the subject of many criticisms in the literature. Reid (1983) argues that the Uppsala multi-stage model is too deterministic, specifying one single path for all firms. In fact, the empirical evidence is that firms do not follow this deterministic path (Barkema and Drogendijk 2007; Madsen and Servais 1997; Oviatt and McDougall 1994; Ruzzier et al. 2006). Reid (1983) also criticizes the notion of psychic distance as too limited to explain the internationalization process. There is empirical evidence that firms may bypass psychologically close markets because their size does not justify the effort (Sullivan and Bauerschmidt 1990). Moreover, because of advances in communications, cultural barriers are becoming less limiting, allowing even the novice exporter to enter psychologically distant markets (Czinkota and Ursic 1987).

Turnbull (1987) argues that the multi-stage model ignores the possibility that firms might use a combination of entry modes to enter a single market, and sometimes move in reverse to what is prescribed by the theory (from direct to indirect involvement). Because many firms operate in more than one market with more than one line of business, they might use multiple entry modes in the same foreign market, depending on the line of business. Some authors recognize a need to focus on internationalization "epochs" (Oesterle 1997) and "states" (Bell et al. 2003) rather than deterministic stages (Wright et al. 2007).

Moreover, firms often skip some of the prescribed stages in order to accelerate the process (Gankema et al. 1997; Hedlund and Kverneland 1983; Turnbull 1987), and there is considerable incongruence between theory and practice (Andersen 1993). Bell (1995) concurs that the multi-stage model does not adequately reflect internationalization of small high-tech firms; traditional manufacturing firms may generally follow the incremental stage approach, but "knowledge-intensive" firms are more likely to internationalize rapidly (Bell et al. 2004). Studies done among knowledge-intensive firms found that some enter domestic and international markets concurrently, or even ignore the domestic market entirely, leading to the "born global" moniker (Coviello and Munro 1997; Crick and Jones 2000). A growing literature focused on service providers also shows substantial differences in the path, speed, and strategies for internationalization from manufacturing firms (O'Farrell et al. 1998).

Compared to the major conceptual and theoretical developments in the knowledge of internationalization,

reviewed above, the body of empirical work in this literature is relatively limited and especially scarce when we look for the use of longitudinal data rather than focusing on comparisons between a few years. Fillis (2001) catalogued 34 major contributions in the field of internationalization. Fifteen of them offer conceptual models or literature reviews; ten present case studies or qualitative in-depth analyses of a single firm. Only nine of these studies present quantitative empirical evidence based mostly on primary (survey) data, without using a longitudinal approach. Another review of 16 major empirical studies of internationalization (Coviello and McAuley 1999) identified seven based on in-depth qualitative case analysis, eight based on survey research, and only one based on objective, secondary data. In another comprehensive review of this literature, Leonidou and Katsikeas (1996) conclude that a substantial portion of the literature relies on survey-based data where managers self-report their internationalization status, resources, capabilities, market conditions, and other variables, rather than relying on factual measurements from secondary data.

The fact that most empirical studies are cross-sectional in nature (Olivares-Mesa and Suarez-Ortega 2007) is a concern because "internationalization is defined to be a process occurring over time, and cross-sectional data ultimately limits the depth of our understanding of that process" (Coviello and McAuley 1999,pg 246). This type of static research design "neither reflects the impact of such time-dependent variables as organizational resources… nor explains the firm's progression along the internationalization path" (Leonidou and Katsikeas 1996, pg.530). The use of cross-sectional studies precludes the analysis of movements by individual firms from one stage to another (Andersen 1993). Most importantly, cross-sectional designs reflect a clear discrepancy between theoretical and empirical work because, as reviewed earlier, most internationalization models are dynamic in nature, prescribing an evolutionary process over time. For these reasons, there has been a growing consensus among researchers that longitudinal research would enable a better understanding of organizations (Melin 1992).

Surprisingly, longitudinal studies of internationalization are rare (Westhead et al. 2001), despite being recognized as a powerful framework for understanding organizational growth (Weinzimmer et al. 1998). Notable exceptions include McDougall and Oviatt (1996) and Westhead et al. (2001). Some, while using longitudinal data, do not take full advantage of a longitudinal design. For example, Chang and Rosenzweig (2001) utilize panel data from 1975 to 1992 publicly traded European and Asian firms' decision to enter the U.S. market across multiple business lines, but they model these entry decisions independently in

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a cross-sectional multinomial Logit model where previous entry mode to the U.S. market is included as one of the predictors for subsequent entries.

More recently, Mañez et al. (2004) use a longitudinal design and model to empirically analyze the determinants of internationalization tracking 1,202 Spanish firms during a nine-year period. Their longitudinal Probit model explains each firm's decision to become an exporter at a particular year using as predictors (a) fixed effects for each year, (b) firm characteristics (labor costs, productivity, age, quality of the labor force, foreign capital participation, etc.) in each year, and (c) three forms of network externalities, capturing the export intensity in the firm's region, industry and their interaction.

Finally, a recent extension of the Uppsala model by Johanson and Vahlne (2011) proposes a combination of network theory and strategic change that leads to a development process having a long-term effect on the company results, relationships, and structure. However, although Johanson and Vahlne (2011) propose a sequential and incremental effect of international knowledge coming from the evolution of overseas ties, their propositions are based on previous cross-sectional empirical evidence that lack the longitudinal analysis necessary to capture the dynamic evolution of relationships among international partners over time.

Despite the counter-examples and criticisms reviewed above, many firms have internationalized in stages, and many continue to do so (Petersen and Pedersen 1997), in particular traditional manufacturing firms. The paradigms already proposed to understand the phenomenon are rich and insightful enough, but additional empirical research is still needed to take advantage of this rich conceptual foundation. In an integrative review of the literature, Leonidou and Katsikeas (1996) call for new research on specific areas that, to our best knowledge, still deserve attention and we intend to address in our study:

- Overcoming the single-activity nature of extant internationalization models, defining internationalization stages based on multiple criteria
- Avoiding the basic premise that export occurs in a stepwise fashion
- Understanding the company profiles that are associated with specific export stages
- Identifying the factors (e.g., human resources, working capital, operating capacity and technological intensity) that determine the progression of the firm along the export development path
- Understanding how developments in the firm's current markets affect the firm's export expansion process

Tracking the internationalization of Spanish SMEs over time

Our attempts to empirically address the research questions raised by Leonidou and Katsikeas (1996) and other scholars reviewing the internationalization literature (Ruzzier et al. 2006; Wright et al. 2007) are implemented in two models. The first model identifies latent internationalization states occupied by a sample of firms at each point in time based on observed signals of their exporting behavior and determines the path followed by each firm over a time period. The second model uses some of the output from the first model to understand what drives the movements by the firm among the latent internationalization states. This is done by relating the observed internationalization path through the latent states with data from each firm at each point in time, from a resource-based, market-based, and network-based perspective.

For the empirical implementation of our dynamic internationalization models, we utilize longitudinal data gathered by the Spanish Ministry of Science and Technology, and the SEPI Foundation, which annually conducts the Survey of Business Strategies (ESEE, "Encuesta sobre Estrategias Empresariales"). The ESEE's population of reference is Spanish manufacturing firms with 10 or more employees present in all areas of activity. In the present study we use data for a period of 15 years (1991 to 2005) for a sample of 1,116 small-to-medium (less than 1,000 employees during the sampling period[1]) manufacturers in Spain for which we observed at least 7 years of data (with an average of 12.0 years across the sample).

