International Business Review 25 (2016) 806–819

Contents lists available at ScienceDirect

International Business Review

journal homepage: www.elsevier.com/locate/ibusrev

Experience, age and exporting performance in UK SMEs

James H. Love [a,*], Stephen Roper [a], Ying Zhou [b]

[a] Enterprise Research Centre and Warwick Business School, University of Warwick, Coventry CV4 7AL, UK
[b] Department of Economics, University of Birmingham, Birmingham B15 2TT, UK

ARTICLE INFO

Article history:
Received 14 October 2014
Received in revised form 28 September 2015
Accepted 1 October 2015
Available online 16 October 2015

Keywords:
Exporting
SME
International experience
Firm age
Innovation

ABSTRACT

We consider the determinants of SME exporting performance using a survey of internationally engaged UK SMEs. We first develop a model incorporating organisational and prior managerial learning effects. Our empirical analysis then allows us to identify separately the positive effects on exporting from the international experience of the firm and the negative effects of firm age. Positive exporting effects also result from grafted knowledge – acquired by the recruitment of management with prior international experience. Innovation also has positive exporting effects with more radical new-to-the-industry innovation most strongly linked to inter-regional exports; new-to-the-firm innovation is more strongly linked to intra-regional trade. Early internationalisation is also linked positively to the number of countries to which firms export and the intensity of their export activity. We find no evidence, however, relating early internationalisation to extra-regional exporting, suggesting that early-exporting SMEs tend be 'born regional' rather than 'born global'.

1. Introduction

The ability of small firms to internationalise has received significant research attention (D'Angelo, Majocchi, Zucchella, & Buck, 2013; Esteve-Perez & Rodriguez, 2013; Freeman, Styles, & Lawley, 2012; Gashi, Hashi, & Pugh, 2014). Alternative models of internationalisation have been explored as have the links between internationalisation and resource availability (Aliouche & Schlentrich, 2011; Hsu, Chen, & Cheng, 2013; Sui & Yu, 2012). For small firms, in particular, attention has often focussed on how resource and informational constraints shape firms' internationalisation strategy and actions, and how these constraints can best be overcome. Much of the literature on the internationalisation of small and medium-sized enterprises (SMEs) involves a contrast between the process or stages approach, originated by Johanson and Vahlne (1977), and the international new ventures or 'born global' approach (Knight & Cavusgil, 2004; Oviatt & McDougall, 1994). Despite the critiques levelled at it (e.g. Forsgren, 2002), the process model of internationalisation remains influential in international business research. With its emphasis on incremental, experience-based learning, it has an intuitive appeal, especially when considering the process of internationalisation among SMEs with an established domestic market position. Exporting – the focus of our analysis here – is often the initial stage of international activity for SMEs (Leonidou, Katsikeas, & Coudounaris, 2010; Wolff & Pett, 2000), and is important because it allows firms to accumulate valuable market, institutional and product knowledge which can be of use in other foreign markets (Majocchi, Bacchiocchi, & Mayrhofer, 2005; Sharma & Blostermo, 2003).

If, as envisaged by the process model, SME internationalisation is driven mainly by incremental, organisational learning, we would expect both the geographical spread and intensity of exporting to be linked to the international experience of the firm. The empirical literature, however, suggests rather ambiguous results due perhaps to data limitations which restrict some studies and conflate experience with firm age and learned and grafted experience (Fletcher & Harris, 2012). Some studies, for example, use firm age as a proxy for the duration of firms' internationalisation experience (e.g. Majocchi et al., 2005; D'Angelo et al., 2013) implicitly assuming that age and internationalisation experience will both be positively related to the extent or intensity of firms' international engagement. However, a priori we might expect international experience and firm age to work in opposite directions with respect to exporting performance: international experience is likely to be positively related to the potential for learning (Johanson & Vahlne, 1977); firm age on the other hand may be linked to sclerotic thinking, inflexibility and an inability to change strategy and/or behaviour.

More recently, empirical analysis has extended to consider the geographical scope of firms' internationalisation, and in particular whether it is intra- or inter-regional. This arises from the

* Corresponding author.
E-mail addresses: jim.love@wbs.ac.uk (J.H. Love), stephen.roper@wbs.ac.uk (S. Roper), zhouyy@bham.ac.uk (Y. Zhou).

http://dx.doi.org/10.1016/j.ibusrev.2015.10.001

suggestion that the costs of foreignness may differ across countries and across regions, with the liability of inter-regional foreignness being greater than that which occurs within global or 'triad' regions. While this issue has been principally studied at the level of the multinational enterprise (Driffield, Love, & Yang, 2014; Rugman & Verbeke, 2004a, 2004b, 2005), the issue is also relevant to the internationalisation of SMEs. If there is a greater cost of foreignness for firms operating in inter-regional markets, this may be a particular issue for SMEs which are generally regarded as lacking the internal resources of larger firms, and hence find it more difficult to operate in geographically, institutionally and culturally distant markets. Despite the potential importance of this topic, there is relatively little research in the area. There is some evidence that there are differences in the internal attributes of SMEs which operate across regional or global markets (Kuivalainen, Sundqvist, & Servais, 2007; Nkongolo-Bakenda, Anderson, Ito, & Garven, 2010), and that the determinants of exporting performance among SMEs may differ depending on whether the firm is operating within its home region or across different global regions (D'Angelo et al., 2013). However, we still know little about how much experience matters in terms of helping SMEs enter new regional markets, and how this differs from the role of experience in shaping other aspects of SMEs' international profile.

An obvious limitation of the process model of internationalisation is its concentration exclusively on the firms' experiential knowledge and the implicit assumption that firms can only gain the knowledge necessary for exporting through experience and organisational learning. By contrast, the international new ventures or 'born global' literature takes a broader view of the available internal and external knowledge sources for internationalisation (Fernhaber, McDougall, & Shepherd, 2009), including the prior international experience of management (Ganotakis & Love, 2012), knowledge obtained from hiring internationally experienced managers (Fletcher & Harris, 2012), and knowledge obtained from partners and major customers (Presutti, Boari, & Fratocchi, 2007). However, despite the emphasis of this literature on firms that internationalise early and quickly, relatively little is still known about the geographical spread of early exporters versus later exporters, separately from the experience issue. This matters because recent research suggests that early exporters tend to show a different pattern of geographical spread of export markets to those which export later. While early exporters have a greater geographical spread of export markets than other types of exporters, their choice of export markets tends to be more limited than late exporters in terms of institutional distance (Gallego & Casillas, 2014). This suggests that exporting early in the firm's lifecycle should be considered as a separate issue from that of experience per se, and is one which could confound the apparent effect of age and experience if not specifically accounted for.

This suggests a number of gaps in the current literature, and we address several of these. We use data from a sample of internationally engaged UK SMEs and examine three measures of exporting, including geographical scope in terms of countries and regions exported to, and export intensity (exports as a proportion of total sales). First, we examine the contribution of firm-level experience to exporting scope and intensity after allowing explicitly for the effects of firm age. This allows us to differentiate clearly between the effects of experience and age at the firm level, helping to resolve some of the ambiguity in the empirical literature. Second, we specify and test a model which considers the effects on internationalisation both of the experience of the firm overall and also that of the senior management team, allowing separately for the effects of 'grafted' knowledge (Fletcher & Harris, 2012). Third, we consider these age and experience effects both on the geographic scope and intensity of exports overall, and specifically on extra-regional geographic scope. This adds to the very limited research which considers the determinants of extra-regional internationalisation among SMEs (e.g. D'Angelo et al., 2013), and thus contributes to the 'regional versus global' debate which has been largely the preserve of MNE research (Rugman & Verbeke, 2004a, 2005). Finally, we allow separately for the influence of early exporting on the geographic scope and intensity of SME exporting, and specifically consider whether early exporting influences intra- or inter-regional export performance after allowing for experience effects.

2. Knowledge, learning and exporting: theory and hypotheses

Firms' ability and willingness to internationalise depends strongly on their knowledge of international markets (Schmidt & Sofka, 2009). Conversely, a lack of knowledge about international markets is often cited by firms as one of the main barriers to exporting and internationalisation (Roper & Malshe, 2013). In the context of organisational learning theory, internationalisation can therefore be seen as a process of knowledge and learning accumulation that takes place within the firm (Barkema & Vermeulen, 1998; Yeoh, 2004). Exposure to international markets enhances a firm's technological (but also marketing) knowledge, which in turn forms the basis for the development of further learning (Yeoh, 2004). Thus experience helps firms overcome the difficulties and uncertainties of going international (Westhead, Wright, & Ucbasaran, 2001).

Information or knowledge about international markets can, however, be acquired through both direct experience and indirectly through recruitment, social networks or external advisory services (Fletcher & Harris, 2012). More generally, Huber (1991) identifies five main methods of knowledge acquisition, all of which have been incorporated into different aspects of the international business literature. These are: congenital knowledge, which the firm founders' possess before venture creation; grafted knowledge, acquired by hiring managers with relevant experience; experiential knowledge, acquired as the firm carries out its normal business activities, and which cannot readily be acquired in any other way; vicarious learning, resulting from observing and imitating the actions of other businesses; and search, which involves explicitly seeking relevant market knowledge for international expansion.

The international business literature has traditionally strongly emphasised the experiential aspect of learning as envisaged in the process approach to internationalisation (Johanson & Vahlne, 1977). Here, incremental movements into increasingly distant markets, both geographically and culturally, are facilitated by experiential learning, minimising the commitment and risks involved in the internationalisation process while helping the firm build up the knowledge necessary to become more international in scope. This may involve deliberate learning, but because it derives from the process of 'doing business', experiential knowledge is likely to arise simply as an unintentional consequence of operating in an international context, and is therefore difficult or impossible to acquire in different ways (Casillas, Barbero, & Sapienza, 2015). Eriksson, Johanson, Majkgård, and Sharma (1997) and Eriksson, Majkgård, and Sharma (2000) stress that market knowledge comprises both business and institutional knowledge. They demonstrate that a firm's experiential internationalisation knowledge, that is its experience of organising the process of going international in different settings, as embedded in the routines and organisational practices of the firm, is a critical element in reducing the perceived cost of the internationalisation process. Experiential learning may also offset negative attitudes and perceptions towards foreign markets, and lead to more realistic expectations of the effects of exporting on the growth and

development of the firm (Gray, 1997; Shrader, Oviatt, & McDougall, 2000).

