

# Disentangling the effects of post-entry speed of internationalization on INVs' export performance

## Abstract

This paper aims to explore the under-researched topic of post-entry speed of internationalization (PSI) in the context of international new ventures (INVs). We unbundle PSI and examine its relationship with both financial and non-financial export performance, considering three related, but conceptually distinct, dimensions of PSI: internationalization intensity, spread, and geographical diversity. Building on organizational learning theory, we highlight different mechanisms that contribute to post-entry performance outcomes among INVs. Our findings from a sample of 112 INVs in New Zealand provide evidence that the three dimensions of PSI are distinct and that they have different impacts on financial and non-financial export performance. This paper contributes to the limited, yet growing body of literature on PSI by providing a deeper understanding of PSI and its constituent dimensions. In addition, this study offers new theoretical insights into how and why different dimensions of post-entry speed of internationalization can contribute to stronger export performance.

## Keywords

Post-entry speed of internationalization, Export performance, International new ventures, Time compression diseconomies.

## Introduction

***“In the new world, it's not the big fish which eats the small fish, it's the fast fish which eats the slow fish”***  
(Klaus Schwab, founder and executive chairman of World Economic Forum)

In today's fast-changing business environment, post-entry speed of internationalization (PSI), defined as the average rate of a firm's international expansion (Chetty, Johanson, and Martín Martín, 2014), has become an important issue in cross-border business development. Rising globalization and market integration have forced many firms to expand their businesses overseas, to survive and remain competitive. These developments have led to a shift in managerial practices from a traditional, cost-oriented perspective to a time-oriented one. As Chen, Damanpour, and Reilly (2010) note, rather than striving to provide maximum value for minimum cost, managerial practices are shifting towards providing maximum value for

minimum cost in the shortest time possible. Decisions about the speed of international expansion have become increasingly important, in terms of gaining and sustaining competitive advantage. These decisions can affect firms' resource allocation, performance, and survival (Chetty et al., 2014; Hilmersson and Johanson, 2016). From a theoretical perspective, the concept of speed is essential in understanding the dynamics of internationalization and studying the behavior of firms over time. Per Casillas and Acedo (2013: 16), PSI should be considered as "one of the most important concepts for gaining a true understanding of how internationalization processes develop". Therefore, having a robust understanding of PSI and its performance consequences has important academic and practical implications.

The general assumption in the IB literature is that rapid international growth has positive outcomes; the potential benefits associated with this strategy are well documented in the literature. Pangarkar (2008: 483) recommends, "To enhance their performance, SMEs should internationalize aggressively". However, fast-paced international expansion is not risk-free, and firms have no guarantee that this strategy will lead to superior performance. This is especially true for smaller firms, who have access to fewer resources. In fact, internationalization speed can be a double-edged sword. Rapid internationalization may lead to INV success through first-mover advantages (e.g., Lieberman and Montgomery, 1988) and learning advantages of newness (Autio, Sapienza, and Almeida, 2000), and internationalizing too slowly may mean missed growth opportunities. However, overly rapid and aggressive international expansion may endanger the firm's survival, through liabilities of newness (Hymer, 1976) and foreignness (Zaheer, 1995). The aim of this paper is to examine the implicit assumption that, in international expansion, faster is better. Our central research question is "What are the effects of post-entry speed of internationalization on financial and non-financial export performance?".

Although previous studies have contributed substantially to our understanding of the dynamics of post-entry internationalization, some shortcomings remain in our knowledge regarding the relationship between PSI and performance. First, there is a lack of consensus with regard to measuring PSI. While there is evidence that PSI is a multidimensional phenomenon, and that its various dimensions have distinct performance implications (Hilmersson and Johanson, 2016), previous studies have generally adopted a unidimensional approach to measuring it (e.g., Mohr and Batsakis, 2017; Casillas and Moreno-Menéndez, 2014; Prashantham and Young, 2011; Hilmersson, 2014). Operationalizing the multidimensional PSI in an aggregated manner risks both masking the full range of strategic choices that determine the nature of firm's activities in the post-entry stage and the conceptual meanings of the individual dimensions.

Measurement of export performance is also an issue, which clouds evidence regarding its relationship with PSI. Previous studies have shown that firms pursue a mix of financial and non-financial goals in international markets, and that there is often a trade-off between these two objectives (Gerschewski and Xiao, 2015; Carneiro et al., 2016). Scholars have also emphasized that different dimensions of international performance may have different antecedents (Gerschewski, Rose, and Lindsay, 2015; Lu and Beamish, 2006; Thomas and Eden, 2004; Chen, Sousa, and He, 2016). As Murphy, Trailer, and Hill (1996, p. 21) argued, "It is quite possible for an independent variable to be positively related to one performance measure and negatively related to another". Therefore, instead of treating performance as a single composite construct, it seems more theoretically justifiable to examine each dimension separately. However, most empirical studies on the speed-performance link have employed a unidimensional approach, relying on single financial measures such as international sales growth or profitability (Hilmersson and Johanson, 2016; Mohr and Batsakis, 2017; García-García, García-Canal, and Guillén, 2017; Chang, 2007). Relatively little attention has been paid

to the non-financial aspects of export performance, pertaining to firms' strategic goals such as learning, networking, or building reputation in international markets.

In addition, with few exceptions (e.g., Prashantham and Young, 2011; Chetty et al., 2014; Hilmersson, 2014; Hilmersson and Johanson, 2016; Meschi, Ricard, and Moore, 2017), the empirical evidence on PSI and its outcomes is based on evidence from multinational corporations and their expansion via foreign direct investment (FDI); for a recent review see Hilmersson et al. (2017). Thus, our knowledge remains limited regarding post-entry international growth in smaller firms, which often reach foreign markets via exporting and other lower-commitment modes (Taylor and Jack, 2013). Particularly, the issue of INVs' international expansion trajectories after their initial international entry has received little attention (exceptions include Prashantham and Young, 2011; Romanello and Chiarvesio, 2017; Sleuwaegen and Onkelinx, 2014; Khan and Lew, 2018; Aiqi and Lianxi, 2018). This raises questions about the applicability of many prior findings to SMEs in general and INVs in particular.

In this article, we address these issues and contribute to bridging this gap by moving beyond a straightforward view of the PSI-performance link and providing deeper insight into this relationship. First, we unpack PSI into three dimensions: intensity, spread, and geographical diversity. We then empirically examine the relationship of each of these PSI dimensions with financial and non-financial export performance. Because each dimension reflects a distinct aspect of PSI, the relationships are arguably driven by different mechanisms, meaning that they warrant separate measurement and investigation. We build on organizational learning theory (March, 1991) to explain the export performance consequences of different PSI dimensions and draw on the notion of time compression diseconomies (TCD) (Dierickx and Cool, 1989) to interpret the findings. These two theoretical lens are complementary. Organizational learning enables us to investigate the sources of various competitive advantages

that a firm might develop in international markets, and explain different mechanisms underlying PSI's performance consequences, while TCD highlights the negative effects of rapid internationalization on organizational learning and firm performance.

## **Theoretical background and development of hypotheses**

### **Post-entry speed of internationalization**

Following Prashantham and Young (2011: 277), we define PSI as “the pace of international expansion of a new venture once it has become an INV”. Although PSI is important for firms’ international development (Casillas and Acedo, 2013), researchers have only recently considered, explicitly, the distinction between the speed of entry (the time elapsed between a firm’s foundation and its first international activity) and PSI (the speed of a firm’s international expansion following its initial entry) and begun to address the more specific issue of PSI (for a review see Hilmersson et al., 2017). In addition, although there is an extensive body of literature on the performance consequences of early internationalization, little research attention has been given to firms’ subsequent international growth and the resultant performance implications (for recent reviews see Hilmersson et al., 2017; Schwens et al., 2017). As highlighted by Kuivalainen et al. (2012: 374), “Lack of studies [on PSI] is unfortunate, as the speed of the firm’s subsequent international growth actually determines the later cumulative stages of the various internationalization patterns”. To our knowledge, only Sleuwaegen and Onkelinx (2014), who compared performance and survival likelihood among three types of newly-internationalizing firms, have addressed the performance consequences of PSI among INVs. Thus, post-entry speed of internationalization remains an underexplored and ambiguously defined concept, with respect to both nature and content.