Identifying latent states of internationalization

Bartlett and Ghoshal (1989) categorize companies into international, multinational, and transnational firms based on the role and dependence of foreign subsidiaries and the strategic importance of the foreign markets where these subsidiaries operate. According to these authors, as the firm evolves from operating in single or multiple international markets toward becoming truly transnational or global, it switches from product offerings that are adapted to each local market to a global strategy of standardized products that offer sufficient value to targeted consumer segments across markets, leading to economies of scale and competitive advantage across markets (Bartlett et al. 2003). This is the strategy for global companies, which try to achieve

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[1] Most of the firms showing more than 500 employees at some point during the sampling period actually entered the sample with fewer than 500 workers.

economies of scale, looking for efficiency and cost advantages across markets, in contrast to the strategy used by international and multinational companies. In the international strategy the company operates mainly from the home country, controlling operations and marketing policies, developing products and technologies from and for the home market, which are eventually exported. Multinationals, in this classification, drive subsidiaries into differentiation, adapting products to foreign markets, developing multi-domestic knowledge and innovation that is not dispersed to other subsidiaries within the company. This dispersion of knowledge across foreign markets is finally attained by the transnational approach, which regards the entire company across the globe as a network. A more recent study (Douglas and Craig 2011) also sees global marketing strategy as an evolutionary process considering various states and an evolution across them. Douglas and Craig (2011) propose three main states: initial market entry, local market expansion, and global market.

In our dynamic latent-state model of internationalization, we try to capture these different states or epochs considered in the past literature and the level of commitment with overseas markets proposed in the Uppsala model. We also include the first domestic step in order to understand how companies start to internationalize from a non-exporter state. Indicators defining the latent internationalization states can be categorized in three main groups: (1) decisions related to the commitment to foreign markets, where companies choose countries (considering physic and cultural distance) and how to enter in each country (enter using own resources, alliances and so on) (Johanson and Vahlne 1977, 2009); (2) strategic product decisions, where the company needs to design strategies fitting the need for adapting product line and innovation to local requirements and the development of economies of scale through standardization to be competitive (Bartlett and Ghoshal 1989; Douglas and Craig 2011); and finally, (3) the use or external sources of technology, which will increase when the relationship with foreign consumers and providers advances (Johanson and Vahlne 2009).

In order to identify the latent states or epochs occupied by firms throughout the internationalization process, we utilize the following indicators, obtained from the ESEE's database for each firm and each year in the 1991–2005 period, which we found to be consistent with previous typologies of the internationalization process:

Variables related to market entry decisions and commitment to the market:

1. *ExpCollective*—(binary) the firm uses collective means (agreements with firms from the same sector, exports' associations or cooperatives) for exporting

2. *ExpAgent*—(binary) the firm exports through exporting agencies
3. *ExpOffice*—(binary) the firm has its own foreign sales offices
4. *ExpOwn*—(binary) the firm exports using its own means
5. *ExpOther*—(binary) the firm exports using other means
6. *EU*—(binary) the firm exports to the EU
7. *OECD*—(binary) the firm exports to OECD countries
8. *Ibero*—(binary) the firm exports to Ibero America
9. *Others*—(binary) the firm exports to other countries
10. *ShareEU*—share of exports to the EU
11. *ShareOECD*—share of exports to OECD nations
12. *ShareIbero*—share of exports to Ibero America
13. *ShareOthers*—share of exports to other countries
14. *Regions*—number of regions (including domestic) served by the firm
15. *Market1*—(multinomial) Market scope of the main business line (national, foreign, both)
16. *Market2*—(multinomial) market scope of the second most important business line (national, foreign, both)

Variables related to strategic product decisions:

17. *StdProduct*—(binary) whether product lines are standardized across markets or not
18. *NumProd*—number of product lines produced by the firm

International ties and relationship with consumers and suppliers:

19. *ForeignEquip*—percentage of the firm's equipment with foreign origin
20. *Export/Sales*—exports as a percentage of sales

Rather than specifying *a priori* the entry modes and the levels of commitment to foreign markets, or the sequence of events over time, the dynamic model we will describe next attempts to identify common states observed over time and across firms representing typical levels of internationalization through a set of indicators of commitment to exporting activities. Some of these indicators (*Export/Sales*, *Market1*, and *Market2*) dispense further elaboration.

Internationalization model

Some authors argue that a higher level of internationalization would lead to a broader product line (*Numprod*) and product standardization (*StdProduct*) (Theodosiou and Leonidou 2003). Specifically, one point of view proposes that the variety of product lines can be considered as a signal of the export intention (Yang et al. 1992) and

companies can achieve superior market share performance offering a broad product line in international markets (Szymanski et al. 1993). However, this increase in the product line, apparently needed to specifically fill local requirements (Douglas and Craig 2011), conflicts with the company search to reduce costs, favored by standardization, in order to be competitive.

The adoption of a standardized approach to serve international markets is desirable because sales can be increased by developing a consistent image of the product across national markets, and cost can be lowered by pooling production activities across countries (Szymanski et al. 1993). Standardization strategy is more effective if worldwide customers, not countries, are the basis of identifying the segment(s) to serve (Jain 1989). Standardized product lines for worldwide markets are developed, and pricing is established on a similar basis (Wind et al. 1973). Consequently firms interested in achieving a higher degree of competitiveness in domestic and international markets must combine product design and standardization to fit their global strategy (Katsikeas et al. 2006).

International competitiveness requires that the firm operates in "the best way to do it irrespective of the national origin" in contrast to the ethnocentric approach where domestic technologies and personnel are considered superior to the most effective across overseas markets (Wind et al. 1973). The use of external suppliers and the recruitment of external technology also helps to establish the needed relationships to operate in the global arena (Johanson and Vahlne 2009). Considering this, we expect that companies interested in developing a global strategy will tend to a higher utilization of foreign-made equipment (*ForeignEquip*), trying to favor the establishment of beneficial relationships and looking for the best supply sources (Bartlett et al. 2003; Johanson and Vahlne 2011).

All these considerations make product line (*Numprod*), product standardization (*StdProduct*), and the utilization of foreign-made equipment (*ForeignEquip*) variables useful indicators of the firm's internationalization. The variables *Exp**** indicate whether the firm currently utilizes different exporting modes, acknowledging that these modes of entry are not mutually exclusive, because the firm may have multiple lines of business competing in different foreign markets (Turnbull 1987). The variable *Regions* counts the number of main regions (*EU, OECD, Ibero-America*, and *others*) already served by the firm, following the notion that regions, rather than countries, serve as a basis of competition (Barkema and Drogendijk 2007; Buckley and Ghauri 2004). Variables *EU, OECD, Ibero*, and *Others* indicate whether the firm already exports to any of these four broad regions, while *Share**** contain the share of exports going to each region.