More recently the 'born global' or international new ventures literature has combined insights from the international business and entrepreneurship literatures to shed light on businesses that become international early in their life cycle, and do so very rapidly (Oviatt & McDougall, 1994, 2005; Rialp, Rialp, & Knight, 2005). This literature draws on a wider array of potential sources of knowledge than simply the firm's experience, emphasising particularly the congenital and grafted learning sources envisaged by Huber (1991). For example, founders with previous international experience are in a better position to recognise, assess and take advantage of international opportunities (De Clerq, Sapienza, Yavuz, & Zhou, 2012; Ganotakis & Love, 2012; Casillas et al., 2015). Hiring managers with international experience and 'grafting' their knowledge to the existing knowledge stock of the firm can both directly increase the export potential of the firm, but also improve its absorptive capacity in terms of other learning modes such as conscious search (De Clerq et al., 2012). This, in turn, has fed into the development of the process model, with Johanson and Vahlne (2009) updating their original conceptual model to include the role of knowledge gained from other sources of learning including congenital and grafted knowledge, with an emphasis on the important role of managerial networks in the process of internationalisation.

Our principal contribution is to differentiate between the impact of experience and age on the exporting performance of SMEs. We concentrate on the firm's experiential knowledge as stressed by the process model, but also allow explicitly for grafted experience. In addition, we allow indirectly for some aspects of vicarious learning through firms' innovation activity, and consider the role of early exporting. Crucially, we allow separately for age and experience effects, helping to resolve an issue that has proved problematic for conceptual and empirical work in the area.

2.1. Experiential learning

Although by no means universally admired, the process model of internationalisation has proved to have enduring appeal, both conceptually and empirically. In conceptual terms, its simplicity and largely intuitive nature add to its appeal, but also provides a basis for critics of the approach (e.g. Forsgren, 2002). Empirically there is considerable support for the process model, ranging beyond its origins in Scandinavia (Eriksson et al., 1997, 2000; Johanson & Vahlne, 1977) to include numerous European countries (Chetty & Eriksson, 2002), Asian economies including Korea (Erramilli, Srivastava, & Kim, 1999) and Taiwan and Singapore (Pandian & Sim, 2002), and small developing economies such as Cost Rica (Lopez, Kundu, & Ciravegna, 2009).

As Clarke, Tamaschke, and Liesch (2013) conclude in a comprehensive review, "[t]he concept of international experience plays a leading role in explaining firm internationalization" (page 265). It is reasonable to conclude, therefore, that in general firm-level experience will be positively associated with internationalisation. However, with regard specifically to exporting patterns the impact of experiential learning from international experience may be non-linear, for two reasons linked to timing and order effects. First, since experiential learning is often most significant during early experiences it is anticipated that firms may learn less from each additional time period during which they engage with international markets. Secondly, there may be an 'order' effect as firms enter relatively 'easy' markets during their first years in international markets but then find it becomes progressively harder to enter more distant/different markets where the liability of foreignness is greater. In these markets previous experience is likely to have less value leading to a declining experiential learning effect on export success. Thus, although international experience is always valuable, its marginal benefit for trading performance is likely to decrease as the duration of firms' engagement with international markets increases. This leads to our first hypothesis:

H1. Firms' international experience has a positive but non-linear (decreasing) relationship with the geographical scope and intensity of exports.

2.2. Firm age

In much of the empirical literature on export performance there is a tendency to conflate age and experience, or at least to use age as a proxy for experience where data on the latter are unavailable (e.g. D'Angelo et al., 2013; Di Maria & Ganau, 2014; Majocchi et al., 2005). This is unfortunate, as while the effect of experience may generally be regarded as positive, there is much less certainty about age effects: indeed, the two effects may run in opposite directions. While age may be an (indirect) indicator of experience, it may also be an indicator of sclerotic thinking or of inertia on the part of the management team or the firm as a whole. Thus 'competency traps' and routines may develop which, although useful in some settings, are less useful where conditions are very different, yet are difficult to unlearn (D'Angelo et al., 2013). Perhaps not surprisingly, therefore, the empirical literature yields mixed results, with some studies finding age is positively related to export performance (Majocchi et al., 2005), others that it has a negative effect (Kirpalani & McIntosh, 1980), while yet others find the relationship between firm age and export performance to be insignificant (D'Angelo et al., 2013; Ganotakis & Love, 2011).

Firms' organisational learning capability is not uniform and may be linked both to the rigidity or flexibility of organisational routines (Leonard-Barton, 1992) and to the quality of firms' human capital (Cohen & Levinthal, 1990). Flexibility or openness to new knowledge – particularly that originating outside the firm – may be negatively related to firm age as managerial routines are established and organisational rigidities develop (D'Angelo et al., 2013; Henderson, 1999; Sorensen & Stuart, 2000). In the context of internationalisation, this suggests that organisational learning from international experience may have more limited benefits for export performance the older the firm. This suggests:

H2. For any given level of international experience, geographical scope and intensity of exports are negatively associated with firm age.

2.3. Grafted experience

While organisational learning provides one route through which firms may acquire the knowledge on which to base internationalisation decisions or strategy, it is not the only way such knowledge may be acquired (Bruneel, Yli-Renko, & Clarysse, 2010). Suitable knowledge may also be acquired through the prior experience of management, what Fletcher and Harris (2012) following Huber (1991) call 'grafted' knowledge. Recruitment of managers with international or export experience represents a direct injection of international understanding into the firm and is likely ceteris paribus to increase the extent of internationalisation. Reuber and Fischer (1997), for example, demonstrate that Canadian software companies led by managerial teams with international experience internationalise more quickly and more intensively than other similar firms. Ganotakis and Love (2012) provide evidence that different types of managerial skills are needed for entering and succeeding in international markets. Commercial and managerial experience, for example, may help

firms to become exporters, but once over the exporting hurdle it is the level of managerial education, rather than experience, that has a substantially positive effect.

International experience acquired through recruitment may augment a firm's stock of international knowledge, however much international knowledge it has previously acquired through experiential learning. We therefore hypothesise

H3. For any given level of international experience, geographical scope and intensity of exports are positively linked to management's prior international experience.

2.4. Early exporters

Our first three hypotheses treat international experience, prior managerial experience and age as having uniform effects on exporting success across the population of firms. Recent studies have suggested, however, that for some young firms, early exporting experiences may lead to rather different export outcomes and geographical spread of export markets compared to firms which export later in their lifecycle (Gallego & Casillas, 2014; Jones, Coviello, & Tang, 2011).

These firms have been variously labelled as born globals (Knight & Cavusgil, 2004), international new ventures (Oviatt & McDougall, 1994; Zahra, 2005) or early internationalising firms (Rialp et al., 2005), and are characterised by high levels of entrepreneurial orientation and a rapid pattern of internationalisation. Such firms may also have high levels of congenital knowledge (Huber, 1991) embodied in their founders, and which is relevant to their future internationalisation. Bruneel et al. (2010) show that congenital and inter-organisational learning can substitute for experiential learning in the internationalisation of young firms, which may be relevant for exporting patterns. For example, in their analysis of exporting performance among relatively new hi-tech enterprises, Ganotakis and Love (2012) also show that the relevant prior experience of the founding team is significant in shaping firms' exporting intensity and propensity.

This helps explain why early exporters exhibit different geographical export development patterns from later exporters. The high international entrepreneurial orientation shown by early exporters, coupled with the 'learning advantages of newness' (Autio, Sapienza, & Almeida, 2000; Sapienza, Autio, George, & Zahra, 2006), propels them to rapid geographical spread of markets. However, this entrepreneurial advantage does not extend to markets with substantial institutional distance: here early exporters are at a disadvantage compared to later exporters, because they have not yet established the institutional legitimacy which allows them to transfer their products easily to institutionally distant markets (Singh, Tucker, & House, 1986). Using data from Spanish firms, Gallego and Casillas (2014) find evidence to support this: specifically, while early exporters have a greater geographical spread of export markets than other types of exporters, their choice of export markets (at least initially) tends to be more limited than late exporters in terms of institutional distance. A similar result is found by D'Angelo et al. (2013) in their analysis of the geographical pathways of Italian SME: younger firms are found to export more extensively within European markets, but this effect does not extend to markets outside the home (EU) region. Failure to allow for this early exporting effect in the empirical analysis might lead to mis-specification of the model with respect to the effects of experience on geographical scope and intensity of exports.

This leads to the fourth set of hypotheses:

H4a. Early exporting is positively associated with geographical scope and intensity of exports.

H4b. Early exporting is negatively associated with extra-regional scope of exports.

2.5. Innovation

One of the key attributes which allows firms to enter new markets is having new, competitive products which can help overcome domestic competition in foreign markets. Innovation can do so by upgrading product quality or by providing customised products which are developed specifically for foreign markets (Rodríguez & Rodríguez, 2005) A large number of firm-level studies have found that there are indeed differences between exporters and non-exporters, and generally find a positive link between innovation and exporting in a variety of contexts (Bleaney & Wakelin, 2002; Cassiman & Golovko, 2011; D'Angelo et al., 2013; Harris & Li, 2009; Lachenmaier & Wößmann, 2006; Lefebvre & Lefebvre, 2001; Roper & Love, 2002; Sterlacchini, 1999).