## **Conceptualizing post-entry speed of internationalization**

In physics, speed is defined as the rate of change in position over a specific time period, and measured as the ratio of distance traveled to the time taken to travel that distance. We apply this definition to operationalize post-entry speed of internationalization. In this context, distance and time are, respectively, the change in degree of internationalization (DOI) and the time taken for the firm to materialize this change. We capture PSI as the average rate of change in the various dimensions of DOI, consistent with Prashantham and Young (2011) and Hilmersson and Johanson (2016).

Following Capar and Kotabe (2003), we define DOI as the extent to which a firm has expanded its business beyond its home country's borders, across different countries, and/or geographical regions. This definition highlights three frequently-used aspects of DOI: intensity, spread, and geographical diversity. Distinguishing among the growth rates of these three dimensions should facilitate analysis of the dynamics of internationalization by enabling exploration of their idiosyncratic effects.

The first dimension of DOI, intensity of internationalization, represents the extent to which a firm relies on foreign sales. Intensity is commonly measured by the ratio of foreign sales to total sales (e.g., Sullivan, 1994; Hitt et al., 2006). Although the concept of international intensity provides critical insights into an important aspect of DOI, this measure has been criticized because it does not account for the spatial expansion of foreign activities (e.g. Pangarkar, 2008; Li, 2007; Wiersema and Bowen, 2011; Asmussen, Pedersen, and Petersen, 2007). Using international intensity as the sole measure of DOI, a firm might be categorized as highly international when its export sales are derived from a single country. To address this issue, following the recommendations of Goerzen and Beamish (2003) and Sundaram and Black (1992), among others, we distinguish between two distinct, but related, spatial aspects of firms' international behavior: the dispersion of activities among foreign markets (spread of

internationalization) and the extent to which these country environments vary (geographical diversity).

The second dimension of DOI, the spread (or scope) of internationalization, refers to the range of locations in which a firm operates (Zahra and George, 2002). For SMEs, internationalization spread has generally been measured by the number of countries to which a firm exports (e.g., Cieřlik, Kaciak, and Thongpapanl, 2015; Beleska-Spasova, Glaister, and Stride, 2012). However, a simple count of the number of countries is not a comprehensive indicator of international spread. As mentioned by Brouthers et al. (2009: 33), “The number of foreign markets does not accurately reflect the amount of time, effort, and resources small firms expend on increasing foreign sales”. To address this issue, Hitt, Hoskisson, and Kim (1997) proposed an entropy index, which differentiates among target markets by weighting them according to the firm’s penetration.

The third dimension of DOI is diversity of internationalization, which pertains to the geographical dispersion of the firm’s operations (Goerzen & Beamish, 2003). This dimension accounts for the impact of cross-country differences and addresses the issue of “relatedness” between the home and target markets. While intensity and, to a lesser extent, spread of internationalization have been explored in previous studies, geographical diversity has yet to receive as much attention (Hennart, 2011).

An example may help to clarify the differences among the dimensions of DOI. Consider three firms – A, B, and C – each of which derives half of its sales from foreign markets, giving them equal intensity of internationalization. Firm A has all of its foreign sales in one country, Firm B exports to five countries in one region, and Firm C exports to five countries in five different geographical regions. If Firms B and C each obtains 20% of its foreign sales from each country, they have equal spreads of internationalization (which is higher than Firm A).

Diversity of internationalization tells a different story; Firm C operates in multiple regions and is, therefore, more geographically diversified than Firm B.

Based on this example, we argue that PSI is a multidimensional concept, and that no single dimension fully captures its complexity. Furthermore, we suggest that the three identified dimensions of PSI are conceptually distinct, and need to be conceptualized and measured separately.

## **Hypotheses**

Our hypotheses are anchored in organizational learning theory (Cohen and Levinthal, 1990; March, 1991; Huber, 1991). Organizational learning is defined as the dynamic “process of assimilating new knowledge into the organization’s knowledge base” (Autio et al., 2000: 911). Learning theory argues that firms’ success depends on the ability to acquire, manage, and cultivate knowledge (Nonaka and Takeuchi, 1995). As Saarenketo et al. (2004: 367) noted, “Rapid internationalization simply demands rapid learning”. Without fast and effective learning, the firm’s skills and capabilities quickly become obsolete in the face of an increasingly complex environment, potentially endangering the firm’s survival (Berends and Antonacopoulou, 2014).

### *Speed of growth in international intensity and export performance*

The first of the PSI measures reflects the rate at which the firm is becoming more internationally oriented and less dependent on the home market. There are substantial potential benefits associated with rapid growth in internationalization intensity; firms gain an expanded international outlook and are more likely to recognize and exploit brief windows of opportunity, allowing them to enter other markets before their competitors (Hohenthal, Johanson, and Johanson, 2003; Hilmersson, 2014). Such a first-mover advantage can prevent subsequent competitors from entering the market, and may eventually lead to higher market



share and stronger financial returns (McNaughton, 2003; Rialp, Rialp, and Knight, 2005; Oviatt and McDougall, 2005).

Greater involvement in international activities can also lead to improved operational efficiencies by enabling firms to exploit more foreign opportunities and gain access to a larger customer base. This provides opportunities for the firm to achieve economies of scale and reduce production costs by spreading fixed costs over more units (Lu and Beamish, 2004; Ghoshal, 1987). Rapid increase in the speed at which international intensity grows can thus offer cost-based advantages, as it should lead to more efficient use of resources and enable more rapid achievement of economies of scale (Hitt et al., 1997; Hilmersson, 2014; Delios and Beamish, 1999), yielding stronger financial performance. Such positive financial outcomes are potentially even more substantial for INVs; compared to large firms, increased internationalization intensity is likely to have proportionally greater profitability effects for small firms (Loth and Parks, 2002; Hilmersson, 2014). On this basis, we hypothesize:

*H1a: The speed at which the intensity of internationalization grows is positively related to INVs' financial export performance.*

We expect rapid growth of international intensity to also be good for INVs' non-financial performance. Fast-paced growth of international intensity can provide knowledge-related benefits, which can lead to competitive advantage. Previous studies have shown that, when entering a new market, rapid internationalizers can be more effective at overcoming liabilities of foreignness (García-García et al., 2017; Zaheer, 1995). Constant exposure to diverse stimuli and uncertainties arising from new market conditions means that firms that increase their intensity of internationalization more quickly may be better equipped to develop new routines and structures for international operations, and can adapt more rapidly to uncertain environments (Autio et al., 2000; Hitt et al., 1997). Such firms tend to have less rigid

and formal home-grown organizational routines that can interfere with acquiring new experiential knowledge in foreign markets, allowing them to respond more effectively to competitive changes (Hilmersson and Johanson, 2016; Zhou, Wu, and Barnes, 2012; Pellegrino and McNaughton, 2017). Therefore, we hypothesize:

*H1b: The speed at which the intensity of internationalization grows is positively related to INVs' non-financial export performance.*

#### *Speed of growth in international spread and export performance*

There is mixed evidence concerning the relationship between the spread of internationalization and firm performance. While some studies identified no relationship (e.g., Piercy, 1981), others have reported negative (e.g., Brouthers et al., 2009; Cieřlik, Kaciak, and Welsh, 2012) or positive (e.g., Zahra, Ireland, and Hitt, 2000) performance effects. However, the dominant view in the literature is that, at least in the early stages of internationalization, the relationship between the speed of growth in international spread and financial performance is likely to be positive. Presence in more offshore markets may enable the firm to balance the costs and benefits more effectively, facilitating stronger financial returns (Chao and Kumar, 2010; Li, Qian, and Qian, 2012; Cieřlik et al., 2015). Speeding up the spread of internationalization enables the firm to obtain higher returns on investment by spreading its overhead costs over a larger number of markets (Contractor, Kundu, and Hsu, 2003; Goerzen and Beamish, 2003). Such firms tend to be less vulnerable to country-specific risks, because their operations are tied less tightly to any one market. This may make it easier to shift operations between locations in response to external shocks (Thomas and Eden, 2004). In contrast, INVs with slower rates of growth with respect to spread of internationalization tend to be more vulnerable to market fluctuations. Deterioration in the economic situation of a key market may pose greater risk to firms that follow market concentration strategies (Cieřlik et al., 2012). Taken together, this leads us to hypothesize:

*H2a: The speed at which the spread of internationalization grows is positively related to INVs' financial export performance.*

We expect a similar relationship for non-financial export performance. A key potential benefit associated with a fast-paced international expansion is the opportunity to learn across national borders and upgrade the firm's existing knowledge base before it becomes obsolete (Zahra, Zheng, and Yu, 2017; García-García et al., 2017). Operating in multiple offshore markets, even using low-commitment modes, exposes firms to many different environments and provides a platform for exploring diverse sources of knowledge (Hitt et al., 1997; Zahra et al., 2000). This can enhance the firm's general experience base (Johanson and Vahlne, 1977; Katsikea et al., 2005) and provide broader learning opportunities (Hilmersson, 2014; Zahra and Hayton, 2008). The resulting knowledge is not market-specific, but rather more versatile and generalizable and thus valuable for other international operations (Pellegrino and McNaughton, 2017). This can help the firm to better identify and seize overseas opportunities, and reduce the risks and costs associated with new market entries (Eriksson et al., 1997; Hilmersson and Johanson, 2016). If such learning opportunities are leveraged properly and develop into transferable knowledge, they can create an inimitable resource that shapes the firm's subsequent competitive position and, eventually, lead to stronger performance (Autio et al., 2000; Oviatt and McDougall, 2005). Therefore, firms that adopt an export market spreading strategy tend to be better able to explore and exploit opportunities that emerge in diverse markets and may be more flexible in adjusting to change.

Furthermore, rapid growth in the spread of internationalization may offer INVs a learning advantage over their slower counterparts. According to the Autio et al. (2000) concept of the learning advantage of newness, firms that enter international markets early in their life cycles should incur relatively lower costs associated with building new capabilities because of fewer preexisting organizational routines that need to be unlearned. INVs are thus assumed to

have inherent learning flexibilities and face less structural rigidity (Autio et al., 2000; Pellegrino and McNaughton, 2017; Zahra et al., 2017). While the learning advantage of newness was initially developed to describe the benefits associated with early internationalization, similar reasoning suggests the potential for a learning advantage of rapid international growth (Hilmersson et al., 2015; Yang, Lu, and Jiang, 2017). As argued by Yang et al. (2017: 76), “It is a challenge for firms with slow-paced foreign expansions to maintain a cycle of effective learning”.

In general, it seems that a strategy of quick expansion of international operations across multiple markets offers exporting firms the potential for long-term benefits and the possibility of developing a stronger competitive position (Sleuwaegen and Onkelinx, 2014; Katsikea et al., 2005). Thus, we hypothesize:

*H2b: The speed at which the spread of internationalization grows is positively related to INVs’ non-financial export performance.*

#### *Speed of growth in geographical diversity and export performance*

International markets represent considerable variation, in terms of socioeconomic attributes pertaining to institutions, culture, and purchasing power (e.g., Ojala, 2015; Hutzschenreuter, Kleindienst, and Lange, 2014). It can be argued that firms operating in heterogeneous markets benefit from the broad exposure of environmental diversity, when compared to firms that operate within a more homogeneous group of markets (De Clercq et al., 2012).

Speeding up the diversity of internationalization offers a variety of opportunities, allowing firms to spread their market risk and potentially enjoy a more steady revenue stream (Kim, Hwang, and Burgers, 1993; Morgan-Thomas and Jones, 2009). Operating in multiple institutionally-dissimilar markets enables firms to cope more effectively with environmental

changes and adjust their operations to deal with the ever-evolving international business ecosystem (Katsikea et al., 2005; Ramirez-Aleson and Espitia-Escuer, 2001). Such firms may be better equipped to survive in the face of market shocks, because they are more able to hedge against adverse economic conditions and less vulnerable to local fluctuations in market demand (Tallman and Li, 1996; Kim et al., 1993; Cieřlik et al., 2015; Glick and Rose, 1999). Per Hilmersson (2014: 396), “In order to manage risk, the firm needs to spread its activities across country markets quickly”.

In addition, internationally dispersed firms tend to have more opportunities to reap the benefits of arbitrage in factor, product, and political markets by shifting their engagements across markets, thereby, enjoying more regular income (Hennart, 2011; Kogut, 1985; Thomas and Eden, 2004). These firms may also benefit the differences in national tax systems (Ramirez-Aleson and Espitia-Escuer, 2001). On this basis, we hypothesize:

*H3a: The speed at which international geographical diversity grows is positively related to INVs' financial export performance.*

We expect the relationship to be more complicated with respect to non-financial performance. Fast-paced penetration into dissimilar countries is a strategy that can be both an asset and a liability (Stahl and Tung, 2015). Firms that encounter greater environmental diversity enjoy richer explorative learning opportunities, which can be leveraged across different markets and contribute to non-financial performance (Preece, Miles, and Baetz, 1999). A firm with more geographically-diverse international operations has access to a more heterogeneous knowledge base (Eriksson et al., 1997; Hitt et al., 1997; Ghoshal, 1987), and a diverse range of experience should help firms learn to handle future complexities more effectively. Therefore, a firm with rapid growth in its international diversification may be better equipped to adjust to new market conditions, and to reconfigure its resources and capabilities

to exploit further international opportunities. International diversity has been found to enhance technological learning (Zahra et al., 2000) and organizational learning and innovation (Hitt et al., 1997).

However, rapid diversification into dissimilar markets may also have some adverse consequences, associated with the added operational complexity and costs of communication, coordination, transportation, distribution, and knowledge-sharing across different locations (Buckley, 1985; Hutzschenreuter, Voll, and Verbeke, 2011). Firms have limited capacity to handle the complexities associated with cross-country differences. Having to confront too much complexity in a short period can be overwhelming, and managers may struggle to transform the new experiences into meaningful learning (Gomez-Mejia and Palich, 1997; Eisenhardt and Martin, 2000; Hutzschenreuter and Voll, 2008). In addition, knowledge and capabilities developed in one type of institutional environment may not be directly applicable in others (Vachani, 1991). Previous studies have emphasized the difficulty of combining and integrating knowledge and capabilities gained from fundamentally different environments (e.g., Goerzen and Beamish, 2003; Qian et al., 2008; Qian et al., 2010). Building on organizational learning theory, Autio et al. (2000: 911) maintained that “Generation of new organizational knowledge is maximized in domains close to the domain of existing knowledge”.

In addition, internationalizing to countries with similar cultural, political, and institutional characteristics facilitates communication and information flow between the firm and its target markets (Meschi et al., 2017). INVs that focus their international activities within a relatively similar country cluster can develop location- or region-specific advantages such as knowledge about institutions and markets (Dunning and Lundan, 2008). Leveraged effectively, these advantages can be important sources of stronger performance (Rugman and Verbeke, 2004).

In light of these arguments, we postulate that increasing the speed of international diversity will improve non-financial performance in the earlier stages of an INV's international expansion, but that continued increase in the speed of diversification will lead to diminishing performance:

*H3b: The speed at which international geographical diversity grows has an inverted U-shaped relationship with INVs' non-financial export performance.*

The conceptual framework of the study is presented in Figure 1.

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## **Method**

### **Sample and data collection**

We test the hypothesized relationships using survey data collected from New Zealand-based exporting INVs. New Zealand provides a fertile context for studying INVs' export activities. Given its small population (4.5 million), New Zealand has a very limited domestic market and thus relies on global markets to support its economic growth. In addition, SMEs constitute the vast majority of firms in New Zealand and play important roles in the national economic development. Approximately 97% of New Zealand enterprises have fewer than 20 employees; these firms account for about 28% of GDP (MBIE, 2017). In addition, exporting tends to be New Zealand SMEs' primary mode of international engagement (MBIE, 2015).

INVs represent a subset of SMEs, in terms of both age and size (Kuivalainen et al., 2012). Following the definition of SMEs provided by the New Zealand Ministry of Business, Innovation & Employment (MBIE, 2014), we focus on firms with 100 or fewer full-time employees, and include both service and manufacturing firms, from low- and high-tech

industries. Employing a multi-industry sample offers broader coverage, more variation in the responses, and thus stronger generalizability (Morgan, Kaleka, and Katsikeas, 2004).