Let us represent each of the $j=1,2,...,J$ indicators listed above for firm $i=1,...,I$ at year $t=1,...,T$ as y_{ijt}. Our objective is to identify latent states $s=1,...,S$ that reflect the firm's level of internationalization at any point in time while simultaneously tracking movements by the sampled firms across these latent states over time. This type of dynamic problem, given the longitudinal nature of the data, is quite suited for a hidden Markov model (Du and Kamakura 2006, Moon et al. 2007; Rabiner 1989), which will allow us to identify "hidden" or latent states defined by the multiple indicators y_{ijt} across firms and over time, while simultaneously estimating the Markov chain capturing movements by the sampled firms among these latent states over the fifteen years. Technical details about this widely-applied methodology can be found elsewhere (Du and Kamakura 2006, Moon et al. 2007; Rabiner 1989). For the purpose of our study it suffices to know that the conditional likelihood of the observed indicators Y_{it} for a firm i, at year t, given that it is at a latent state s in that year (i.e., $x_{it} = s$) is computed as,

$$b_{x_{it}=s}(Y_{it}) = \prod_{j=1}^{J} g(\Theta_{js}, y_{ijt}), \qquad (1)$$

where Θ_{js} are parameters (to be estimated) for each indicator variable j and latent state s, reflecting the profile of firms occupying state s at any point in time, and $g(\Theta_{js}, y_{ijt})$ is the probability of observing the data point y_{ijt} for firms occupying state s, also known as "emission probability," which has different forms, depending on the nature of the observed indicator Y_j. For example, if the indicator Y_j is binary (0 or 1), $(\Theta_{js}, y_{ijt}) = \frac{e^{\theta_{js} y_{ijt}}}{1 + e^{\theta_{js}}}$. If the indicator Y_j is a count (e.g., number of products), then the emission probability is given by $g(\Theta_{js}, y_{ijt}) = \frac{\theta_{js}^{y_{ijt}} e^{-\theta_{js}}}{y_{ijt!}}$. On the other hand, if the indicator Y_j is categorical with $k=1,2,...,K$ levels, $g(\Theta_{js}, y_{ijt} = k) = \frac{e^{\theta_{jks}}}{\sum_{k'=1}^{K} e^{\theta_{jk's}}}$. For continuous indicators, two parameters are needed so that the emission probability can be computed as $g(\Theta_{js}, y_{ijt}) = \frac{e^{-\frac{(y_{ijt} - \theta_{1js})^2}{2\theta_{2js}}}}{\sqrt{2\theta_{2js}\pi}}$.

The conditional likelihood in Eq. 1 will define, probabilistically, the most likely state occupied by a firm at any point in time, given the 20 observed indicators signaling its commitment to internationalization. Because we want the latent states to represent increasing levels of commitments to internationalization (which can be occupied in different sequences by different firms), we must impose some constraints in the model parameters, based on the literature and our own understanding of the internationalization phenomenon. We set the first state as a "domestic" state with no exporting activity so that for the first two indicators, *Market1* and *Market2*, $\theta_{11} = \theta_{21} = \infty$ and $\theta_{12} = \theta_{22} = \theta_{13} = \theta_{23} = = \theta_{1s} = \theta_{2s} = 0$. We also expect that, as

level of internationalization increases, the firm is more likely to standardize its products (Katsikeas et al. 2006), is more likely to use foreign equipment in its business processes (Wind et al. 1973), to have higher exporting volume as a percentage of sales, to export using its own means, and to export to each of the four regions. Therefore, the following variables will either increase or remain the same from one latent state to the next: *ExpOwn(4)*, *EU(6)*, *OECD(7)*, *Ibero(8)*, *Other(9)*, *Regions(14)*, *StdProduct(17)*, *ForeignEquip(19)*, and *Export/Sales(20)*. These constraints are defined in the model as:

$$\theta_{js} \leq \theta_{js+1}; \quad s = 1, \dots, S-1; \quad j = 4, 6, 7, 8, 9, 14, 17, 19, 20. \quad (2)$$

We do not impose any constraint on the number of products, on the use of other exporting modes (other than own means), or on the share of exports to each region, because we do not have any priors to justify these constraints.

As mentioned earlier, the constraints defining increasing commitments to internationalization do not imply that all firms must move sequentially. The state occupied by each firm at each point in time will be determined by the 20 indicators contained in Y_{it} for each firm at any point in time. The probability that a firm will move from latent state s to s' from one period t to the next is assumed to follow a first-order Markov process defined by $a_{ss'}$ (to be estimated) where $\sum_{s'=1}^{S} a_{ss'} = 1$. The probability that the firm starts in a particular state s (in other words, the first inferred state for the firm is s) is given by π_s, to be estimated.

With the definitions above, the likelihood for the observed exporting history from firm i can be computed as:

$$P\{(Y_1, \dots, Y_{T_ic}); A, \Theta\Pi\} = \sum_{x_1, \dots, x_T} P\{(Y_1, \dots, Y_{T_ic}) | (x_1, \dots, x_{T_i}); A, \Theta\Pi\} P\{(x_1, \dots, x_{T_i}); A, \Theta\Pi\} \quad (3)$$

or,

$$P\{(Y_1, \dots, Y_{T_i}); A, \Theta, \Pi\} = \sum_X [b_{x_1}(Y_1) b_{x_2}(Y_2) \dots b_{x_T}(Y_{T_i})] \left[\pi_{x_1} a_{x_1 x_2} a_{x_2 x_3} \dots a_{x_{T_i-1} x_{T_i}} \right] \quad (4)$$

Estimation of hidden Markov models such as the one above can be performed via the well-known Baum-Welch version of the E-M (expectation-maximization) algorithm (Elliott et al. 1995) or via Monte Carlo Markov Chain (Kim and Nelson 1999). Since details of both estimation procedures are widely known and can be found in the cited literature, they are not repeated here. We estimate our model using a popular commercial software for latent variable modeling, Latent Gold (Vermunt and Magidson 2005). Once the parameter estimates of the model (Θ, Π, A) are obtained, the state occupied by a firm i in year t can be obtained probabilistically utilizing the same Baum-Welch algorithm applied to estimate the model parameters, which uses these posterior state probabilities during the E-step of the E-M algorithm (Vermunt and Magidson 2005).

Typically, the number of latent states in a hidden Markov model is determined empirically using some information criterion (Wedel and Kamakura 2000). However, because our model is defined structurally, with parameter constraints imposed on the basis of prior knowledge, we set the number of latent states *a priori* to four. We estimated the four-state hidden Markov model on the sample of 1,116 firms over the 15-year period, with a total of 13,415 complete observations (some firms started reporting after 1991, while others stop doing so before 2005), and the remaining observations treated as missing data. Rather than discussing the parameter estimates (available upon request), which are not directly interpretable, we present in Table 1 the profiles for each of the four states in terms of the 20 indicator variables, which provide clearer insights regarding the four latent internationalization states. Table 1 shows the estimated percentages and averages for each of the 20 indicators in each latent state, obtained directly from the parameter estimates. In other words, Table 1 shows the estimated percentages for the 20 observed indicators, among firms occupying each of the four latent internationalization stages at any point in time. The values highlighted in bold are those constrained *a priori* to define states reflecting an increasing level of internationalization.