However, the relationship between innovation and exporting is not simple. In a recent comprehensive review of the literature on SME exporting, innovation and growth, Love and Roper (2015) draw three key conclusions. First, there is a strong positive association between innovation, exporting and SME performance. Second, innovation and exporting work jointly to improve performance: specifically, innovation without access to foreign markets does not seem to provide substantial performance benefits. And third, there is strong element of interdependence in this process. These findings are exemplified by Golovko and Valentini (2011), who examine whether innovation and exporting are complementary for sales growth using a dataset of 1400 Spanish SMEs over a 10-year period. They conclude that innovation and exporting are indeed complementarity. Only SMEs that both innovate and export generate significantly greater sales growth than firms that do neither: doing either exporting or innovation alone does not have this effect.

The reason for this complementarity links back to the issue of organisational learning and knowledge acquisition. For example, there is evidence of 'learning-by-exporting' among SMEs, a situation in which the knowledge gained from exporting to different and highly competitive markets helps firms generate new and improved products, which in turn enable entry to further export markets (Bratti & Felicie, 2012; Love & Ganotakis, 2013; Salomon & Jin, 2008; Salomon & Jin, 2010; Salomon & Shaver, 2005). This type of experiential learning from exposure to foreign markets may have benefits beyond exporting, however, with the potential for higher level or double-looped learning that allows firms to carry out both within-paradigm (improvements to existing products) but also across paradigm (radically new product development) improvements (Love & Ganotakis, 2013). More generally, Tse, Yu, and Zhu (2015) show the productivity gains induced by leaning-by-exporting are largely mediated through product innovation effects. In addition to the learning-by exporting effect there is also strong evidence that innovative firms tend to be more open to external knowledge sources, and more able to absorb the knowledge from external sources (Roper, Du, & Love, 2008; Laursen & Salter, 2006; Love, Roper, & Vahter, 2014), which in turn can help to strengthen the innovation-exporting-performance nexus.

However, while the empirical literature generally supports the view that innovation helps export market entry, there is much less support for the evidence of innovation helping export intensity. For example, using UK data Harris and Li (2009) perform estimations for both manufacturing and services. The key findings are that (endogenous) R&D plays a substantial role in helping establishments become exporters but, conditional on entering export markets, R&D expenditure does not increase export intensity. A

number of other studies have found an insignificant relationship between R&D investment and export intensity (e.g. Lefebvre, Lefebvre, & Bourgault, 1998; Sterlacchini, 2001). This suggests that what really matters for exporting is product innovation rather than R&D, because the ability to compete in international markets is ultimately influenced by the firm's capacity to compete internationally, rather than its investment in research activity (Ganotakis & Love, 2011). This may be especially true for SMEs, where formal R&D measures markedly under-report their research activity and degree of innovativeness (Kleinknecht, 1987). Using a direct measure of innovation outputs (rather than R&D inputs), Ganotakis and Love (2011) come to similar conclusions to Harris and Li based on a sample of UK new technology based firms: product innovation aids export entry, but not export intensity. And, in their study of exporting in US business services, Love and Mansury (2009) find that innovation has a strong positive effect on the probability of exporting but a negative effect on export intensity, conditional on being an exporter.

Since product innovation is generally positively associated with export market entry but not with export intensity, this suggests a positive link with the geographical spread of exporting, which involves moving into successive foreign markets. This leads to our final hypothesis:

H5. Innovation is positively associated with geographical scope of exports, but not with export intensity.

3. Data and estimation

Our analysis is based on data from a regular, large-scale, official survey commissioned by UK Trade & Investment (UKTI), a non-ministerial government department which assists UK firms with export activity and supports and assists inward foreign direct investment. The annual *International Business Strategies, Barriers and Awareness Survey* (UKTI-IBS) is an official survey collecting information on the internationalisation performance of businesses in the UK, and is designed to be representative of firms that are already involved in overseas activity or which are planning to get involved with international activities within the next year. Recent (2012) evidence suggests that around 22.4 per cent of UK SMEs are current exporters, of which around 17.3 per cent export persistently and the remaining 5.1 per cent are intermittent or occasional exporters.[1] This group – around a quarter of UK SMEs – forms the main focus of the UKTI-BIS together with a smaller group of prospective exporters.

Each wave of the UKTI-IBS comprises a telephone survey of 900 internationally active UK firms sampled through a stratified random sample to ensure coverage of both young and older firms in both manufacturing and services.[2] The survey is unusual in providing information on firms' internationalisation experiences along with substantial detail on previous internationalisation experience, innovation activity, size, and other useful firm-specific characteristics. It is therefore particularly appropriate for dealing with the internationalisation activities of SMEs. In the analysis which follows we use data derived only from those respondents with fewer than 250 employees, and taken from the 2011, 2012 and 2013 waves of the survey. This provides approximately 1900 usable observations.

[1] Source: Small Business Survey, 2012, Department of Business Innovation and Skills, London.

[2] Refer to OME (2012), "UK Trade & Investment International Business Strategies, Barriers & Awareness Monitoring Survey 2012, Research Report" JN:4317 and OME (2011), "UK Trade & Investment International Business Strategies, Barriers & Awareness Monitoring Survey 2011, Research Report" JN:4271, for a detailed explanation of the sampling process.

Zucchella, Palamara, and Denicolai (2007) describe export performance on the basis of three key indicators: the speed of entry into a foreign market, the geographic scope of exporting activities, and the level of export intensity (measured as the ratio of export sales to total sales). We concentrate on the latter two indicators, but allow for speed of entry through the early exporting effect discussed above. The key dependent variables for the analysis are therefore the number of countries in which the firm does business, the number of world regions in which it does business, and export intensity. UKTI-IBS asks how many overseas countries and world regions a firm has done business in over the last 5 years (if the business was established more than 5 years ago) or since it was established if the business was established less than 5 years ago. In both cases questions seek a categorical response. In the case of the number of countries, the survey separates firms in the sample into seven bands: firms that do not conduct business overseas, firms conducting business in 1 overseas country, in 2–5 countries, in 6–10 countries, in 11–20 countries, in 21–50 countries, and over 50 countries. We assign a value of 0 to those firms that do not conduct business abroad, and assign a value of 1–6 to the remaining categories, where a higher number indicates a firm that conduct business in a category with a larger number of countries. After removing the large firms with employment larger than 250 and firms with incomplete information we are left with a sample of firms where all of them conducted business in at least one country and one region in the past five years, and none which conducted business in more than 50 countries.

The survey also asks about the geographic region(s) in which a firm has been conducting business. Five world regions are identified: Europe (other than the UK); North America; South America and Latin America; the Middle East and Africa; and Asia Pacific (including Australia, New Zealand, etc.). This provides rather different information about the internationalisation strategy of a business than the question on the number of countries since some firms might choose to concentrate on a specific geographic region while at the same time diversify across the countries within the region. Analysis of these two indicators permits a fuller picture of the impact of internationalisation experiences on firm performance. Again, we focus here on the number of regions to which firms are exporting, rather than examining firms' export presence in any specific regional market. Our last dependent variable is the share of overseas sales as a percentage of a business's overall sales. The UKTI-BIS again seeks responses in bands: <5% of export sales; 6–10 per cent; 11–15 per cent; 16–25 per cent; 26–50 per cent; 51–75 per cent; more than 75 per cent. In the estimation we assign a value of 1 to the first band and increasing integer values to successive export bands. A value of 7 is therefore assigned where overseas sales counts for more than 75% of total turnover.

For modelling the experience curve the key explanatory variable is the duration of firms' international experience, i.e. the length of time it has been doing business in overseas markets. As with the dependent variables this is a banded variable in the firm survey measuring whether firms had: less than two years international experience, 2–3 years, 3–4 years, 4–5 years, 5–10 years, 10–20 years or more than 20 years international experience. The modal category here is 5–10 years of international experience (27 per cent of all respondents), although relatively high proportions of firms also had 10–20 years international experience (19 per cent of respondents) or more than 20 years international experience (15 per cent) (Table 1).

Firm age – reflecting how long ago the business was established in the UK – is measured using similar banded data, with the majority of respondents between five and twenty years old (Table 1). We measure the international experience of the senior management abroad by including a variable which takes value 1 if at least one senior manager had experience of conducting

Table 1
Summary statistics.

Variable	Obs.	Mean	Std. Dev.
Internationalisation – countries (banded 1–5)	1848	2.79	1.18
Internationalisation – regions (banded 1–5)	1844	2.61	1.37
Internationalisation intensity (banded 1–7)	1757	3.17	2.25
2–3 years internationalisation experience	1848	0.08	0.27
3–4 years internationalisation experience	1848	0.06	0.24
4–5 years internationalisation experience	1848	0.11	0.31
5–10 years internationalisation experience	1848	0.27	0.44
10–20 years internationalisation experience	1848	0.19	0.39
Over 20 years internationalisation experience	1848	0.15	0.35
Firm age 2–3	1848	0.05	0.23
Firm age 3–4	1848	0.04	0.20
Firm age 4–5	1848	0.06	0.24
Firm age 5–10	1848	0.28	0.45
Firm age 10–20	1848	0.24	0.43
Firm age over 20	1848	0.27	0.45
Innovative	1504	0.80	0.40
Radical innovative	1504	0.40	0.49
Employees (number)	1504	13.56	27.17
Early internationalising firm	1504	0.56	0.50
Turnover between 10–25 million	1504	0.14	0.35
Turnover above 25 million	1504	0.08	0.28
Experienced senior management	1504	0.37	0.48
Business with formal plan	1504	0.52	0.50
Sell overseas directly via website	1504	0.31	0.46

Source: UKTI-BIS surveys 2011–2013.
Note: Summary statistics based on the sample used in our regression.

international business before joining the company. And, to capture the possible impact of early internationalisation, we define a variable which takes value 1 if the duration of a firms' international experience and its age are in the same timeband category.[3] Other explanatory variables are defined as follows. A firm is defined as innovative if it produced new products, services or processes or engaged in R&D in the previous three years, and radically innovative if the products, services or processes introduced were thought to be new to the industry.[4] Sales turnover is classified into bands. The vast majority of respondents have turnover less than £10 m pa, with 14 per cent in the £10–25 m band and only 8 per cent with turnover greater than £25 m (Table 1). As turnover is in bands which prevents us from generating a detailed measure for productivity, we include both employees and turnover in the equation to capture the impact of both the effect of company size and productivity. We include two other controls in the experience curve models. The capacity of the company for strategic planning is proxied by a dummy variable of whether or not the business has a written business plan: clearly this is a somewhat imperfect proxy, as some firms may engage in strategic planning without having a specific business plan (Fletcher & Harris, 2002). We also include a dummy for those companies that report they sell overseas directly through their website.