Despite widespread research on INVs, debate continues regarding operational definitions for these firms; for reviews see Cesinger et al. (2012) and Zander, McDougall-Covin, and Rose (2015). Some have argued that INVs' defining characteristics are context-sensitive and that applying a uniform definition across contexts is problematic, arguing in favor of flexibility in the criteria used for defining INVs (Keupp and Gassmann, 2009; Cesinger et al., 2012; Madsen, 2013; Gabrielsson et al., 2008; Reuber, Dimitratos, and Kuivalainen, 2017). Based on the definitions in extant literature, data availability, and context of this study, we consider INVs to be independently-operating SMEs that have obtained at least 10% of their total sales from foreign markets (McDougall, 1989) within five years from their formation (Johnson, 2004; Sleuwaegen and Onkelinx, 2014). Given that only 52% of the exporting SMEs in our sample are identified as INVs, we are confident that this approach distinguishes INVs from non-INVs. This definition seems particularly useful in the New Zealand context, where firms internationalize from a small and geographically-remote domestic market and experience strong push to begin internationalization rapidly.

We collected data using a web-based survey. The questionnaire asks about firms' exporting operations, target markets, international growth strategies, and satisfaction with export performance. To ensure face and construct validity, the survey instrument's content and design were examined by academic experts familiar with the topic and pretested by managers of exporting SMEs. We targeted senior and export managers of SMEs, as they are most likely to have the knowledge required to provide useful information about the international activities of their firms. We sent a personalized invitation email, with a link to an anonymous web-based survey instrument, to 1500 SME managers in New Zealand. Two additional follow-up emails were sent as reminders, to increase the response rate. We received 213 completed



questionnaires, for a 14.2% response rate. Of these, 112 firms were identified as INVs, and used for further analysis. Participants were guaranteed anonymity, to encourage participation and mitigate nonresponse bias. The firms in our sample are relatively young, which should reduce respondents' memory bias (Gerschewski and Xiao, 2015). We found no significant differences between early and late respondents, in the means of the dependent, independent, or control variables, suggesting that nonresponse bias may not be a substantial issue for our sample (Armstrong and Overton, 1977).

### **Measures and control variables**

*Independent variables.* Our operationalization of post-entry speed of internationalization (PSI) is based on measuring the rate of change for each of the three key dimensions of degree of internationalization (DOI): intensity, spread, and geographical diversity. We calculate the change in each DOI dimension over time,  $\Delta DOI_j / \Delta t, j=1,2,3$ , where  $\Delta t$  is the elapsed time between the firm's first international entry and the data collection. As the degree of internationalization at the time of the firm's initial international entry is zero,  $\Delta DOI_j$  is the degree of internationalization for the  $j^{\text{th}}$  dimension at the time of the data collection.

We represent the DOI *intensity* measure ( $Speed_{\text{Intensity}}$ ) using export sales as a percentage of total sales. The DOI *spread* component ( $Speed_{\text{Spread}}$ ) is measured using an entropy measure that captures dispersion in foreign sales. The entropy measure is  $\sum_{i=1}^n SP_i \ln(1/SP_i)$ , where  $n$  is the number of countries to which the firm is exporting and  $SP_i$  is the proportion of sales derived from the  $i^{\text{th}}$  country. The use of entropy measures, which reflect the degree of spatial expansion of foreign activities, is consistent with, e.g., Goerzen and Beamish (2003), Wu, Chen, and Jiao (2015), and Khavul, Pérez-Nordtvedt, and Wood (2010). A key advantage offered by entropy measures is accounting for both the number of

countries in which the firm operates and the extent of engagement in each country (e.g., Vachani, 1991).

We take a similar approach for operationalizing the post-entry speed of geographical *diversity* ( $\text{Speed}_{\text{Diversity}}$ ), using entropy measures for the dispersion of a firm's export sales across dissimilar geographic regions. For these entropy measures, the key inputs are the percentages of sales derived from specific regions. The geographic regions are defined using a modified version of the World Bank (2009) classification that reflects the diversity of export coverage of New Zealand SMEs and comprises 12 zones: Southeast Asia, Middle East & North Africa, China, Japan, India, rest of Asia, the Pacific, Latin America and the Caribbean, European Union, Rest of Europe, North America (U.S. and Canada), and other. On average, the firms in our sample had exporting activities in 7.4 countries and 3.3 geographic zones, and 65% of the sample firms derived more than half of their sales from exporting.

*Dependent variables.* Our dependent variables are financial ( $\text{Perf}_{\text{Fin}}$ ) and non-financial ( $\text{Perf}_{\text{NonFin}}$ ) export performance. These variables are operationalized with subjective measures, using seven-point Likert scales. Subjective measures of export performance have been used extensively in previous studies (e.g., Brothers et al., 2009; Zou, Taylor, and Osland, 1998; Lages and Lages, 2004; Diamantopoulos and Kakkos, 2007), and there is evidence that they provide reliable and valid performance assessment (e.g., Lages, Lages, and Lages, 2005; Shoham, 1998; Dess and Robinson, 1984). Financial performance is measured based on two indicators – export profitability and market share – which load onto a single factor. Non-financial performance is based on five indicators, chosen based on both existing literature (e.g., Cavusgil and Zou, 1994; Papadopoulos and Martín Martín, 2010) and interviews with SME managers. Exploratory factor analysis (EFA) of the seven performance items revealed the anticipated two-factor structure. Table 1 shows the export performance items, factor loadings, percentage of variance explained, and reliabilities (i.e., Cronbach's  $\alpha$  values). We combined

the items for each dimension of export performance using factor scores, consistent with previous studies (e.g., Dibrell, Davis, and Danskin, 2005; Brouthers et al., 2009; Beleska-Spasova et al., 2012; Sullivan, 1994).

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The literature provides evidence of variation in expectations from exporting across firms, and that managers view some goals as more important than others (Carneiro et al., 2016; Diamantopoulos and Kakkos, 2007). We account for diversity in preference functions by adopting a weighting approach to operationalizing Perf<sub>Fin</sub> and Perf<sub>NonFin</sub>. For each aspect pertaining to export performance, respondents were asked to identify both their level of satisfaction and the aspect's importance, considering the past three financial years. Multiplying the satisfaction by the importance (both based on seven-point scales) yields weighted satisfaction levels ( $\alpha = 0.73$  and  $0.95$  for Perf<sub>Fin</sub> and Perf<sub>NonFin</sub>, respectively). This approach has been adopted previously and offers a nuanced measurement of export performance (Gerschewski et al., 2015; Pangarkar, 2008).

*Control variables.* We also control for some aspects that may be related to INVs' export performance. As in previous studies (e.g., Hilmersson and Johanson, 2016; Khavul et al., 2010), we represent firm size using the number of employees. Because there is evidence that the firm's age at the time of internationalization may affect performance (e.g., Zhou et al., 2012; Autio et al., 2000), we control for the number of years elapsed between the firm's inception and its first international sales. In addition, as previous studies (e.g., Autio et al., 2000) have demonstrated that the age of the firm may affect performance, especially among small firms, we control for the age of the firm at the time of data collection. Following Chetty et al. (2014), also we account for the responding manager's exporting experience, operationalized as the number of years that the manager has engaged in exporting. Finally, we

include a manufacturing dummy variable to control for any industry-related impacts on export performance as it has previously been found to affect firm performance (e.g., Kuivalainen, Sundqvist, and Servais, 2007; Brouthers, 2002). The descriptive statistics for the variables used in the study are shown in Table 2.