The four latent internationalization stages

By definition (through the constraints imposed to the model parameters), the first state represents a "Domestic" state of pre-internationalization, when the firm serves only domestic markets. As specified *a priori*, the two

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Table 1 Profiles of the latent internationalization states

	Domestic	Early Exporter	Advanced	Global	Total
State Share	12%	20%	41%	27%	
Market1					
Domestic	**100%**	54%	48%	43%	54%
Foreign	**0%**	9%	12%	10%	9%
Both	**0%**	37%	41%	47%	37%
Market2					
Domestic	**100%**	57%	35%	37%	48%
Foreign	**0%**	23%	35%	24%	25%
Both	**0%**	20%	30%	39%	27%
StdProduct	27%	35%	35%	35%	34%
NumProd	1.2	1.1	1.2	1.2	1.2
ForeignEquip	**44%**	**48%**	**48%**	**48%**	47%
Export/Sales	**0%**	22%	35%	36%	29%
ShareEU	0%	100%	60%	63%	70%
ShareIbero	0%	0%	0%	6%	2%
ShareOECD	0%	0%	15%	11%	10%
ShareOther	0%	0%	26%	20%	18%
ExpCollective	0%	3%	14%	10%	9%
ExportAgent	0%	9%	15%	13%	12%
ExportOffice	0%	31%	13%	34%	21%
ExportOwn	**0%**	**46%**	**70%**	**70%**	57%
ExportOther	0%	20%	12%	12%	12%
EU	**0%**	**93%**	**93%**	**93%**	82%
Ibero	**0%**	**0%**	**0%**	**49%**	13%
OECD	**0%**	**1%**	**68%**	**70%**	47%
Others	**0%**	**7%**	**79%**	**84%**	56%
Regions	**1.0**	**1.1**	**2.4**	**2.9**	2.1

main markets served by the firm in this Domestic state are in their home country, the degree of product standardization and utilization of foreign equipment is lower than in subsequent states, and the firm serves only one (domestic) region.

The second internationalization state represents firms at the early exporting stages, exporting almost exclusively (in volume) to the EU, with some exploration of new (*Others* 7% of all firms in this state, and *OECD* 1%) markets. As specified *a priori*, the degree of product standardization and utilization of foreign equipment increased relatively to the previous, domestic state. At this early exporting state, exports already represent 22% of total sales, and it is done by own means (46%), a foreign office (31%), and other means (20%). The most striking aspect of these results is that the use of collective exporting means and exporting agents in this second state is quite low (3% and 9%, respectively), and lower for subsequent states. It is remarkable that at this early state, 9% of the firms export exclusively in their main market, and 23% export exclusively in their second major market.

In the third latent internationalization state, which we named "Advanced," firms are more committed to foreign markets, serving more than two of the major regional markets. At this state, 93% of the firms export to the *EU*, 79% export to *Other*, and 68% export to the *OECD*, with the *EU* now representing a smaller share (60%) of all exports, followed by *Other* (26%). The level of commitment to exports at this stage is evident from the fact that less than half of the firms in this state see their most important market as being exclusively domestic, and only 35% see their second most important market as exclusively domestic. The level of product standardization and utilization of foreign equipment does not increase as the firm becomes more internationalized, although it is higher than for domestic firms. The favorite exporting mode is by the firm's own means (70%), again reflecting a deeper engagement with foreign markets.

We labeled the last latent state Global because at this state firms are likely to be engaged in all the four regions considered in our study; on average the firms at this latent state serve almost 2.9 out of the 4 regions. Ninety-three

percent of the firms at this state export to the *EU*, 84% serve *Other* markets, 70% export to the *OECD* and, at this state, there is finally commitment to *IberoAmerica* (49%). At this state, 6% of all exports go to *Ibero-America*. The exporting modes used at this state are similar to those in the advanced state, except that there is more utilization of foreign offices (34%).

One important component of the hidden Markov model is the transition matrix with the conditional probabilities that a firm might move from one internationalization state to another, or remain in the current state ($a_{ss'}$), which provide some insights into the typical paths followed by the firms over 15 years. These estimates are shown in Table 2. This table clearly shows that from one year to the next, firms are most likely to remain at the same latent state, with this "stickiness" increasing with the degree of internationalization. Firms at the Global state have a 91% probability of remaining at that same state from one year to the next. While there is evidence of "leapfrogging" one or two states (for example, firms in the Domestic state have a higher probability of moving to Advanced than to Early Exporter), and for some re-trenching (firms at the Global state have a 6% probability of moving back to Advanced), the general trend is to move toward a higher level of internationalization. This "stickiness" suggests that the internationalization is a long-term process that goes beyond year-to-year transitions. Aside from this tendency to remain in the same state in the short-term (i.e., year-to-year), the transition matrix shown in Table 2 confirms the generally sequential nature of the internationalization process. This can be seen from the fact that the transition probabilities in the bottom half of Table 2 tend to be larger than those in the upper half, indicating that movements from Domestic toward Global are more likely than in the opposite direction.

Another component of the HMM model is the initial probability (π_s) that a firm will start the 1991–2005 period at the s state of internationalization. These estimates, shown in Table 3, indicate that more firms (45.4%) entered our database at the Advanced state than at the Domestic state (16.9%). Comparing these initial probabilities with the state share (top of Table 1), which show the relative frequency that firms occupy each state over the 15-year period, one

Table 2 Transition matrix among internationalization states

		FROM			
		Domestic	Early Exporter	Advanced	Global
TO	Domestic	85.9%	1.3%	1.2%	0.4%
	Early Exporter	3.4%	88.6%	2.3%	2.5%
	Advanced	9.1%	5.9%	88.8%	6.1%
	Global	1.5%	4.2%	7.7%	91.0%

Table 3 Initial internationalization state probabilities

State	Initial probability
Domestic	16.9%
Early Exporter	22.6%
Advanced	45.4%
Global	15.1%

can see a clear evidence of growing internationalization. While 16.9% of the firms entered our database in the Domestic state, this particular state was occupied only 12% of times over the 15-year period. In contrast, 15% of the firms entered the database in the Global state, while this state was occupied 27% of times.

Understanding what drives a firm to move among the internationalization states

Now that we have identified the latent states of internationalization and determined what state each firm occupies at each point in time, our next goal is to understand how certain characteristics of the firm and its markets affect movement among these latent states, which will hopefully lead to additional insights into the internationalization process. When selecting the variables to predict movements among the latent internationalization states we considered three main schools of thought in the strategy literature.

Market-based view (MBV)

This view considers the role of the market environment on the performance of the firm (Caves and Porter 1978; Porter 1979). One should expect that as market conditions in domestic markets become less favorable, firms would be motivated to seek new (foreign) markets. Moreover, as the firm gains foreign market experience and acquires more resources, allocation decisions between domestic and foreign markets will be contingent upon the conditions in each market (Leonidou and Katsikeas 1996). Crick (2004) suggests that some SMEs only export when demand is limited in their domestic markets, and may re-trench to their domestic market when its conditions improve. Moreover, some exporting SMEs may withdraw from exporting and possibly re-enter foreign markets at a later point in time (Wright et al. 2007), depending on market conditions. In order to capture this view, we identified the following indicators about the firms' current markets from our database:

- *CompetitivePrice*—(binary) indicates whether a competitor changed prices in any current market

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- *CompetitiveProd*—(binary) indicates whether a competitor introduced a new product in any current market
- *Dynamism*—growth index for the markets currently served by the firm
- *ShareGrowth*—growth index for the firms market share across all its markets

Resource-based view (RBV)

In contrast to the market-based view, the resource-based view of the firm looks inwardly, to the tangible (physical assets, organizational processes, etc.) and intangible (knowledge, information, managerial skills) resources available to it, which may lead to a sustainable competitive advantage (Wernerfelt 1984). According to this view, the appropriate mode of entry depends on the nature of resources required for that mode; the firm enters a new market by exploiting available resources and later seeks to enhance their resources (exploration). Most non-exporting SMEs do not export because they are focusing on their domestic market (Westhead et al. 2002) and are reluctant to commit their limited resources to foreign markets (Westhead et al. 2001). One observes a gradual increase in the commitment of organizational resources such as financial capital, production capacity, personnel, and management skills as the firm progresses thought the internationalization stages (Leonidou and Katsikeas 1996). The following "firmographics" were selected from the database to capture the resource-based view, reflecting the firms' tangible and intangible resources for internationalization:

- *Productivity*—labor productivity index
- *RD/Sales*—R&D expenses as a proportion of sales
- *Engineers*—proportion of workers with engineering or graduate degrees
- *Patents*—total number of patents registered in Spain and overseas
- *ProdsProcess*—total number of new products and processes

Network-based view (NBV)

This view draws on theories of social exchange and resource dependency (Dana and Wright 2004; Johanson and Mattsson 1992). It sees internationalization as a consequence of externalities arising from the firm's network of relationships with its customers, collaborators, and competitors, which expand the boundaries of the firm's relationships. This network provides external tangible and intangible resources that help the firm's internationalization (Wright et al. 2007). We capture network effects through

two variables from the database that reflect the firm's exposure to foreign markets through relationships:

- *ForeignCap*—proportion of capital that is foreign owned
- *Imports*—Imports as a proportion of sales

Summary statistics for all the variables chosen to explain movements among the latent internationalization states are shown in Table 4.

The statistical model we use to determine the impact of the MBV, RBV, and NBV factors on the movements among latent internationalization states is the multinomial Logit model (Kamakura and Russell 1989), where the dependent variables are the latent states to be occupied by the firm in the following year. We estimate four multinomial Logit models, conditional on the latent state occupied in the previous year. Because most firms remain in the same state from one year to the next, as discussed earlier, the sample of actual movements is relatively small, as shown in Table 2, which reduces the statistical power to detect the impact of the MBV, RBV, and NBV factors. For this reason, rather than studying movements to all four states, we limit our analysis to the current state and an increase or decrease in internationalization relative to the current state. In other words, given the current state, our dependent variable assumes only up to three values: (1) reduction in internationalization, (2) internationalization maintenance, and (3) increase in internationalization.

Parameter estimates for the conditional multinomial Logit models are displayed in Table 5. These estimates provide some insights into the factors leading to more or

Table 4 Summary statistics for predictors of movements among latent internationalization states

Variable	Sample size	Mean	Std. deviation
Market-based view			
CompetitivePrice	13415	12.9%	33.6%
CompetitiveProd	13415	6.1%	23.9%
Dynamism	13406	54.8	30.4
ShareGrowth	13354	57.3	27.1
Resource-based view			
Productivity	13324	131.3	135.2
RD/Sales	13287	1.1%	30.4%
Engineers	13336	4.2%	6.3%
Patents	13386	0.5	5.0
ProdsProcess	13165	4.2	26.2
Network-based view			
ForeignCap	13392	19.4%	37.6%
Imports	13291	18.8%	28.3%

Table 5 Parameter estimates for the conditional multinomial Logit models

	Predictors	From Domestic			From Early Exporter			From Advanced			From Global		
		B	Std. Error	Sig.	B	Std. Error	Sig.	B	Std. Error	Sig.	B	Std. Error	Sig.
Less international	Intercept				**−2.30**	**0.41**	**0.00**	**−2.23**	**0.22**	**0.00**	**−1.01**	**0.36**	**0.01**
	CompetitivePrice				0.46	0.37	0.21	0.02	0.19	0.90	−0.38	0.32	0.24
	CompetitiveProd				−0.95	1.02	0.35	−0.32	0.32	0.31	−0.22	0.35	0.54
	Dynamism				**−0.01**	**0.01**	**0.01**	0.00	0.00	0.34	0.00	0.00	0.95
	ShareGrowth				0.00	0.01	0.67	0.00	0.00	0.31	0.00	0.00	0.98
	RD_Sales				0.02	0.08	0.80	**−0.17**	**0.06**	**0.01**	0.05	0.03	0.16
	Engineers				−0.02	0.04	0.63	−0.01	0.02	0.50	0.00	0.01	0.96
	Productivity				0.00	0.00	0.84	0.00	0.00	0.18	0.00	0.00	0.86
	Patents				−0.24	0.33	0.46	**−0.18**	**0.09**	**0.04**	0.00	0.01	0.72
	ProdsProcess				0.00	0.02	0.92	−0.01	0.01	0.19	−0.02	0.02	0.17
	ForeignCap				0.00	0.01	0.38	0.00	0.00	0.54	0.00	0.00	0.53
	Imports				−2.36	1.12	0.04	**−1.58**	**0.40**	**0.00**	−0.45	0.39	0.25
	Year				0.03	0.04	0.49	0.00	0.02	0.82	**−0.18**	**0.03**	**0.00**
More international	Intercept	**−2.38**	**0.18**	**0.00**	**−2.35**	**0.27**	**0.00**	**−4.07**	**0.23**	**0.00**			
	CompetitivePrice	−0.03	0.19	0.88	0.24	0.22	0.28	−0.26	0.19	0.18			
	CompetitiveProd	−0.25	0.34	0.47	*−1.05*	*0.60*	*0.08*	0.21	0.22	0.35			
	Dynamism	0.00	0.00	0.81	0.00	0.00	0.44	**−0.01**	**0.00**	**0.00**			
	ShareGrowth	0.00	0.00	0.16	0.00	0.00	0.39	0.00	0.00	0.43			
	RD_Sales	0.03	0.02	0.22	*0.06*	*0.04*	*0.10*	0.00	0.00	0.85			
	Engineers	−0.01	0.01	0.45	0.01	0.02	0.63	0.01	0.01	0.22			
	Productivity	*0.00*	*0.00*	*0.09*	0.00	0.00	0.71	0.00	0.00	0.44			
	Patents	0.04	0.03	0.11	−0.02	0.06	0.67	0.02	0.01	0.10			
	ProdsProcess	**0.01**	**0.01**	**0.01**	*0.01*	*0.01*	*0.09*	0.00	0.00	0.42			
	ForeignCap	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.04**	**0.01**	**0.00**	**0.00**			
	Imports	*0.29*	*0.15*	*0.06*	0.63	0.36	0.08	**0.97**	**0.25**	**0.00**			
	Year	**−0.08**	**0.02**	**0.00**	−0.27	0.02	0.25	**0.19**	**0.02**	**0.00**			

Parameters highlight in ***bold italic*** are statistically significant at the 0.10 level

Parameters highlighted in **bold** are statistically significant at the 0.05 level

less internationalization, given the current state occupied by the firm. When the firm occupies the Domestic state, the views that seem to prevail in explaining internationalization are the resource-based view (*Productivity* has a statistically significant positive effect at the 0.10 level, while *ProdsProcess* has a positive effect at the 0.05 level) and the network-based view (*ForeignCap* and *Imports* positively affects internationalization).

For firms at the Early Exporter stage, *Dynamism* in current markets and a higher level of *Imports* reduce the likelihood of re-trenching, while *ProdProcess*, *ForeignCap*, and *Imports* lead to advancement in internationalization. This suggests again that the RBV and NBV are more diagnostic about a firm's increasing commitment to foreign markets. The market-based view explained retrenchment. Another result related to the market-based view (that *CompetitiveProd* has a negative impact on internationalization) seems counter-intuitive, because one would expect an increase in competition in current markets to lead to more, rather than less internationalization.