Summary statistics and correlations are shown in Tables 1 and 2. The data suggest that while respondents are relatively widespread in terms of the geographical spread of their overseas activity, their international intensity (in terms of overseas sales) is relatively limited. For example, more than half of responding SMEs had overseas sales in between two and ten countries and half operated in at least three global regions, but one third of firms had overseas sales of less than 5% of total sales.

[3] For instance a firm would be classified as early internationalising if its internationalisation experience is between 2 and 3 years and also it has been established for between 2 and 3 years.

[4] This is of course a subjective assessment by the survey respondent. We would here anticipate a positive bias both because firms over-estimate the quality of their own innovation and due to a lack of knowledge of other firms' innovation. The latter effect may be more significant among smaller firms.

3.1. Empirical model

Ordered probit is designed for situations where data on a dependent variable are ranked in ordinal form, but there is no significance to the distance between the ranks, such as in surveys where respondents answer 'high', 'medium' or 'low' to some question. This is appropriate in the present case where responses to the internationalisation questions are banded: it is the relative rank among the different categories of the number of countries in which a firm conducts business that matters rather than the absolute value of the number attributed to the band (e.g. 1 or 5).

In the case of our second dependent variable – the number of world regions in which a firm conducts overseas business – the integer counts clearly have some actual meaning: two regions is twice as many as one region. In this case Poisson regression could be employed to study the impact of internationalisation experiences and age of firm on the number of regions it conducts business in. However, as the prime interest of current study is to understand the relative probability of a firm conducting business in a larger number of regions than the probability of a particular number of regions being selected (i.e. it is the order that matters rather than the count number), and in order to compare directly the results with those of the other dependent variables, we again use ordered probit for this variable.[5]

Because of the random sample nature of each annual survey, it is not possible to treat the data as any form of panel, and thus panel analysis such as fixed-effects estimations are not possible. Instead, we first pool all three waves of UKTI-IBS together and treat them as a large cross-sectional dataset, and allow for year dummies in each estimation. Given that there are five usable categories for both the number of countries and regions in which a firm operates in our sample and that they are monotonically ordinal, the regression model for the first two dependent variables can be written as:

$$y_i^* = \beta_0 + \beta_{IE} IE_i + \beta_A Age_i + \beta_{PE} PE_i + \beta_{EE} EE_i + \beta_{IN} IN_i + \alpha X_i + \epsilon_i \quad (1)$$

And

$$\begin{aligned} y_i &= 1 \;\; if \;\; y_i^* \le u_1 \\ y_i &= 2 \;\; if \;\; u_1 < y_i^* \le u_2 \\ y_i &= 3 \;\; if \;\; u_2 < y_i^* \le u_3 \\ y_i &= 4 \;\; if \;\; u_3 < y_i^* \le u_4 \\ y_i &= 5 \;\; if \;\; u_4 < y_i^* \end{aligned}$$

where y_i denotes the category a firm falls into (i.e. number of countries or world regions in which it operates) given the unobserved latent variable y_i^* (i.e. the index of determinants of how many countries/regions the firm exports to). When the latent variable y_i^* is above a certain cut-off point u_j where $j = 1, 2, 3, 4$, the firm would fall into the appropriate monotonically ordered category as indicated above. For instance, when the latent variable y_i^* is between u_1 and u_2 the firm would choose $y_i = 2$. Other variables in the model are: IE_i denotes internationalisation experience; Age_i the age of the firm; PE_i prior international experience of the management team; EE_i the early exporting experience of the enterprise; and, IN_i whether or not the firm had introduced new products, services or processes during the previous three years. X_i denotes a vector of other control variables including industry and year dummies.

For internationalisation intensity – the proportion of firms' sales derived from exporting – we assume that the latent variable (y_i^*) that determines the actual export intensity category of the firm

[5] The results from Poisson regressions are very similar to those of ordered probit and are available on request.

Table 2
Correlation matrix.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Internationalisation – countries	1.00																							
2	Internationalisation – regions	0.49	1.00																						
3	Internationalisation intensity	0.27	0.37	1.00																					
4	2–3 year internationalisation	−0.05	−0.06	−0.08	1.00																				
5	3–4 year internationalisation	−0.06	−0.05	−0.07	−0.07	1.00																			
6	4–5 year internationalisation	−0.02	−0.03	−0.06	−0.11	−0.09	1.00																		
7	5–10 year internationalisation	0.06	0.00	0.05	−0.19	−0.15	−0.22	1.00																	
8	10–20 year internationalisation	0.04	0.10	0.08	−0.15	−0.12	−0.17	−0.31	1.00																
9	Over 20 year internationalisation	0.12	0.17	0.12	−0.13	−0.10	−0.15	−0.26	−0.21	1.00															
10	Firm age 2–3	0.02	−0.01	−0.02	0.46	−0.06	−0.08	−0.15	−0.12	−0.10	1.00														
11	Firm age 3–4	−0.06	−0.09	−0.05	0.12	0.35	−0.08	−0.13	−0.11	−0.09	−0.05	1.00													
12	Firm age 4–5	−0.02	0.01	−0.01	0.07	0.07	0.39	−0.15	−0.12	−0.10	−0.06	−0.05	1.00												
13	Firm age 5–10	0.01	−0.03	0.01	−0.05	0.04	0.07	0.51	−0.30	−0.25	−0.15	−0.13	−0.15	1.00											
14	Firm age 10–20	−0.05	−0.01	0.02	−0.10	−0.07	−0.03	−0.03	0.49	−0.24	−0.14	−0.12	−0.14	−0.35	1.00										
15	Firm age over 20	0.10	0.12	0.01	−0.14	−0.11	−0.13	−0.20	0.06	0.68	−0.15	−0.13	−0.15	−0.37	−0.35	1.00									
16	Innovative	0.08	0.08	0.01	0.02	0.02	0.01	0.05	−0.01	−0.03	0.03	0.03	−0.02	0.04	0.01	−0.02	1.00								
17	Radical innovative	0.07	0.10	0.08	−0.04	0.03	−0.02	0.01	0.03	−0.01	−0.04	0.04	0.02	0.00	0.00	0.00	0.41	1.00							
18	Employee	0.07	0.11	0.02	−0.06	−0.04	−0.06	−0.05	0.08	0.20	−0.07	−0.05	−0.05	−0.09	−0.03	0.24	0.06	0.06	1.00						
19	Early exporter	0.19	0.23	0.28	−0.11	−0.12	−0.18	0.08	0.10	0.36	0.02	−0.06	0.01	0.09	−0.04	−0.04	−0.04	0.00	0.05	1.00					
20	Turnover between 10–25 m	0.13	0.09	0.10	−0.06	−0.02	0.01	0.02	0.05	0.07	−0.05	−0.05	−0.03	−0.01	−0.03	0.14	−0.02	−0.01	0.17	0.00	1.00				
21	Turnover above 25 million	0.04	0.10	0.07	−0.05	−0.05	−0.05	0.00	0.03	0.14	−0.02	−0.04	−0.03	−0.03	−0.03	0.13	−0.01	0.00	0.46	0.08	−0.13	1.00			
22	Experienced senior mgmt.	0.08	0.11	0.26	0.01	0.00	−0.02	0.03	0.03	−0.01	0.04	0.02	0.02	0.04	−0.01	−0.09	0.06	0.09	0.10	0.15	0.10	0.03	1.00		
23	Business with formal plan	0.07	0.02	0.08	0.04	−0.03	−0.01	−0.01	−0.05	0.00	0.03	0.01	−0.01	0.01	−0.06	−0.02	0.11	0.14	0.15	−0.03	0.13	0.11	0.15	1.00	
24	Sell overseas via website	0.15	0.22	−0.04	0.05	−0.01	−0.02	0.01	−0.02	0.00	0.08	0.03	0.00	−0.02	−0.02	−0.01	0.10	0.01	−0.05	0.05	−0.04	−0.02	−0.07	0.01	1.00

Source: UKTI-BIS Surveys 2011–2013.
Note: The correlation matrix is based on the sample used in our regression.

Table 3
Ordered probit models of the number of countries to which firms export.