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**Table 2 about here**  
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### **Assessment of common method bias**

Our data are cross-sectional, and self-reported using a single respondent from each firm, which makes our results subject to common method bias (Podsakoff et al., 2003). We used several approaches to mitigate this potential issue (Chang, Van Witteloostuijn, and Eden, 2010). First, participants were guaranteed anonymity. Additionally, they were informed that there are neither correct nor incorrect answers to the questions, and that their responses would be used only for academic purposes. These measures should reduce concerns related to evaluation apprehension and social desirability (Podsakoff et al., 2003). Second, questions related to the dependent and independent variables were located in different sections of the questionnaire, and different response formats and scales were employed. Third, we conducted a Harman's one-factor test as a post-hoc statistical analysis to identify potential common method bias, entering both the dependent and independent variables into an exploratory factor analysis; no single factor in the unrotated solution accounted for more than 39% of the variance (Podsakoff et al., 2003). Finally, following Lindell and Whitney (2001), we used the manager's education level as a marker variable, and found it to have no significant relationship with any of the key constructs in our models. Considering the procedural remedies in administering the survey, the results of statistical tests, as well as the facts that the respondent firms are quite small (79.5% with fewer than 50 full-time employees) and the respondents are overwhelmingly

(73.7%) owners and/or CEOs, we conclude that our findings are unlikely to be affected by common method bias (Gerschewski et al., 2015).

## Results

We test the hypotheses using two sets of hierarchical regression models estimated using ordinary least squares, with Perf<sub>Fin</sub> and Perf<sub>NonFin</sub> as the dependent variables. The key independent variables pertaining to PSI were mean-centered, to reduce the potential for problem multicollinearity (Aiken, West, and Reno, 1991). For some of the models including Speed<sub>Intensity</sub>, the variance inflation factor (VIF) scores indicated the presence of multicollinearity. To address this issue, we removed one control variable (age of the firm) from these models; the resulting maximum VIF value of 2.81 provides evidence that multicollinearity is not affecting our results.

Tables 3 and 4 contain the results of the hierarchical regression modeling for Perf<sub>Fin</sub> and Perf<sub>NonFin</sub>, respectively

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**Tables 3 and 4 about here**  
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Models 1 and 8 (Tables 3 and 4, respectively) are the baseline models, which include only the five control variables. Models 2, 4, and 6 are used to test for a linear relationship between the dimensions of PSI and Perf<sub>Fin</sub>. In models 3, 5, and 7, we test for non-linear relationships by including quadratic terms for each dimension of PSI. The presence of a curvilinear relationship is supported if (1) including the quadratic term yields a significant change in explanatory power, relative to the corresponding linear model; (2) the estimated coefficient associated with the quadratic term is significantly different from zero; and (3) the inflection point of the estimated curvilinear model falls within the range of the sample data

(Haans, Pieters, and He, 2015). If all of these conditions are satisfied, a positive and significant coefficient associated with the quadratic term suggests a U-shaped relationship, while a negative and significant coefficient suggests an inverted U-shaped relationship.

H1a predicts a positive relationship between Speed<sub>Intensity</sub> and Perf<sub>Fin</sub>. In Model 2, the positive and significant ( $p < 0.05$ ) estimated coefficient associated with Speed<sub>Intensity</sub> provides initial support for the hypothesis. However, adding the quadratic term in Model 3 offers more nuance. The strong fit to the data, as evidenced by the significant ( $p < 0.01$ ) change in the  $F$ -statistic, and the positive and significant ( $p < 0.01$ ) coefficient associated with the (Speed<sub>Intensity</sub>)<sup>2</sup> term, suggest that a curvilinear model is a better fit to the data than a linear model, providing evidence of a U-shaped relationship between Speed<sub>Intensity</sub> and Perf<sub>Fin</sub>, marginal to the other variables in the model. Thus, H1a receives support at medium-to-high levels of Speed<sub>Intensity</sub>, but contradiction at lower levels.

H2a proposes a positive relationship between Speed<sub>Spread</sub> and Perf<sub>Fin</sub>; this hypothesis is tested using the results of Models 4 and 5. We find no support for a linear relationship, but the negative and marginally significant ( $p < 0.10$ ) coefficient associated with the (Speed<sub>Spread</sub>)<sup>2</sup> term provides evidence of an inverted U-shaped relationship. Thus, H2a receives some limited support at lower levels of Speed<sub>Spread</sub>.

H3a, which predicts a positive relationship between Speed<sub>Diversity</sub> and Perf<sub>Fin</sub>, is tested using Models 6 and 7. The positive and marginally significant ( $p < 0.10$ ) coefficient associated with Speed<sub>Diversity</sub> in Model 6 provides some support for H3a. The introduction of squared term in Model 7 did not result in a significant change in the  $F$ -statistic, providing no evidence of a curvilinear relationship between Speed<sub>Diversity</sub> and financial export performance. H3a, therefore, receives limited support.

Table 4 shows the estimated results for models used to test the hypotheses regarding nonfinancial performance. H1b predicts a positive relationship between Speed<sub>Intensity</sub> and Perf<sub>NonFin</sub>; our data provide no evidence of either a linear (Model 9) or a quadratic (Model 10) relationship, marginal to the other included variables. Therefore, H1b is not supported.

H2b is tested using Models 11 and 12. We find no support for a linear relationship. However, the results of Model 12 provide evidence of an inverted U-shaped relationship ( $p < 0.01$ ). Similarly, Model 14 provides support for the hypothesized inverted U-shaped relationship between Speed<sub>Diversity</sub> and Perf<sub>NonFin</sub> ( $p < 0.05$ ), supporting H3b

Figure 2 provides graphical representations of the significant relationships identified in our modeling. The fact that each of the inflection points for the curvilinear results falls within the range of the sample data provides additional evidence of the utility of the empirical findings.

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**Figure 2 about here**  
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### **Robustness assessment**

Because Speed<sub>Intensity</sub> is highly collinear with firm age, we estimated some models without this control variable. For robustness, we re-estimated the affected models including the age variable. The multicollinearity-affected models showed the same patterns for the relationship between Speed<sub>Intensity</sub> and both Perf<sub>Fin</sub> and Perf<sub>NonFin</sub> (i.e., U-shaped, and non-significant, respectively), indicating that removing this control variable from the analysis does not alter the interpretation of the results.

Furthermore, following the guidelines of Haans et al. (2015), we undertook additional robustness analysis, testing for the applicability of sigmoid (S-shaped) relationships, rather than the identified quadratic ones. None of the coefficients associated with the cubic terms

differed significantly from zero, and including the extra term did not add significant explanatory power, providing no evidence of sigmoidal relationships.

## **Discussion and conclusion**

The nature of the relationship between the temporal and spatial dimensions of internationalization has been an ongoing debate within the literature on the economic geography of internationalization (Jones and Coviello, 2005; Eden, 2009). We contribute to this body of research by addressing the “time-space conundrum”, and shedding more light on the performance implications of different patterns of geographical diversification over time.

We also add to the theoretical understanding of the post-entry dynamics of internationalization by viewing PSI as a multidimensional construct and disentangling the relationships of its components with the financial and non-financial aspects of export performance. For each dimension of PSI, we have discussed the underlying mechanisms that drive performance and examined the trade-offs between the costs and benefits associated with different internationalization speeds. We have investigated the potential for both linear and quadratic forms of the relationships between each PSI dimension and both financial and non-financial export performance. In addition, we have accounted for managerial priorities by adopting a weighted approach to operationalizing perceptual export performance.

Our results support the argument that PSI is a multidimensional construct, and that disaggregating its different dimensions offers the potential for a finer-grained view of this concept. We found that different aspects of PSI are not equally beneficial for performance, which suggests that failure to consider these dimensions may yield an incomplete picture of PSI. In fact, we find distinct types of relationship between each of the three PSI dimensions and financial performance. Thus, we concur with the Hilmersson and Johanson’s (2016: 90)



statement that “The dimensions of speed must not only be treated differently, but that one cannot speak of a single concept of internationalization speed”.

In addition, our findings provide evidence that PSI’s dimensions vary with respect to the nature of their cost-benefit trade-offs, pertaining to financial and non-financial performance among exporting INVs. These findings reinforce the need to consider the financial and non-financial aspects of export performance separately; success in one aspect does not necessarily imply success in the other.