If a firm is at the Advanced state, higher *R&D* investments, more *Patents* and *Imports* will decrease the chances of retrenchment, because the firm seeks to take advantage of its new technology and of its market knowledge in its current markets, at the very least. On the other hand, more *Patents* and *Imports*, as well as *ForeignCap*, increases the chances for the firm to become a Global firm, again suggesting the impact of resource-based and network-based variables on internationalization. If current markets become more *Dynamic*, the firm is less likely to move to the next (Global) state.

As we saw earlier, firms at the final (Global) state have a higher tendency to stay in that state than do those occupying other states. None of the variables we tested to explain movements among the latent states were found to affect retrenchment from the Global state. This might

be partly due to the fact that movements out of this state are rarer than from other states, reducing statistical power.

Conclusions

Discussion

Our paper contributes to the existing literature in different ways. Many past studies have focused their efforts on the choice of a company's initial model of entry into a foreign market and subsequent involvement, defining the continuum from a local ethnocentric approach toward a geocentric or global one. Traditionally, it has been accepted that during this process of internationalization the company evolves across different states depending on its market knowledge, its commitment, and its different activities in the international arena. However, few studies have empirically identified these states combining panel data and a dynamic approach that helps capture the real evolution across internationalization states over time. Using variables widely defined in the literature as descriptors of the international status of the company at any point in time, and a more adequate methodology (hidden Markov model), we empirically identified the different states (sometimes called epochs or phases) of the internationalization process. This identification of latent (unobservable) states supports previous theories that prescribed these states but rarely empirically captured them over time. Given that we identified four states (Domestic, Early Exporter, Advanced, and Global), we were able to study the firms' transitions among the states over a period of 15 years. Although the main result is an overall tendency of the firms to stay at the same state from one year to the next, by comparing initial probability with state shares over time, we captured how companies start at a less internationalized state and over time evolve to a more global state, describing the different strategies used by companies across states.

The original Uppsala model considers commitment to markets as an indicator of the internalization process. This commitment would be related to the selection of countries with less physic and cultural distance and less risky mode of entries for earlier states of internationalization. Our empirical results support these classical assumptions about how physical distance, cultural differences, and international policies affect internationalization. It is not surprising that early Spanish exporters mainly export to the European Union, increasing the scope toward the OECD, and only later moving toward Ibero-America and other countries. The free trade between European countries and the arrangements of the OECD members, where Spain is included, lowers economic boundaries between countries

and reduces risks and perceived distance. For this reason, early Spanish exporters are going to prefer Europe, favored by the physical proximity and the political and trade arrangements that reduce risks while increasing companies' returns. Later, when companies increase their knowledge, experience, and learning about global trade, they are in condition to operate at any place as they do when they become internationalized.

Another assumption of the classical Uppsala model (Johanson and Vahlne 1977) is that companies start exporting using other means such as joint ventures or external agents to reduce risks, evolving toward a higher use of own means over time. One surprising discovery in the description of the states is that while there is a profuse literature describing the importance of partners, joint ventures, and network connections overseas to bridge cultural and physical distances in the exporting activity, the main way to internationalize we found in our sample was by the firm's own means, combined with its own subsidiaries. This fact must be interpreted cautiously because we don't know whether this is due to peculiarities of Spanish manufacturers, aspects of the Spanish entrepreneurial culture, or other uncontrolled aspects in our sample and study. However, these results suggest that the firms we analyzed internationalize through exporting by their own means, rather than through outsourcing of the exporting function.

The second purpose of our study was to capture the drivers of SMEs' evolution through the internationalization states. Following this purpose, we gathered concepts and variables from different theories: market-based, resource-based, and network-based views. These different views suggest that managers combine internal and external aspects of their company in order to achieve sustainable competitive advantages and improve their market position. Looking at our results, it is possible to describe the process and follow the evolution and role of the different variables analyzed. SMEs start exporting because they have the appropriated resources and capabilities; movements to the Early Exporter state are favored by labor productivity (human capital) and innovativeness (developing new products and processes). Domestic companies develop the managerial ties with overseas markets that provide imports and capital, resources that they use to export. Early Exporters consolidate this position depending on the growth of the market and the maintenance of arrangements with imports. Later, they develop the technology needed to compete (R&D/Sales) and with the networking provided through foreign capital, Early Exporters become Advanced exporters, a position they maintain depending on the technology they can develop and acquire; patents, R&D, and imports decrease the likelihood of retrenching from this state. Finally, firms that become Global mainly stay at this position, which

they reach depending on the technology they exclusively develop (patents) and their managerial ties overseas. Our results suggest that, at this point, the dynamism of current markets reduces the probability that the SME becomes fully global, probably because growing current foreign and domestic markets make the firm less motivated to seek new foreign markets.

In conclusion, human capital, technology, and managerial ties overseas appear as key factors in the international evolution of the company. Our results also suggest that the international position of the company should not be analyzed from a single point of view or theory. As this study shows, globalization is not only about strategies, international commitment, and internal or external drivers; the globalization of the company is a slow and complex process, where many factors interact to explain the firm's evolution thought the internationalization states, with human capital, technology, and managerial ties overseas playing a prominent role.

Limitations and directions for further research

Theories about internationalization strategies suggest that companies at the last (Global) state have centralized structures from which they are able to manage their international networks. Resource allocation is the main descriptor of a global company that views the world as a global market split into main segments to be served using the best way to do it, regardless of the country source. However, the dynamic dispersion of internal structure and resources allocation from local to global companies could not be fully captured with the panel data available for this study, because they lacked details about the different specific foreign markets served by the firms and about organizational structure at each point in time. Further research must study in depth the dynamic structure of the company in the internationalization process.

Although we concluded that resources (technology) and capabilities (human capital) are key drivers of the international success of the company, our study did not analyze the evolution of these resources and capabilities over time, nor the learning process during the international evolution. In other words, a more comprehensive model would treat resources and capabilities as endogeneous to the entire process, rather than exogenous drivers of internationalization. Further research could focus on what aspects of the international trade make companies learn and develop the proper resources and capabilities to compete in international markets.

We show results from manufacturers in one single exporting country, Spain. Although the main exporting industry in Spain is traditional manufacturing (for example, according to Datacomex, the auto industry alone produced 29.9 billion Euros of exporting revenue at 2010), we cannot overlook the agricultural sector (13.3 billion Euros in the same period, according to Datacomex), where firms probably present different structures and behaviors. The extension of the dynamic study of the process of internationalization to other countries and sectors could be helpful in the evolution of international theory and practices.

References

Aharoni, Y. (1966). *The foreign investment decision process*. Boston: Graduate School of Business Administration, Harvard University.

Andersen, O. (1993). On the internationalization process of firms: a critical analysis. *Journal of International Business Studies, 24*(2), 209–231.

Anderson, E., & Gatignon, H. (1986). Modes of foreign entry: a transaction cost-analysis and propositions. *Journal of International Business Studies, 17*(3), 1–26.

Barkema, H. G., & Drogendijk, R. (2007). Internationalising in small, incremental or larger steps? *Journal of International Business Studies, 38*(7), 1132–1148.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*(1), 99–120.

Barrett, N. J., & Wilkinson, I. F. (1986). Internationalisation behaviour: management characteristics of Australian manufacturing firms by level of international development. In P. W. Turnbull & S. J. Paliwoda (Eds.), *Research in International Marketing* (pp. 213–233). London: Croom Helm.