Variables	(1)	(2)	(3)	(4)
2–3 year internationalisation experience	0.146	0.160	0.145	0.158
	(0.160)	(0.160)	(0.157)	(0.158)
3–4 year internationalisation experience	0.483***	0.492***	0.498***	0.506***
	(0.175)	(0.175)	(0.173)	(0.173)
4–5 year internationalisation experience	0.638***	0.661***	0.665***	0.685***
	(0.166)	(0.166)	(0.165)	(0.165)
5–10 year internationalisation experience	0.728***	0.744***	0.755***	0.769***
	(0.170)	(0.171)	(0.168)	(0.168)
10–20 year internationalisation experience	0.897***	0.905***	0.928***	0.935***
	(0.205)	(0.206)	(0.203)	(0.204)
Over 20 year internationalisation experience	0.926***	0.956***	0.938***	0.964***
	(0.267)	(0.267)	(0.264)	(0.265)
Firm age 2–3	0.361*	0.398**	0.409**	0.441**
	(0.196)	(0.197)	(0.192)	(0.193)
Firm age 3–4	−0.310	−0.293	−0.289	−0.275
	(0.223)	(0.225)	(0.217)	(0.219)
Firm age 4–5	−0.0467	−0.0392	−0.0176	−0.0114
	(0.204)	(0.206)	(0.201)	(0.202)
Firm age 5–10	−0.244	−0.229	−0.203	−0.190
	(0.192)	(0.195)	(0.188)	(0.190)
Firm age 10–20	−0.368*	−0.355*	−0.342*	−0.331
	(0.211)	(0.213)	(0.206)	(0.208)
Firm age over 20	−0.120	−0.125	−0.0538	−0.0583
	(0.252)	(0.254)	(0.247)	(0.249)
Employee	0.00250	0.00262*	0.00384***	0.00392***
	(0.00158)	(0.00157)	(0.00144)	(0.00143)
Early exporter	0.323***	0.307***	0.315***	0.301***
	(0.0975)	(0.0975)	(0.0975)	(0.0976)
Turnover between 10–25 million	0.437***	0.432***		
	(0.0880)	(0.0881)		
Turnover above 25 million	0.177	0.172		
	(0.132)	(0.133)		
Experienced senior management	0.266***	0.267***	0.286***	0.287***
	(0.0626)	(0.0622)	(0.0628)	(0.0624)
Business with formal plan	0.104*	0.102*	0.149**	0.147**
	(0.0601)	(0.0603)	(0.0592)	(0.0594)
Sell overseas directly via website	0.526***	0.536***	0.504***	0.513***
	(0.0627)	(0.0625)	(0.0618)	(0.0616)
Innovative	0.224***		0.197***	
	(0.0758)		(0.0752)	
Radical innovative		0.159***		0.141**
		(0.0596)		(0.0595)
Constant 1	−0.162	−0.266	−0.230	−0.320
	(0.262)	(0.261)	(0.264)	(0.263)
Constant 2	1.253***	1.147***	1.172***	1.081***
	(0.262)	(0.261)	(0.265)	(0.264)
Constant 3	1.985***	1.880***	1.895***	1.804***
	(0.265)	(0.263)	(0.267)	(0.266)
Constant 4	2.810***	2.703***	2.710***	2.618***
	(0.270)	(0.268)	(0.273)	(0.271)
Observations	1519	1519	1519	1519

Robust standard errors in parentheses.
* $P<0.1$.
** $P<0.05$.
*** $P<0.01$.

Table 4
Ordered probit models of number of regions to which firms export.

Variables	(1)	(2)	(3)	(4)
2–3 year internationalisation experience	0.256*	0.264*	0.254*	0.261*
	(0.145)	(0.147)	(0.144)	(0.146)
3–4 year internationalisation experience	0.403**	0.398**	0.412**	0.407**
	(0.173)	(0.172)	(0.173)	(0.173)
4–5 year internationalisation experience	0.493***	0.505***	0.509***	0.520***
	(0.149)	(0.149)	(0.148)	(0.149)
5–10 year internationalisation experience	0.587***	0.591***	0.607***	0.609***
	(0.147)	(0.149)	(0.146)	(0.148)
10–20 year internationalisation experience	0.955***	0.953***	0.975***	0.972***
	(0.181)	(0.183)	(0.181)	(0.183)
Over 20 year internationalisation experience	0.945***	0.960***	0.951***	0.964***
	(0.240)	(0.241)	(0.240)	(0.242)
Firm age 2–3	0.00199	0.0293	0.0346	0.0592
	(0.200)	(0.201)	(0.197)	(0.198)
Firm age 3–4	−0.558**	−0.545**	−0.548**	−0.536**
	(0.217)	(0.220)	(0.214)	(0.216)
Firm age 4–5	−0.184	−0.175	−0.159	−0.152
	(0.199)	(0.201)	(0.197)	(0.199)
Firm age 5–10	−0.329*	−0.313*	−0.300*	−0.285
	(0.175)	(0.178)	(0.173)	(0.176)
Firm age 10–20	−0.500**	−0.486**	−0.477**	−0.464**
	(0.199)	(0.202)	(0.198)	(0.200)
Firm age over 20	−0.375	−0.374	−0.323	−0.322
	(0.234)	(0.237)	(0.233)	(0.235)
Employee	0.00168	0.00176	0.00292**	0.00298**
	(0.00145)	(0.00145)	(0.00127)	(0.00126)
Early exporter	0.151	0.142	0.151	0.143
	(0.0942)	(0.0943)	(0.0944)	(0.0946)
Turnover between 10–25 million	0.277***	0.276***		
	(0.0864)	(0.0866)		
Turnover above 25 million	0.222*	0.221*		
	(0.135)	(0.134)		
Experienced senior management	0.204***	0.203***	0.220***	0.219***
	(0.0614)	(0.0613)	(0.0615)	(0.0614)
Business with formal plan	−0.0315	−0.0406	−0.000330	−0.00969
	(0.0615)	(0.0613)	(0.0611)	(0.0609)
Sell overseas directly via website	0.601***	0.611***	0.590***	0.599***
	(0.0638)	(0.0636)	(0.0633)	(0.0631)
Innovative	0.171**		0.156**	
	(0.0767)		(0.0764)	
Radical innovative		0.183***		0.175***
		(0.0583)		(0.0583)
Constant 1	0.266	0.207	0.218	0.167
	(0.261)	(0.258)	(0.263)	(0.259)
Constant 2	0.971***	0.915***	0.921***	0.873***
	(0.262)	(0.258)	(0.263)	(0.259)
Constant 3	1.563***	1.509***	1.510***	1.463***
	(0.263)	(0.259)	(0.264)	(0.261)
Constant 4	2.181***	2.127***	2.123***	2.076***
	(0.266)	(0.262)	(0.267)	(0.264)
Observations	1587	1587	1587	1587

Robust standard errors in parentheses.
* $P<0.1$.
** $P<0.05$.
*** $P<0.01$.

is again determined by Eq. (1) above. Here we have seven ordered categories.

4. Empirical results

Estimation results are reported in Tables 3–5. As indicated above, in each case the estimation uses ordered probit because of the nature of the dependent variables, and industry and year dummies are included in all models. In each results table columns 1 and 2 show the results including alternative indicators for innovation and radical innovation and including both turnover and employment indicators. Columns 3 and 4 show results including employment information but excluding turnover variables.

Table 3 shows the results for the geographical scope of exports, as measured by the number of countries to which each firm exports. As anticipated in the process model of exporting, increasing internationalisation experience is strongly positively associated with geographic scope (Johanson & Vahlne, 2009). This is consistent with the type of organisational learning from international experience envisaged in Hypothesis 1. The pattern

Table 5
Ordered probit models of export intensity.

Variables	(1)	(2)	(3)	(4)
2–3 year internationalisation experience	0.144	0.146	0.139	0.139
	(0.134)	(0.134)	(0.132)	(0.132)
3–4 year internationalisation experience	0.249	0.239	0.258*	0.248
	(0.154)	(0.153)	(0.155)	(0.155)
4–5 year internationalisation experience	0.350***	0.349***	0.367***	0.363***
	(0.129)	(0.128)	(0.127)	(0.126)
5–10 year internationalisation experience	0.631***	0.622***	0.655***	0.644***
	(0.129)	(0.129)	(0.127)	(0.127)
10–20 year internationalisation experience	0.743***	0.731***	0.770***	0.757***
	(0.152)	(0.152)	(0.149)	(0.149)
Over 20 year internationalisation experience	0.979***	0.970***	0.994***	0.982***
	(0.199)	(0.198)	(0.196)	(0.195)
Firm age 2–3	−0.0698	−0.0708	−0.0247	−0.0283
	(0.192)	(0.191)	(0.190)	(0.188)
Firm age 3–4	−0.333	−0.347*	−0.319	−0.334*
	(0.203)	(0.203)	(0.202)	(0.201)
Firm age 4–5	−0.260	−0.268	−0.228	−0.235
	(0.187)	(0.186)	(0.184)	(0.184)
Firm age 5–10	−0.488***	−0.489***	−0.452***	−0.453***
	(0.172)	(0.172)	(0.169)	(0.169)
Firm age 10–20	−0.516***	−0.514***	−0.488***	−0.486***
	(0.181)	(0.181)	(0.178)	(0.178)
Firm age over 20	−0.689***	−0.689***	−0.628***	−0.626***
	(0.202)	(0.201)	(0.198)	(0.197)
Employee	−0.0029***	−0.0030***	−0.00099	−0.0011
	(0.00107)	(0.00108)	(0.000901)	(0.000910)
Early exporter	0.294***	0.297***	0.292***	0.297***
	(0.0923)	(0.0921)	(0.0919)	(0.0917)
Turnover between 10–25 million	0.309***	0.316***		
	(0.0836)	(0.0836)		
Turnover above 25 million	0.366***	0.372***		
	(0.117)	(0.118)		
Experienced senior management	0.413***	0.407***	0.432***	0.427***
	(0.0666)	(0.0668)	(0.0664)	(0.0666)
Business with formal plan	0.100*	0.0860	0.138**	0.124**
	(0.0605)	(0.0607)	(0.0599)	(0.0601)
Sell overseas directly via website	0.0114	0.00863	0.00319	−0.00126
	(0.0603)	(0.0601)	(0.0601)	(0.0599)
Innovative	−0.00152		−0.0238	
	(0.0743)		(0.0741)	
Radical innovative		0.105*		0.0918
		(0.0605)		(0.0602)
Constant 1	−1.416***	−1.392***	−1.458***	−1.423***
	(0.275)	(0.272)	(0.272)	(0.270)
Constant 2	0.387	0.415	0.338	0.376
	(0.269)	(0.265)	(0.266)	(0.262)
Constant 3	0.714***	0.743***	0.663**	0.702***
	(0.269)	(0.265)	(0.267)	(0.263)
Constant 4	0.883***	0.911***	0.830***	0.869***
	(0.270)	(0.266)	(0.267)	(0.263)
Constant 5	1.169***	1.198***	1.114***	1.153***
	(0.270)	(0.266)	(0.267)	(0.263)
Constant 6	1.591***	1.620***	1.532***	1.570***
	(0.270)	(0.266)	(0.267)	(0.263)
Constant 7	2.016***	2.045***	1.953***	1.991***
	(0.271)	(0.267)	(0.269)	(0.265)
Observations	1515	1515	1515	1515

Robust standard errors in parentheses.
* $P < 0.1$.
** $P < 0.05$.
*** $P < 0.01$.