While we had predicted a positive relationship between  $Speed_{Intensity}$  and financial export performance (H1a), we found more convincing evidence of a U-shaped relationship. This suggests that, for low-to-medium levels of  $Speed_{Intensity}$ , INVs risk experiencing negative financial returns, likely due to the high costs associated with liabilities of foreignness (Hymer, 1976; Zaheer, 1995), limited general knowledge and experience with international markets (Johanson and Vahlne, 1977), and higher transaction and coordination costs (Lu and Beamish, 2004). At lower levels,  $Speed_{Intensity}$  may not be enough to provide sufficient first-mover advantage to offset these costs (Mohr et al., 2014). However, for higher levels of  $Speed_{Intensity}$ , firms may find it more feasible to benefit from first-mover advantage and to gain access to a larger customer base, thus offsetting their costs through benefits associated with increased economies of scale.

In contrast, we found evidence of an inverted U-shape relationship between  $Speed_{Spread}$  and financial export performance (H2a). For low-to-medium levels, increasing  $Speed_{Spread}$  may help firms to balance costs and benefits more effectively and increase the value that they are able to extract from their resources. However, penetrating new markets is an investment-intensive process, and beyond some threshold, further increase in  $Speed_{Spread}$  may hurt the firm’s financial performance, due to greater managerial complexity and higher administration

costs. Thus, our result is consistent with findings of recent studies in the context of both SMEs (Hilmersson and Johanson, 2016) and MNEs (García-García et al., 2017; Mohr and Batsakis, 2017) that, after reaching some level of  $Speed_{Spread}$ , financial performance begins to decline.

Our analysis suggests a positive linear relationship between  $Speed_{Diversity}$  and financial performance (H3a), supporting the notion that tapping into a more diverse range of markets provides greater opportunities for firms to reap financial benefits by exploiting the market imperfections that exist across different countries (Hitt et al., 1997; Zhou, Wu, and Luo, 2007). An active geographic diversification strategy offers resource-constrained INVs additional operational flexibility and allows them to make use of a wider range of advantages associated with different locations (Dunning, 1988).

In contrast to the situation for financial performance, our sample of New Zealand-based INVs provides no evidence of a significant linear, quadratic, or cubic relationship between  $Speed_{Intensity}$  and nonfinancial performance (H1b). It appears that  $Speed_{Intensity}$ , marginal to the other variables included in the model, may not be a key source of ongoing learning and capability development. Thus, the rate at which INVs increase their proportion of revenue from foreign countries, *per se*, is not a strong determinant of nonfinancial performance. Rather, what matters more are the range and diversity of the INV's foreign markets.

We also found evidence that the relationship between  $Speed_{Spread}$  and nonfinancial performance (H2b) follows an inverted U-shape. At lower levels of  $Speed_{Spread}$ , INVs may obtain learning benefits, as they engage with multiple new markets. At the same time, speeding up international growth is a very resource-demanding process, and INVs may lack the managerial, organizational, and financial resources required to keep expanding into more foreign markets within a short timeframe (Mudambi and Zahra, 2007). At some point, continuing to increase  $Speed_{Spread}$  appears to involve costs that exceed the benefits. When an

INV expands quickly into multiple foreign markets, its limited resources and capabilities risk being spread too thinly. Sharing resources across multiple locations may limit deeper expansion within markets. The resulting compromised resource utilization may lead to more shallow penetration into each market than desirable, with a negative impact on nonfinancial performance (Ruzo et al., 2011). This is in line with the conclusion of Chetty and Campbell-Hunt (2003) that “explosive international growth” among SMEs in New Zealand can lead to destabilization, due to challenging of firms’ resource bases and the configuration of their capabilities.

A similar argument can be used to explain the observed inverted U-shaped relationship between nonfinancial performance and  $Speed_{Diversity}$  (H3b). Our findings support those of Casillas and Moreno-Menéndez (2014: 85), who argued that “Diversity of international activities promotes long-term learning by exposing the firm to richer experiences, although such learning only takes place over time”. Firms have a limited capacity for processing and assimilating information in a fixed timeframe (Cohen and Levinthal, 1990). Rapidly increasing  $Speed_{Diversity}$  means that the firm needs more time to absorb and assimilate its new experiences. International diversification, in terms of geographically-dispersed markets, that is overly rapid may lead to information overload that can impair learning, negatively affecting the firm’s ability to internalize potentially useful information from its international activities (Hitt et al., 1997; Huber, 1991; Chang, 2007; Yang et al., 2017).

Broadly, our results suggest that rapid international expansion offers some important financial and non-financial growth opportunities for INVs. However, these advantages are not leveraged automatically. The contribution of post-entry speed of internationalization to performance is contingent on the path-dependent development processes of INVs, their capacities to learn from international operations, and their abilities to cultivate new capabilities and adapt to new markets. On the other hand, overly-rapid international expansion may expose

a firm to fundamental challenges that can hamper its learning and capability development. International growth that is too quick can potentially lead to unfavorable consequences or “growing pains” (Flamholtz and Randle, 1990), endangering survival (Sapienza et al., 2006; Yang et al., 2017). This resonates with the conclusion of Prashantham and Young (2011: 285), that “Internationalizing too slowly may mean lost growth opportunities but internationalizing too rapidly could be fatal”.

In contrast to the prevailing view in the organizational learning literature that PSI has a positive, linear relationship with performance, we found evidence of more complex relationships. Some of the findings in this study can be explained based on the concept of time compression diseconomies (TCDs), which Dierickx and Cool (1989) defined as the inefficiencies that arise because of accelerating organizational processes. In the context of an international expansion process, TCDs can occur due to the fact that, under the condition of rapid international growth, firms have less time to evaluate their new experiences, assimilate them, and apply them to organizational routines. This makes it less likely that extremely rapid internationalizers will be able to fully enjoy the potential advantages of their new experiences (Vermeulen and Barkema, 2002; Jiang, Beamish, and Makino, 2014).

The TCD framework provides complementary insights to organizational learning theory. While learning theory emphasizes the contribution of rapid international growth to knowledge creation and competitive advantage, TCD highlights how rapid international expansion can hamper organizational learning and firm performance. Thus, by combining these two perspectives, we are able to interpret the trade-offs among various costs and benefits associated with PSI.

Firms that adopt an overly-rapid international expansion strategy may incur higher costs due to TCDs, as they are likely to deplete their scarce resources and exhaust their

capabilities too quickly, without sufficient time to replenish the resources and renew the capabilities (Ellis, 2007; Cieřlik et al., 2015; Ruzo et al., 2011). Given that INVs tend to be resource-constrained, relative to larger firms and even traditional exporting SMEs, TCDs are likely to have a more pronounced impact on INVs' international performance (Prashantham and Young, 2011). Rapid international growth can be destabilizing for INVs, as it places substantial pressure on their limited resource base and challenges their configuration of capabilities (Chetty et al., 2014; Chetty and Campbell-Hunt, 2003). Consequently, at some point, the benefits of rapid international growth strategy can be offset by the costs related to increased TCDs.

We find rather strong evidence that the pitfalls of blindly pursuing a rapid international expansion strategy are potentially quite detrimental. This is especially important for INVs, as they are likely to have fewer resources and more limited knowledge and experience, which can impede their competitiveness in international markets and increase their likelihood of failure (Musteen, Francis, and Datta, 2010; Zahra, 2005; Zahra, Sapienza, and Davidsson, 2006). It is critical for such firms to manage the trade-off between learning advantages of rapid international growth and the impediments caused by TCD, to enhance the potential benefits from international expansion.

### **Limitations and Suggestions for Future Research Direction**

Several limitations should be acknowledged in this study that, in turn, may lead to opportunities for future research. First, the scope of this research is circumscribed by its focus on INVs from New Zealand. In addition to limiting the size of our sample and the ensuing explanatory power of our models, this raises questions about the generalizability of the findings to firms based in other countries. It is generally acknowledged that performance implications of different internationalization trajectories are context-specific (Terjesen, Hessels, and Li,

2016). In future research, efforts should be made to test the generalizability and external validity of these findings by replicating this research in other contexts.

Second, future research may consider defining INVs using a continuum approach; rather than a rigid cut-off, a continuous scale can be used to represent the degree of “INVness”. A similar approach has been utilized by Kuivalainen et al. (2007) and Cannone and Ughetto (2014). This might yield more cross-context comparability.