Bartlett, C. A., & Ghoshal, S. (1989). *Managing across borders: The transnational solution*. Boston: Harvard Business School Press.

Bartlett, C. A., Ghoshal, S., & Birkinshaw, J. (2003). *Transnational management: Text and cases* (4th ed.). Boston: Irwin/McGraw Hill.

Beamish, P. W. (1990). The internationalisation process of smaller Ontario firms: A research agenda. In A. M. Rugman (Ed.), *Research in global strategic management* (pp. 77–92). Greenwich: JAI Press.

Bell, J. (1995). The internationalisation of small computer software firms: a further challenge to "Stage" theories. *European Journal of Marketing, 29*(8), 60–75.

Bell, J., Mcnaughton, R., Young, S., & Crick, D. (2003). Towards an integrative model of small firm internationalization. *Journal of International Entrepreneurship, 1*, 339–362.

Bell, J., Crick, D., & Young, S. (2004). Small firm internationalization and business strategy: an exploratory study of 'knowledge-intensive' and 'traditional' manufacturing firms in the UK. *International Small Business Journal, 22*(1), 23–56.

Benito, G. R. G., & Welch, L. S. (1997). De-internationalisation. *Management International Review, 37*(2), 7–25.

Bjorkman, I., & Kock, S. (1997). Inward international activities in service firms—illustrated by three cases from the tourism industry. *International Journal of Service Industry Management, 8*(5), 362–376.

Buckley, P. J., & Casson, M. (1993). Economics as an imperialist social science. *Human Relations, 46*(9), 1035–1052.

Buckley, P., & Ghauri, P. (2004). Globalisation, economic geography and the strategy of multinational enterprises. *Journal of International Business Studies, 35*(2), 81–98.

Caves, R. E., & Porter, M. E. (1978). Market structure, oligopoly and the stability of market shares. *The Journal of Industrial Economics, 4*, 289–313.

Cavusgil, S. T. (1982). Some observations on the relevance of critical variables for internationalization stages. In M. R. Czinkota & G. Tesar (Eds.), *Export management: An international context* (pp. 276–285). New York: Praeger.

Cavusgil, S. T. (1984). Organizational characteristics associated with export activity. *Journal of Management Studies, 21*(1), 3–22.

Chang, S. J., & Rosenzweig, P. M. (2001). The choice of entry mode in sequential foreign direct investment. *Strategic Management Journal, 22*(8), 747–776.

Chetty, S. K., & Hamilton, R. T. (1996). The process of exporting in owner-controlled firms. *International Small Business Journal, 14*(2), 12–25.

Coviello, N. E., & Munro, H. J. (1997). Network relationships and the internationalization process of small software firms. *International Business Review, 6*(4), 361–386.

Coviello, N. E., & McAuley. (1999). Internationalisation and the smaller firm: a review of contemporary empirical research. *Management International Review, 39*(2), 223–257.

Crick, D. (2004). UKSMEs' decision to discontinue exporting: an exploratory investigation into practices within the clothing industry. *Journal of Business Venturing, 19*(4), 561–587.

Crick, D., & Jones, M. V. (2000). Small high-technology firms and international high-technology markets. *Journal of International Marketing, 8*(2), 63–85.

Cyert, R. M., & March, J. G. (1963). *A behavioral theory of the firm*. New York: Prentice Hall.

Czinkota, M. R. (1982). *Export development strategies: US promotion policies*. New York: Praeger Publishers.

Czinkota, M. R., & Ursic, M. L. (1987). A refutation of the psychic distance effect on export development. *Developments in Marketing Science 10*, 157–160.

Dana, L.-P., & Wright, R. W. (2004). Emerging paradigms of international entrepreneurship. In L.-P. Dana (Ed.), *Handbook of research in international entrepreneurship* (pp. 3–15). Glos: Edward Elga Publishing.

Douglas, S. P., & Craig, C. S. (2011). Convergence and divergence: developing a semiglobal marketing strategy. *Journal of International Marketing, 19*(1), 82–101.

Du, R., & Kamakura, W. A. (2006). Household lifecycles and life styles in America. *Journal of Marketing Research, 43*(1), 121–132.

EC (2007). *Final report of the expert group on supporting the internationalization of SMEs.* Brussels: Directorate-General for Enterprise and Industry of the European Commission.

Elliott, R. J., Aggoun, L., & Moore, J. B. (1995). Hidden Markov models: Estimation and control. *Applications of Mathematics* 29. New York: Springer-Verlag.

Ellis, P. D., & Pecotich, A. (1998). Export marketing: initiation and progress. *Conference proceedings of the European Marketing Academy (EMAC) Conference, 2*, 421–436.

Fillis, I. (2001). Small firm internationalisation: an investigative survey and future research directions. *Management Decision, 39*(9), 767–783.

Gankema, H. G. J., Snuit, H. R., & van Dijken, K. A. (1997). The internationalisation process of small and medium sized enterprises: An evaluation of the stage theory. In R. Donkels & A. Miettinen (Eds.), *Entrepreneurship and SME research: On its way to the next millennium* (pp. 185–197). Aldershot: Ashgate Publishing Ltd.

Hedlund, G., & Kverneland, A. (1983). Are entry strategies for foreign markets changing? The case of Swedish investment in Japan. Reprinted In: P. J. Buckley & P. N. Ghauri (Eds.) (1994). *The internationalization of the firm, A reader* (pp. 106–123) London: Academic Press Limited.

Jain, S. C. (1989). Standardization of international marketing strategy: some research hypotheses. *Journal of Marketing, 53*(1), 70–79.

Johanson, J., & Mattsson, L.-G. (1987). Interorganizational relations in industrial systems: a network approach compared with the transaction cost approach. *International Studies of Management and Organization, 17*(1), 34–48.

Johanson, J., & Mattsson, L. G. (1992). Network positions and strategic action—an analytical framework. In B. Axelsson & G. Easton (Eds.), *Industrial networks. A new view of reality.* London: Routledge.

Johanson, J., & Mattsson, L. G. (1993). The markets-as-networks tradition in Sweden. In: G. Laurent, G. L. Lilien, & B. Pras (Eds.), *Research traditions in marketing* (pp. 321–342).

Johanson, J., & Vahlne, J.-E. (1977). The internationalization process of the firm: a model of knowledge development and increasing foreign market commitments. *Journal of International Business Studies, 8*(1), 23–32.

Johanson, J., & Vahlne, J.-E. (1990). The mechanism of internationalisation. *International Marketing Review, 7*(4), 11–24.

Johanson, J., & Vahlne, J.-E. (2009). The Uppsala internationalization process model revisited: from liability of foreignness to liability of outsidership. *Journal of International Business Studies, 40*, 1411–1431.

Johanson, J., & Vahlne, J.-E. (2011). Markets as networks: implications for strategy-making. *Journal of Academy of Marketing Science* (in press).

Johanson, J., & Wiedersheim-Paul, F. (1975). The internationalization of the firm: four Swedish cases. *Journal of Management Studies, 12*(3), 305–322.

Kamakura, W. A., & Russell, G. J. (1989). A probabilistic choice model for market segmentation and elasticity structuring. *Journal of Marketing Research, 26*(4), 379–390.

Katsikeas, C. S., Samiee, S., & Theodosiou, M. (2006). Strategy fit and performance consequences of international marketing standardization. *Strategic Management Journal, 27*(9), 867–890.