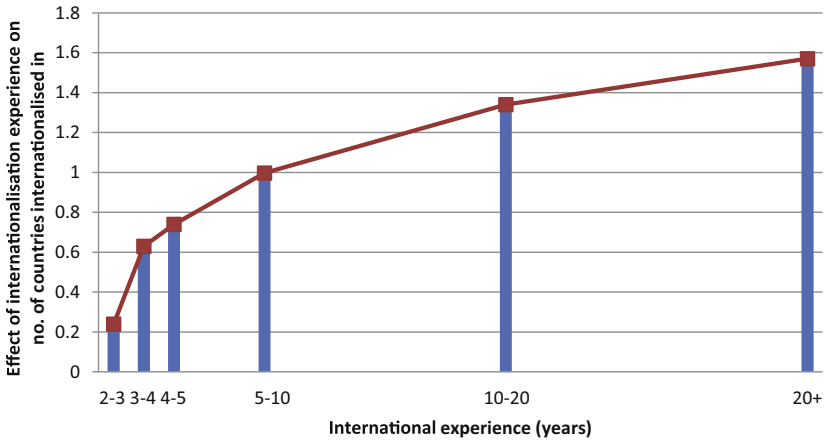

Fig. 1. Effect of internationalisation experience on the number of countries internationalised in.

of coefficients on the dummy variables for the different periods of internationalisation experience also generally suggest a positive but declining marginal value for each year of experience: each additional level of experience adds less than the previous increase in experience. Displayed graphically in Fig. 1, this is consistent with the anticipated timing or order effects which reduce the value of each successive year of international experience. Essentially similar effects are evident for the regional scope of firms' exporting activity (Table 4 and Fig. 2) and export intensity (Table 5 and Fig. 3), regardless of the set of conditioning variables included in each model. Our data therefore provide robust support for Hypothesis 1, and for a positive but diminishing link between the duration of firms' international experience and export performance.

While the effect of internationalisation experience is consistent across our three measures of export performance, the age variables show more variation. In terms of the number of countries to which SMEs export (Table 3), we see little evidence of any significant age relationship, although firms aged 2–3 years have more geographical scope than very young firms (the base category). On average, however, firms which are 3–4 years old are 3.89 per cent less likely to be exporting to 6–10 countries than firms which are 1–2 years old.[6] There is more indication of a negative relationship between age and the number of regions to which SMEs export (Table 4), principally for firms aged 3–4 years and 10–20 years. Most other age coefficients are insignificant. Again, firms which are 3–4 years old are 5.37 per cent less likely to be exporting to four global regions than firms which are 1–2 years old. For export intensity, however, our age effects are consistently negative for firms aged above five years, and monotonically increasing. This suggests that older firms also tend to have lower export intensity than younger firms, and that older firms tend to be less likely to export beyond their home region once the effect of experience is taken into account, contrary to the findings of Gallego and Casillas (2014). To illustrate the scale of these effects our models suggest that firms which are 3–4 years old are 1.27 per cent less likely to be exporting 16–25 per cent of their sales than younger firms 1–2 years old. Our results therefore provide limited support for Hypothesis 2 and the idea that older firms may be less receptive to external knowledge on exporting than younger firms. Note, however, that where age effects are detected, they are almost always negative once we allow for firms' international experience. While the correlation matrix (Table 2) indicates little of concern in terms of likely multicollinearity between the key variables, we experimented with estimations which excluded experience: in all cases the age variables retained their negative signs with some indication of slightly increased significance, suggesting the age effect is real.

Our third hypothesis relates to the potential effect on exporting of employing managers with prior internationalisation experience, what Fletcher and Harris (2012) call 'grafted' knowledge. Here, as with the organisational learning effect envisaged in Hypothesis 1, the effect of having management with previous internationalisation experience is unambiguously positive and highly significant in all three sets of models (Tables 3–5). Having managers with prior international experience increases firms' probability of exporting to 6–10 countries by 4.15 per cent, the probability of exporting to four global regions by 2.38 per cent, and of earning 16–25 per cent of sales from exports by 2.86 per cent.[7] The implication is that grafted knowledge can be an important supplement to experiential learning in shaping the extent and intensity of firms' export activity and that, over time, firms' knowledge and required experience change after market entry in order to support the management of the more international business.[8] As our data are cross-sectional, however, some care is necessary in interpreting this association. We cannot be certain that higher levels of prior managerial experience drive stronger exporting profiles; it may also be the case that internationally oriented businesses tend to attract managers with a similar market orientation.

Our fourth Hypothesis suggests that firms having early experiences of internationalisation may enjoy greater exporting success. Our results do suggest that early exporters are significantly more export intensive than other firms (Table 5), and that they export to a significantly greater number of countries than other similar firms, supporting Hypothesis 4a (Table 3). More specifically, early exporters are 4.52 per cent more likely to export to 6–10 countries and 2.19 per cent more likely to export 16–25 per cent of their sales.[9] In terms of the regional scope of exports (Table 4), however, the early exporter variable has a consistently insignificant coefficient. This suggests that early exporters are no more or less likely to export beyond their home region than later exporters, contrary to Hypothesis 4b. Taken together, these

[6] We calculate these percentages as the difference in the predicted probability that a firm falls into the category for exporting to 6–10 countries for firms which are 1–2 and 3–4 years old. All other variables are set to their mean values.

[7] We derive these percentages as the difference in the predicted probability of firms falling into each of these categories when they have and do not have management with prior international experience.

[8] The significance of the prior management experience variables here are contrary to the findings of Ganotakis and Love (2012) who find no relationship between prior management experience and export intensity.

[9] We derive these percentages as the difference in the predicted probability that firms fall into these categories where they were and were not early internationalising. The (insignificant) effect of early internationalising increases the probability of firms selling in four global regions by 1.61 per cent.

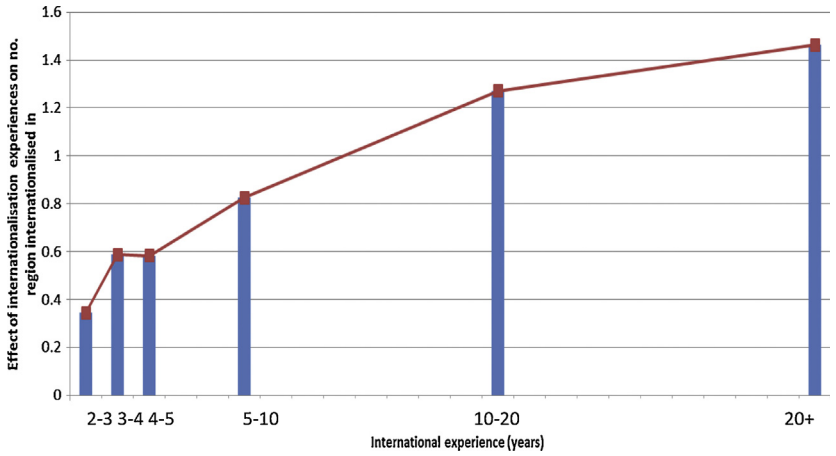

Fig. 2. Effect of internationalisation experience on the number of regions internationalised in.

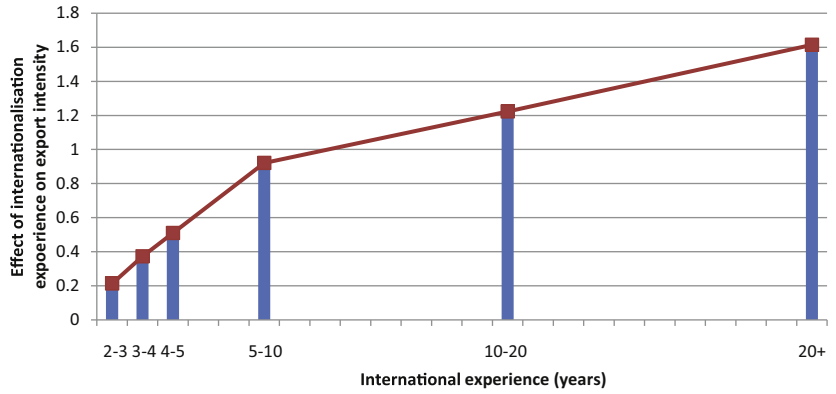

Fig. 3. Effect of internationalisation experience on export intensity.

findings appear to support the view that early exporters tend to be 'born regional' rather than 'born global' (D'Angelo et al., 2013; Gallego & Casillas, 2014).

Our final hypothesis posits a positive relationship between innovation and exporting. The results indicate that both types of innovation (new to firm and new to the industry) are positively associated with geographical scope in terms of both number of countries and number of regions (Tables 3 and 4). However, the pattern of effects varies suggesting a positive relationship between the novelty of firms' innovation and the geographical scope of their export reach. In particular, while the coefficients on new-to-the-firm innovation are markedly greater than that on new-to-the-industry innovation in the case of country scope, the reverse is evident in the case of regional scope. This suggests that while 'standard' levels of innovation help SMEs enter more national markets within their home region, it is more radical product innovation that is associated with exporting into other world regions, perhaps helping them overcome the additional liability of foreignness evident in the case of moving beyond the home region. More specifically, while new to the firm innovation increases the probability that a firm sells in 6–10 countries by 2.82 per cent, new to the industry innovation has a smaller 1.97 per cent effect.[10] By contrast, while new to the firm innovation increases the probability of selling to four global regions by 1.70 per cent, new to the industry has a 1.84 per cent effect. Note that our definition of innovation is wider than simply product innovation, including both processes innovation and R&D activity, and the results should be interpreted in that light. As anticipated in Hypothesis 5, and consistent with other recent evidence, innovation is not associated with export intensity (Ganotakis & Love, 2011; Harris & Li, 2009).

Among the conditioning variables larger firms (in terms of turnover) tend to be more export intensive and to have greater geographical scope (Gashi et al., 2014), while the use of a website is (unsurprisingly) positively associated with geographic scope, but not with export intensity. This may reflect potential trade-offs between on-line and off-line commerce and the allocation of resources between the two activities (Morgan-Thomas, 2009).