Third, as this study exclusively focuses on exporting SMEs, we did not consider other entry modes. However, there is evidence that SMEs’ entry mode choice affects their control over foreign activities and has performance implications (Stoian, Rialp, and Dimitratos, 2017; Laufs and Schwens, 2014; Dimitratos et al., 2014; Hollender, Zapkau, and Schwens, 2017). The question of whether, and how the internationalization mode may affect the PSI-performance relationship merits further investigation.

Fourth, despite the interest in the role of export promotion agencies and programs on SMEs’ internationalization (e.g., Dominguez, 2017; Haddoud, Jones, and Newbery, 2017; Wilkinson and Brouthers, 2006), little is known about their impact on successful rapid international growth.

Finally, another limitation pertains to our cross-sectional research design. Developing a deep understanding of the dynamics of internationalization will require a longitudinal approach that enables researchers to explore firms’ temporal evolutions. In addition, some of our questions required respondents to provide information about past events; a longitudinal design can mitigate concerns regarding retrospective bias (Henry et al., 1994). Therefore, we call for longitudinal investigations on the post entry internationalization activities of INVs, especially the performance consequences of PSI.

## **Managerial implications**

Fast-paced international expansion can be a source of competitive advantage for INVs. In order to secure strategic positioning, particularly when competing in a dynamic environment, firms may need to work to keep up with their competitors with respect to expansion speed. However, faster may not always be better. INV managers should be aware of the complexities, and the potentially detrimental effects, of rapid international growth, and avoid blindly pursuing a fast-paced international expansion strategy. In particular, managers of small firms that face resource constraints and have a limited international experience base may need to be rather cautious and selective when deciding how and when to ramp up the speed of internationalization.

Rapid internationalization is an important strategic weapon that should be managed properly. Like an experienced chess player who plans ahead for the next moves and mentally examines different variations, managers aspiring to rapid international expansion need to have a broad understanding of their strategic plans for international markets and visualize a series of strategic moves. Our findings suggest that managers should also keep a close watch on both the financial and nonfinancial aspects of performance, and be aware of the potential for a positive relationship between growth and performance to turn negative.

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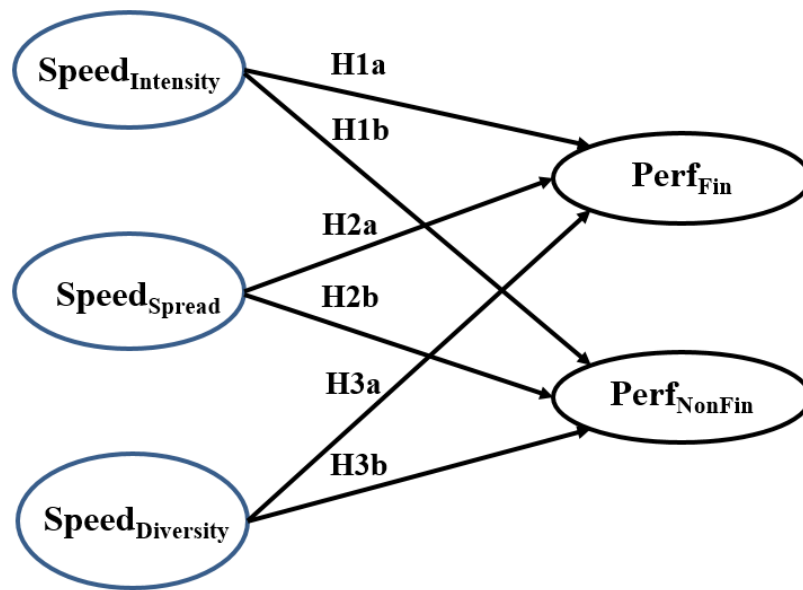
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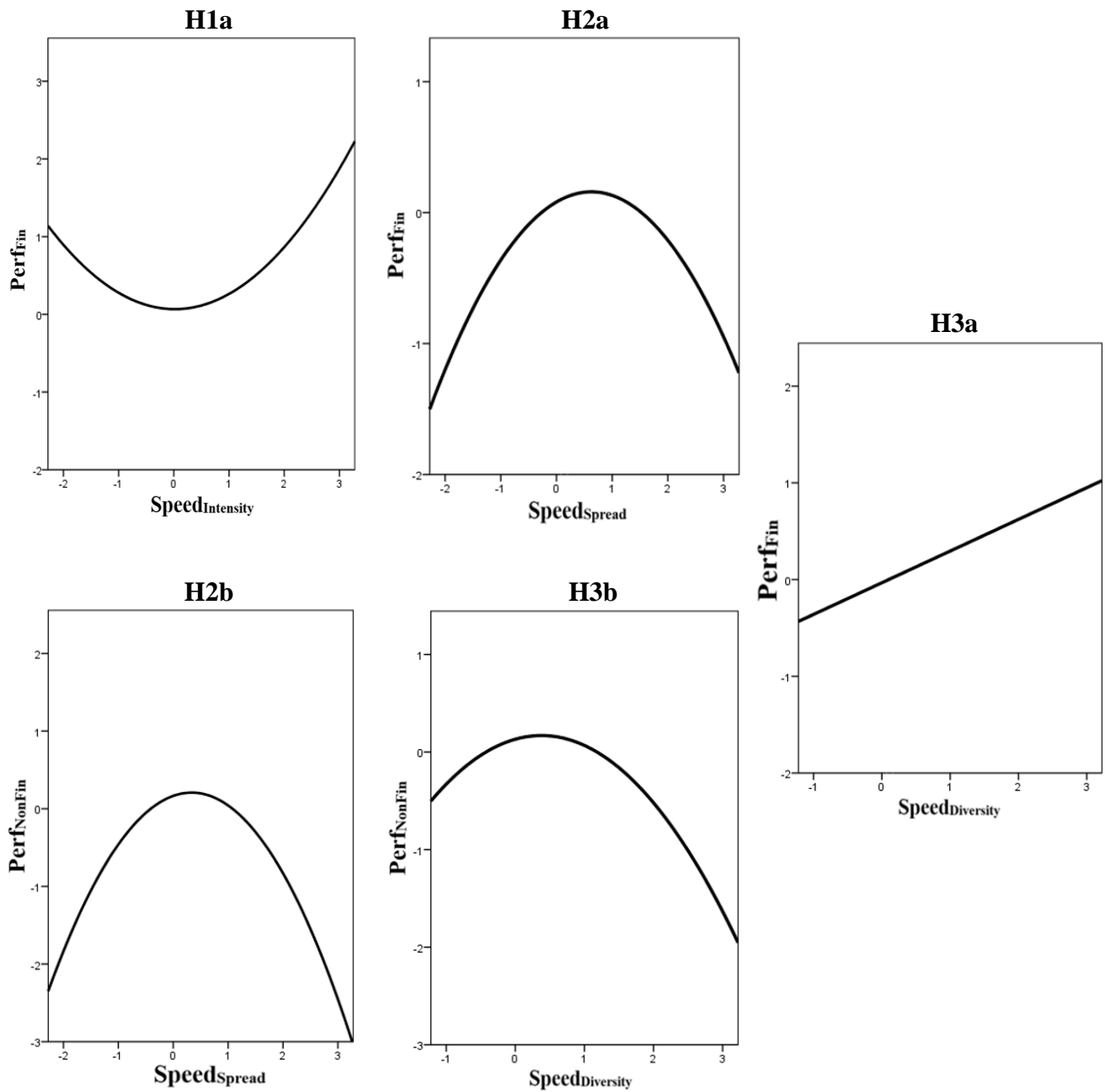
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**Figures and tables**



*Figure 1 Conceptual framework*





*Figure 2 Relationship among dimensions of post-entry speed of internationalization and dimensions of export performance*

Table 1 Factor analysis results for export performance

Factor	Item	Mean	SD	EFA loadings <sup>a</sup>		% Variance explained	Cronbach's $\alpha$
Financial export performance	Export profitability	4.51	1.65	-0.30	<b>0.84</b>	21.98	0.73
	Export market share	2.99	1.70	-0.06	<b>0.89</b>		
Non-financial export performance	Gaining a foothold in international markets	4.61	1.86	<b>0.90</b>	0.11	60.09	0.95
	Strengthening strategic positioning	4.26	1.82	<b>0.89</b>	0.09		
	Building a strong reputation for the company	4.66	1.83	<b>0.92</b>	-0.01		
	Gaining new customers	4.78	1.80	<b>0.91</b>	0.10		
	Building network relationships	4.83	1.80	<b>0.91</b>	0.04		