Kim, C.-J., & Nelson, C. R. (1999). *State-space models with regime switching: Classical and Gibbs-Sampling Approaches with Applications*. The MIT Press.

Knight, G. A., & Cavusgil, S. T. (1996). The born global firm: A challenge to traditional internationalization theory. In: T. K. Madsen (Ed.) *Advances in international marketing, 8* (pp. 11–26).

Kogut, B., & Singh, H. (1988). The effect of national culture on the choice of entry mode. *Journal of International Business Studies, 19*(3), 411–432.

Leonidou, L. C., & Katsikeas, C. S. (1996). The export development process: an integrative review of empirical models. *Journal of International Business Studies, 27*(3), 517–551.

Lim, J.-S., Sharkey, T. W., & Kim, K. I. (1991). An empirical test of an export adoption model. *Management International Review, 31*(1), 51–62.

Madsen, T., & Servais, P. (1997). The internationalization of born globals: an evolutionary process? *International Business Review, 6*(6), 561–583.

Makhija, M. (2003). Comparing the resource-based and market-based views of the firm: empirical evidence from Czech privatization. *Strategic Management Journal, 24*, 433–451.

Mañez, J. A., Rochina, M. E., & Sanchís, J. A. (2004). The decision to export: a panel data analysis for Spanish manufacturing. *Applied Economics Letters, 11*(11), 669–673.

McAuley, A. (1999). Entrepreneurial instant exporters in the Scottish arts and crafts sector. *Journal of International Marketing, 7*(4), 67–82.

McDougall, P. P., & Oviatt, B. M. (1996). New venture internationalization: strategic change and performance: a follow-up study. *Journal of Business Venturing, 11*, 23–40.

McDougall, P. D., Shane, S., & Oviatt, B. M. (1994). Explaining the formation of international new ventures: the limits of theories from international research. *Journal of Business Venturing, 9*(6), 469–487.

Melin, L. (1992). Internationalization as a strategy process. *Strategic Management Journal, 13*, 99–118.

Moon, J., & Lee, H. (1990). On the internal correlates of export stage development: an empirical investigation in Korean electronics industry. *International Marketing Review, 7*(5), 16–26.

Moon, S., Kamakura, W. A., & Ledolter, J. (2007). Estimating promotion response when competitive promotions are unobservable. *Journal of Marketing Research, 44*(3), 503–515.

Newbold, G. D., Buckley, P. J., & Thurwell, J. (1978). *Going international*. London: Associated Business Press.

Oesterle, M.-J. (1997). Time spam until internationalization: foreign market mechanisms of innovation. *Management International Review, 37*(2), 125–149.

O'Farrell, P. N., Wood, P. A., & Zheng, J. (1998). Regional influences on foreign market development by business service companies: elements of a strategic context explanation. *Regional Studies, 32*, 31–48.

Olivares-Mesa, A., & Suarez-Ortega, S. (2007). Factors affecting the timing of the export development process in Spanish manufacturing firms. *Advances in International Marketing, 17*, 89–105.

Oviatt, B. M., & McDougall, P. P. (1994). Toward a theory of international new ventures. *Journal of International Business Studies, 25*(1), 45–64.

Peteraf, M. A. (1993). The cornerstones of competitive advantage—a resource-based view. *Strategic Management Journal, 14*(3), 179–191.

Petersen, B., & Pedersen, T. (1997). Twenty years after: Support and critique of the Uppsala Internationalization Model. In M. Forsgren & I. Björkman (Eds.), *The nature of the international firm*. Handelshøjskolens Forlag: København.

Porter, M. (1979). The structure within industries and companies' performance. *The Review of Economics and Statistics, 61*, 214–227.

Rabiner, L. R. (1989). A tutorial on Hidden Markov models and selected applications in speech recognition. *Proceedings of the IEEE, 77*(2), 257–285.

Rao, T. R., & Naidu, G. M. (1992). Are the stages of the internationalization empirically supportable? *Journal of Global Marketing, 6*, 147–170.

Reid, S. D. (1983). Firm internationalization, transaction costs, and strategic choice. *International Marketing Review, 1*(2), 45–56.

Reynolds, P. D. (1987). New firms: societal contribution versus potential. *Journal of Business Venturing, 2*, 231–246.

Ruzzier, M., Hisrich, R. D., & Antoncic, B. (2006). SME internationalization research: past, present, and future. *Journal of Small Business and Enterprise Development, 13*(4), 476–497.

Sharma, D. D., & Blomstermo, A. (2003). The internationalization process of Born Globals: a network view. *International Business Review, 12*, 739–753.

Sharma, D. D., & Johanson, J. (1987). Technical consultancy in internationalization. *International Marketing Review, 4*(4), 20–29.

Sullivan, D., & Bauerschmidt, A. (1990). Incremental internationalisation: a test of Johanson and Vahlne's thesis. *Management International Review, 30*(1), 19–30.

Szymanski, D. M., Bharadwaj, S. G., & Varadarajan, P. R. (1993). Standardization versus adaptation of international marketing strategy: an empirical-investigation. *Journal of Marketing, 57*(4), 1–17.

Theodosiou, M., & Leonidou, L. C. (2003). Standardization versus adaptation of international marketing strategy: an integrative assessment of the empirical research. *International Business Review, 12*, 141–171.

Turnbull, P. W. (1987). A challenge to the stages theory of the internationalization process. In P. J. Rosson & S. D. Reid (Eds.), *Managing export entry and expansion* (pp. 21–40). New York: Praeger.

Vermunt, J. K., & Magidson, J. (2005). *Latent GOLD 4.0 User's Guide*. Belmont: Statistical Innovations Inc.

Wedel, M., & Kamakura, W. A. (2000). *Market segmentation: Conceptual methodological foundations* (2nd ed.). Boston: Kluwer Academic Publishers.

Weinzimmer, L., Nystrom, P., & Freeman, S. (1998). Measuring organizational growth: issues, consequences and guidelines. *Journal of Management, 21*(2), 235–262.

Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal, 5*, 171–180.

Westhead, P., Wright, M., & Ucbasaran, D. (2001). The internationalization of new and small firms: a resource-based view. *Journal of Business Venturing, 16*(4), 333–358.

Westhead, P., Wright, M., & Ucbasaran, D. (2002). International market selection strategies selected by 'micro' and 'small' firms. *Omega, International Journal of Management Science, 30*(1), 51–68.

Wind, Y., Douglas, S. P., & Perlmutter, H. V. (1973). Guidelines for developing international marketing strategies. *Journal of Marketing, 37*(2), 14–23.

Wortzel, L. H., & Wortzel, H. V. (1981). Export marketing strategies for NIC and LDC-based firms. *Columbia Journal of World Business, 16*(1), 51–60.

Wright, M., Westhead, P., & Ucbasaran, D. (2007). Internationalization of small and medium-sized enterprises (SMEs) and international entrepreneurship: a critique and policy implications. *Regional Studies, 41*(7), 1013–1029.

Yang, Y. S., Leone, R. P., & Alden, D. L. (1992). A market expansion ability approach to identify potential exporters. *Journal of Marketing, 56*(1), 84–96.

Zahra, S., Matherne, B. P., & Carleton, J. M. (2003). Technological resource leveraging and internationalisation of new ventures. *Journal of International Entrepreneurship, 1*, 163–186.