5. Discussion and conclusions

Using three waves of a UK survey of internationally-inclined UK SMEs we identify five main empirical results. First, and allowing for firm age and prior managerial experience, we find a robust link between the duration of SMEs' international experience with the geographical scope of international activity at both the country and regional level, and with export intensity (D'Angelo et al., 2013; Gallego & Casillas, 2014). At the margin, order or timing effects reduce the impact of each successive year of international market experience on the scope or intensity of firms' internationalisation.

[10] We derive these percentages as the difference in the predicted probabilities that firms fall into these categories when they are and are not undertaking innovation. The (insignificant) effects of innovation on the probability that firms are exporting 16–25 per cent of their sales are 0.56 per cent for new to the firm innovation and −0.17 per cent for new to the industry innovation.

Second, grafted knowledge – the prior experience of the management team – also has a consistent and positive impact on both the geographical scope of SMEs' international activity and export intensity (Ganotakis & Love, 2012). Third, we find some (weaker) evidence that firm age has a negative effect on the extent of SMEs' international activities. This is consistent with arguments related to the liability of ageing (Sorensen & Stuart, 2000).

These three findings are broadly consistent across our three exporting indicators which reflect the geographical scope of SMEs' exporting activities across countries, across world regions and as a percentage of total sales. In conceptual terms our results provide strong support for the continued validity of the process model of internationalisation, recognising that learned knowledge can be complemented by grafted knowledge. This also supports the recent call by Laufs and Schwens (2014) for more research on learning theory as an approach to understanding more about SME foreign market entry. The implication is that – at least in part – international market development is a learning process emphasising the importance of feedback and reflective management practice. The value of prior knowledge, however, also suggests the potential value of relating international market development to firms' HR and recruitment practices. More widely our results suggest the potential value of the process model in informing the structure of export development programmes. Our related results on the negative impact of firm age on exporting suggest that the liability of ageing or senescence, typically discussed in terms of managerial routines or growth, is also evident in terms of SMEs' exporting activities. In policy terms this suggests a need to recognise that beginning or expanding exports presents greater challenges where firms are older and perhaps have an established home market position.

These findings have two implications for IB theory. The first is the importance of not confusing age and experience when analysing the determinants of internationalisation: their effects on exporting spread and intensity are markedly different, and one is not a suitable proxy for the other. The second relates to the issue of whether the advantage acquired by experiential knowledge is a location-bound attribute, and is therefore unlikely to transfer easily across significant national or regional boundaries (e.g. Rugman & Verbeke, 2005), or whether it is non-location-bound, embedded through the modification of organisational routines and the internationalisation process, and is therefore generally applicable and is not area-specific (Eriksson et al., 1997, 2000). Although typically considered in the context of multinational enterprises, the issue also arises in the case of internationally-active SMEs. The positive but diminishing marginal effect of additional experience that we find suggests elements of both location-bound and non-location-bound effects. The fact that increasing experience always matters for exporting, and especially that it has a positive effect for regional as well as national scope, indicates that at least some of the experience acquired through internationalisation is of a general nature, embedded in routines and not tied to a specific location, as suggested by Eriksson et al. (1997). However, the diminishing marginal returns to experience also indicate that, through the timing and order effects outlined earlier, some location-specific elements of experience do not transfer intact to each new geographic market: not all experience is wholly transferable to new countries or regions.

Our final two empirical findings – relating to early internationalisation and innovation – point to the rather different determinants of inter-country and inter-regional exporting and export intensity. For example, while early internationalising firms are more likely to have greater inter-country exporting scope and export intensity than other (internationally active) SMEs, they are no more likely to operate across global regions. This, too, has implications for IB theory: broadly, this seems to suggest that early internationalising firms are more likely to be 'born regional' than 'born global' (D'Angelo et al., 2013; Gallego & Casillas, 2014; Rugman & Verbeke, 2005). Finally, while we find a positive association between innovation and each measure of export orientation the strength of these relationships varies: inter-regional exporting is most strongly linked to radical innovation while inter-country exporting is linked more strongly to less radical new-to-the-firm innovation. It is tempting to conclude that it is new to the industry innovation which provides the entry point for firms seeking to sell into new global regions. Our data are cross-sectional, however, and the direction of causality is not therefore clear a priori: new-to-the-firm innovation may be driving inter-regional exporting, or it may be that inter-regional exporting is facilitating market exposure, more extensive knowledge search and more innovation (Freel & Aslesen, 2013; Laursen & Salter, 2006; Love et al., 2014).

In methodological terms, contrasts in the correlates of inter-regional exporting, inter-country exporting and export intensity suggest the value of using a range of indicators which can capture the diversity of firms' exporting profile and highlight differences in the drivers of geographical scope of exporting and export intensity. In more substantive terms our conclusions reemphasise the link between innovation and exporting, supporting other studies which suggest that the main productivity gains come from their combination (Love, Hewitt-Dundas, & Roper, 2010). Our results also suggest that the advantages of undertaking new-to-the-industry innovation extend beyond the standard first mover advantages (Kopel & Loffler, 2008; Ulhoi, 2012). Instead more radical new-to-the-industry innovation is linked to inter-regional market entry as firms move outside their regional market with the potential to generate economies of scale in larger markets. In managerial terms this suggests the importance of recognising the synergies between innovation and export market development and the potential for integrated development strategies.

Two implications – one general and one rather specific – follow in terms of policy and business support. In general terms our analysis again emphasises the strong positive relationship between innovation and export performance, and the potential added value of new to the industry innovation in terms of intra-regional market development. Maximising the commercial potential of innovation is likely to require timely support for export development and vice versa. Integrating or linking innovation and export support activities is therefore likely to be strongly beneficial for most firms. A more specific policy implication also follows from our results relating to the relatively small group of early internationalising firms. These are likely to be 'born regional' (rather than truly 'born global') and therefore they will face many of the challenges of other firms as they seek to move beyond their home region. Support targeted at this important transition point may well be of particular value (Brown & Mawson, 2013).

Our study has a number of limitations which might usefully be addressed in future analyses. First, the data used here has some advantages such as providing information on multiple dimensions of exporting activity and a rich selection of potential explanatory variables including age and prior experience. One limitation of the data, however, is that they only cover those firms (about a quarter of the overall population) which are internationally engaged. This limits the applicability of the results to this group. It also means that we are unable to get any feel for what determines selection into this group, i.e. the choice by firms to engage with international markets. Some factors are likely to be same as those considered here –innovation for example provides one indication of firms' export potential. Similarly, prior managerial experience may also be important in encouraging firms into international markets. Other data are necessary, however, to establish the relative importance of these factors in the initial exporting decision.

Second, we have already noted the cross-sectional nature of the data used here and the limits this places on our ability to identify causal relationships. The nature of our data also means we are unable to track individual firms as they move along the process curve which would be desirable to capture the potential impact of strategic decisions and timing effects. Thirdly, within the database we have no locational data for firms and so it is impossible to deal with contextual issues in these models (Freeman et al., 2012). Finally, while our dataset provides significant detail on dimensions of exporting activity it is weaker in terms of the dimensions of international experience. Here, we are able to explore only the durational dimension of international experience and its relationship with exporting. As Clarke et al. (2013) suggest, however, international experience may also have diversity and intensity dimensions, suggesting that firms with experience of more diverse international markets or more intensive engagement with international markets may experience stronger organisational learning. Future studies might seek to address these alternative dimensions of international experience.

Acknowledgements

This work has been supported by the Enterprise Research Centre (ERC), grant ES/K006614/1. The ERC is funded by the Economic and Social Research Council, the Department for Business, Innovation & Skills, Innovate UK and, through the British Bankers Association, by the Royal Bank of Scotland PLC, HSBC Bank PLC, Barclays Bank PLC and Lloyds Bank PLC. The support of the funders is gratefully acknowledged. We are grateful to UK Trade and Investment for permission to use the UKTI-IBS survey data. The views expressed in the paper are those of the authors and do not necessarily represent the views of the funders or the data providers.

References

Aliouche, E. H., & Schlentrich, U. (2011). A model of optimal international market expansion: The case of US hotel chains expansion into China. In M. Tuunanen, J. Windsperger, G. Cliquet, & G. Hendrikse (Eds.), *New developments in the theory of networks: Franchising alliances and cooperatives* (pp. 135–154).

Autio, E., Sapienza, H. J., & Almeida, J. G. (2000). Effects of age at entry, knowledge intensity, and imitability on international growth. *Academy of Management Journal, 43*, 909–924.

Barkema, H. G., & Vermeulen, F. (1998). International expansion through start up or acquisition: A learning perspective. *Academy of Management Journal, 41*, 7–26.

Bleaney, M., & Wakelin, K. (2002). Efficiency, innovation and exports. *Oxford Bulletin of Economics and Statistics, 64*, 3–15.

Bratti, M., & Felicie, G. (2012). Are exporters more likely to introduce product innovations? *World Economy, 35*, 1559–1598.

Brown, R., & Mawson, S. (2013). Trigger points and high-growth firms: A conceptualisation and review of public policy implications. *Journal of Small Business and Enterprise Development, 20*(2), 279–295.

Bruneel, J., Yli-Renko, H., & Clarysse, B. (2010). Learning from experience and learning from others: How congenital and inter-organizational learning substitute for experiential learning in young firm internationalization. *Strategic Entrepreneurship Journal, 4*, 164–182.

Casillas, J. C., Barbero, J. L., & Sapienza, H. J. (2015). Knowledge acquisition, learning, and the initial pace of internationalization. *International Business Review, 24*, 102–114.

Cassiman, B., & Golovko, E. (2011). Innovation and internationalization through exports. *Journal of International Business Studies, 42*, 56–75.

Chetty, S., & Eriksson, K. (2002). Mutual commitment and experiential knowledge in mature international business relationship. *International Business Review, 11*, 305–324.