<sup>a</sup> Note. The extraction method for EFA is Principal Component Analysis. The rotation method is Varimax, with Kaiser normalization. Bold figures are the higher factor loadings. Total variance explained= 82.07%

Table 2 Descriptive statistics and correlations

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1 Financial Performance	0.00	1.00												
2 Non-Financial Performance	0.00	1.00	0.00											
3 Age at Internationalization	2.44	1.66	-0.25**	0.20*										
4 Firm Size	2.79	1.18	-0.01	0.01	0.14									
5 Industry ( <i>Dummy</i> )	0.65	0.47	-0.05	0.83**	0.25**	0.01								
6 Exporting experience	4.87	0.99	0.09	0.05	0.01	0.05	0.21							
7 Age of firm	2.13	0.90	-0.20*	0.18	0.04	-0.02	0.16	0.19*						
8 Speed <sub>Intensity</sub>	0.09	0.07	0.47**	-0.19	-0.07	-0.06	-0.15	-0.13	-0.71**					
9 Speed <sub>Spread</sub>	0.16	0.10	0.10	0.10	0.18	0.26*	0.08	-0.06	-0.57**	0.54**				
10 Speed <sub>Diversity</sub>	0.13	0.09	0.26**	0.03	0.03	0.15	0.02	-0.06	-0.56**	0.61**	0.86**			
11 (Speed <sub>Intensity</sub> ) <sup>2</sup>	0.01	0.02	0.40**	-0.20*	-0.03	-0.06	-0.12	-0.09	-0.57**	0.95**	0.48**	0.55**		
12 (Speed <sub>Spread</sub> ) <sup>2</sup>	0.03	0.04	0.05	0.01	0.08	0.26*	0.03	-0.04	-0.50**	0.54**	0.93**	0.83**	0.52**	
13 (Speed <sub>Diversity</sub> ) <sup>2</sup>	0.02	0.03	0.20*	-0.07	-0.06	0.16	-0.04	-0.04	-0.49**	0.62**	0.82**	0.93**	0.60**	0.90**

\*\* Significant correlation at 0.01 (two-tailed).

\* Significant correlation at 0.05 (two-tailed).

Table 3 Models for financial export performance

	Model 1a Baseline for models 2-3	Model 1b Baseline for models 4-7	Model 2 H1a	Model 3	Model 4 H2a	Model 5	Model 6 H3a	Model 7
(Constant)	-0.560 (0.514)	-0.261 (0.513)	-0.891 <sup>†</sup> (0.515)	-1.154* (0.505)	-0.275 (0.522)	-0.349 (0.516)	-0.465 (0.521)	-0.514 (0.519)
Age at Internationalization	-0.424* (0.193)	-0.428* (0.188)	-0.541** (0.193)	-0.509** (0.187)	-0.434* (0.192)	-0.551** (0.199)	-0.443* (0.186)	-0.525** (0.193)
Firm Size	0.012 (0.076)	0.007 (0.074)	0.014 (0.074)	0.033 (0.071)	0.003 (0.078)	0.014 (0.077)	-0.020 (0.075)	-0.013 (0.074)
Industry	0.044 (0.186)	0.128 (0.184)	0.132 (0.184)	0.212 (0.179)	0.121 (0.189)	0.071 (0.188)	0.079 (0.184)	0.046 (0.184)
Exporting experience	0.112 (0.090)	0.156 <sup>†</sup> (0.090)	0.159 <sup>†</sup> (0.090)	0.159 <sup>†</sup> (0.087)	0.155 <sup>†</sup> (0.090)	0.154 <sup>†</sup> (0.089)	0.151 <sup>†</sup> (0.089)	0.151 <sup>†</sup> (0.088)
Age of firm		-0.253** (0.097)			-0.239 <sup>†</sup> (0.125)	-0.176 (0.128)	-0.125 <sup>†</sup> (0.120)	-0.091 (0.122)
Speed <sub>Intensity</sub>			0.250* (0.095)	0.112 (0.103)				
(Speed <sub>Intensity</sub> ) <sup>2</sup>				0.200** (0.068)				
Speed <sub>Spread</sub>					0.030 (0.173)	0.221 (0.197)		
(Speed <sub>Spread</sub> ) <sup>2</sup>						-0.256 <sup>†</sup> (0.132)		
Speed <sub>Diversity</sub>							0.211 <sup>†</sup> (0.119)	0.361 (0.155)
(Speed <sub>Diversity</sub> ) <sup>2</sup>								-0.109 <sup>†</sup> (0.072)
R <sup>2</sup>	0.058	0.115	0.116	0.184	0.115	0.146	0.141	0.159
Adjusted R <sup>2</sup>	0.023	0.073	0.074	0.137	0.065	0.089	0.091	0.102
ΔR <sup>2</sup>			0.058	0.068	0.000	0.031	0.026	0.018
ΔF	1.640	2.755*	6.924*	8.803**	0.031	3.752 <sup>†</sup>	3.124 <sup>†</sup>	2.280
Maximum VIF	1.12	1.13	1.19	1.40	1.85	2.47	1.69	2.81

Notes: Standard errors are in parentheses. † p < 0.10; \* p < 0.05; \*\* p < 0.01; \*\*\* p < 0.001.

Table 4 Models for non-financial export performance

	Model 8b Baseline for models 9-10	Model 8a Baseline for models 11-14	Model 9 H1b	Model 10	Model 11 H2b	Model 12	Model 13 H3b	Model 14
(Constant)	-1.243*** (0.309)	-1.220 (0.318)	-1.263*** (0.320)	-1.184*** (0.324)	-1.274 (0.322)	-1.347 (0.310)	-1.238 (0.328)	-1.28 (0.324)
Age at Internationalization	-0.016 (0.116)	-0.016* (0.117)	-0.023 (0.120)	-0.032 (0.120)	-0.038* (0.118)	-0.151** (0.119)	-0.017* (0.117)	-0.087** (0.120)
Firm Size	0.010 (0.045)	0.010 (0.046)	0.010 (0.046)	0.005 (0.046)	-0.006 (0.048)	0.005 (0.046)	0.007 (0.047)	0.014 (0.046)
Industry	1.569*** (0.112)	1.576 (0.114)	1.574*** (0.114)	1.550*** (0.115)	1.548 (0.117)	1.499 (0.113)	1.571 (0.116)	1.543 (0.115)
Exporting experience	0.068 (0.054)	0.071† (0.056)	0.071 (0.056)	0.070 (0.055)	0.068† (0.056)	0.067† (0.053)	0.071† (0.056)	0.071† (0.055)
Age of firm		-0.020** (0.06)			0.033† (0.077)	0.095 (0.077)	-0.008† (0.076)	0.020 (0.076)
Speed <sub>Intensity</sub>			0.0150 (0.059)	0.056 (0.066)				
(Speed <sub>Intensity</sub> ) <sup>2</sup>				-0.060 (0.043)				
Speed <sub>Spread</sub>					0.116 (0.107)	0.301 (0.118)		
(Speed <sub>Spread</sub> ) <sup>2</sup>						-0.249† (0.079)		
Speed <sub>Diversity</sub>							0.019 (0.075)	0.147 (0.097)
(Speed <sub>Diversity</sub> ) <sup>2</sup>								-0.092† (0.045)
R <sup>2</sup>	0.670	0.670	0.670	0.676	0.674	0.702	0.670	0.683
Adjusted R <sup>2</sup>	0.657	0.654	0.654	0.657	0.655	0.682	0.651	0.662
ΔR <sup>2</sup>			0.000	0.006	0.004	0.028	0.000	0.013
ΔF	54.195***	43.018***	0.064	1.955	1.184	9.797**	0.066	4.227*
Maximum VIF	1.12	1.13	1.19	1.40	1.85	2.47	1.69	2.81

Notes: Standard errors are in parentheses. † p < 0.10; \* p < 0.05; \*\* p < 0.01; \*\*\* p < 0.001.