Clarke, J. E., Tamaschke, R., & Liesch, P. W. (2013). International experience in international business research: A conceptualization and exploration of key themes. *International Journal of Management Reviews, 15*, 265–279.

Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly, 35*, 128–152.

D'Angelo, A., Majocchi, A., Zucchella, A., & Buck, T. (2013). Geographical pathways for SME internationalization: Insights from an Italian sample. *International Marketing Review, 30*, 80–105.

De Clerq, D., Sapienza, H. J., Yavuz, R. I., & Zhou, L. (2012). Learning and knowledge in early internationalization research: Past accomplishments and future directions. *Journal of Business Venturing, 27*, 143–165.

Di Maria, E., & Ganau, R. (2014). *Driving a firm's export propensity and export intensity: The role of experience, innovation, and international marketing strategy*. Marco Fanno Working Paper no 175 University of Padova.

Driffield, N., Love, J. H., & Yang, Y. (2014). Technology sourcing and reverse productivity spillovers in the MNE: Global or regional phenomenon? *British Journal of Management, 25*, S24–S41.

Erramilli, M. K., Srivastava, R., & Kim, S. S. (1999). Internationalization theory and Korean Multinationals. *Asia Pacific Journal of Management, 16*, 29–45.

Eriksson, K., Johanson, J., Majkgård, A., & Sharma, D. (1997). Experiential knowledge and cost in the internationalization process. *Journal of International Business Studies, 28*, 337–360.

Eriksson, K., Majkgård, A., & Sharma, D. (2000). Path dependency and knowledge development in the internationalization process. *Management International Review, 40*, 307–328.

Esteve-Perez, S., & Rodriguez, D. (2013). The dynamics of exports and R&D in SMEs. *Small Business Economics, 41*, 219–240.

Fernhaber, S. A., McDougall, P. P., & Shepherd, D. A. (2009). International entrepreneur-ship: Leveraging internal and external knowledge sources. *Strategic Entrepreneurship Journal, 3*, 297–320.

Fletcher, M., & Harris, S. (2002). Seven aspects of strategy formation – Exploring the value of planning. *International Small Business Journal, 20*, 291–306.

Fletcher, M., & Harris, S. (2012). Knowledge acquisition for the internationalization of the smaller firm: Content and sources. *International Business Review, 21*, 631–647.

Forsgren, M. (2002). The concept of learning in the Uppsala internationalization process model: A critical review. *International Business Review, 11*, 257–277.

Freel, M. S., & Aslesen, H. W. (2013). The organisational antecedents of openness in small companies. *DRUID Annual Conference*.

Freeman, J., Styles, C., & Lawley, M. (2012). Does firm location make a difference to the export performance of SMEs? *International Marketing Review, 29*, 88–113.

Gallego, A., & Casillas, J. C. (2014). Choice of markets for initial export activities: Differences between early and late exporters. *International Business Review, 23*, 1021–1033.

Ganotakis, P., & Love, J. H. (2011). R&D, product innovation, and exporting: Evidence from UK new technology based firms. *Oxford Economic Papers, 63*, 279–306.

Ganotakis, P., & Love, J. H. (2012). Export propensity, export intensity and firm performance: The role of the Entrepreneurial Founding Team. *Journal of International Business Studies, 43*, 693–718.

Gashi, P., Hashi, I., & Pugh, G. (2014). Export behaviour of SMEs in transition countries. *Small Business Economics, 42*, 407–435.

Golovko, E., & Valentini, G. (2011). Exploring the complementarity between innovation and export for SMEs growth. *Journal of International Business Studies, 42*, 362–380.

Gray, B. J. (1997). Profiling managers to improve export promotion targeting. *Journal of International Business Studies, 28*(2), 387–420.

Harris, R. I. D., & Li, Q. C. (2009). Exporting, R&D, and absorptive capacity in UK establishments. *Oxford Economic Papers, 61*, 74–103.

Henderson, A. D. (1999). Firm strategy and age dependence: A contingent view of the liabilities of newness, adolescence, and obsolescence. *Administrative Science Quarterly, 44*, 281–314.

Hsu, W. T., Chen, H. L., & Cheng, C. Y. (2013). Internationalization and firm performance of SMEs: The moderating effects of CEO attributes. *Journal of World Business, 48*, 1–12.

Huber, G. P. (1991). Organizational learning: The contributing processes and the literatures. *Organization Science, 2*, 88–115.

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

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.

Jones, M., Coviello, N. E., & Tang, Y. K. (2011). International Entrepreneurship research (1989–2009): A domain ontology and thematic analysis. *Journal of Business Venturing, 26*, 632–659.

Kirpalani, V. H., & McIntosh, N. B. (1980). International marketing effectiveness of technology-oriented small firms. *Journal of International Business Studies, 11*, 81–90.

Kleinknecht, A. (1987). Measuring R&D in small firms: How much are we missing? *Journal of Industrial Economics, 36*, 253–256.

Knight, G. A., & Cavusgil, S. T. (2004). Innovation, organizational capabilities, and the born-global firm. *Journal of International Business Studies, 35*, 124–141.

Kopel, M., & Loffler, C. (2008). Commitment first-mover-, and second-mover advantage. *Journal of Economics, 94*, 143–166.

Kuivalainen, O., Sundqvist, S., & Servais, P. (2007). Geographical dimension: A missing link in the internationalisation of born global firms? In R. R. Sinkovics & M. Yamin (Eds.), *Anxieties and Management Responses in International Business* (pp. 225–242). Basingstoke: Palgrave MacMillan.

Lachenmaier, S., & Wößmann, L. (2006). Does innovation cause exports? Evidence from exogenous innovation impulses and obstacles using German micro data. *Oxford Economic Papers, 58*, 317–350.

Laufs, K., & Schwens, C. (2014). Foreign market entry mode choice of small and medium-sized enterprises: A systematic review and future research agenda. *International Business Review, 23*, 1109–1126.

Laursen, K., & Salter, A. (2006). Open for innovation: The role of openness in explaining innovation performance among UK manufacturing firms. *Strategic Management Journal, 27*, 131–150.

Lefebvre, E., & Lefebvre, L. (2001). Innovative capabilities as determinants of export behaviour and performance: A longitudinal study of manufacturing SMEs. In A. Kleinknecht & P. Mohnen (Eds.), *Innovation and firm performance, econometric exploration of survey data*. London: Palgrave.
Lefebvre, E., Lefebvre, L. A., & Bourgault, M. (1998). R&D-related capabilities as determinants of export performance. *Small Business Economics, 10*, 365–377.
Leonard-Barton, D. (1992). Core capabilities and core rigidities: A paradox in managing new product development. *Strategic Management Journal, 13*, 111–125.
Leonidou, L. C., Katsikeas, C. S., & Coudounaris, D. N. (2010). Five decades of business research into exporting: A bibliographic analysis. *Journal of International Management, 16*, 78–91.
Lopez, L. E., Kundu, S. K., & Ciravegna, L. (2009). Born global or born regional? Evidence from an exploratory study in the Costa Rican software industry. *Journal of International Business Studies, 40*, 1228–1238.
Love, J. H., & Ganotakis, P. (2013). Learning by Exporting: Lessons from high-technology SMEs. *International Business Review, 22*, 1–17.
Love, J. H., Hewitt-Dundas, N., & Roper, S. (2010). Service innovation, embeddedness and business performance. *Regional Studies, 44*, 983–1004.
Love, J. H., & Mansury, M. A. (2009). Exporting and productivity in business services: Evidence from the United States. *International Business Review, 18*, 630–642.
Love, J. H., & Roper, S. (2015). SME innovation, exporting and growth: A review of existing evidence. *International Small Business Journal, 33*, 28–48.
Love, J. H., Roper, S., & Vahter, P. (2014). Learning from openness: The dynamics of breadth in external innovation linkages. *Strategic Management Journal, 35*, 1703–1716.
Majocchi, A., Bacchiocchi, E., & Mayrhofer, U. (2005). Firm size, business experience and export intensity in SMEs; a longitudinal approach to complex relationships. *International Business Review, 14*, 719–738.
Morgan-Thomas, A. (2009). Online activities and export performance of the smaller firm: A capability perspective. *European Journal of International Management, 3*, 266–285.
Nkongolo-Bakenda, J.-M., Anderson, M., Ito, J., & Garven, G. (2010). Structural and competitive determinants of globally oriented small and medium-sized enterprises: An empirical analysis. *Journal of International Entrepreneurship, 8*, 55–86.
Oviatt, B. M., & McDougall, P. P. (1994). Toward a theory of international new ventures. *Journal of International Business Studies, 25*, 45–64.
Oviatt, B. M., & McDougall, P. P. (2005). Defining international entrepreneurship and modeling the speed of internationalization. *Entrepreneurship Theory & Practice, 29*, 537–553.
Pandian, R., & Sim, A. (2002). Internationalisation process: Revisiting the Uppsala Model in the Asian Context. In T. Chan & G. Lui (Eds.), *WTO and global competition: A new era for international business*. Hong Kong: Lingnan University.
Presutti, M., Boari, C., & Fratocchi, L. (2007). Knowledge acquisition and the foreign development of high-tech start-ups: A social capital approach. *International Business Review, 16*, 23–46.
Reuber, A. R., & Fischer, E. (1997). The influence of the management team's international experience on the internationalization behaviors of SMEs. *Journal of International Business Studies, 28*, 807–825.
Rialp, A., Rialp, J., & Knight, G. A. (2005). The phenomenon of early internationalizing firms: What do we know after a decade (1993–2003) of scientific inquiry? *International Business Review, 14*(2), 147–166.
Rodríguez, J. L., & Rodríguez, R. M. G. (2005). Technology and export behaviour: A resource based view approach. *International Business Review, 14*, 539–557.
Roper, S., Du, J., & Love, J. H. (2008). Modelling the innovation value chain. *Research Policy, 37*, 961–977.
Roper, S., & Malshe, A. (2013). *The mighty middle – Growth and opportunity in the UK's mid-market*. London: GE Capital/Warwick Business School.
Roper, S., & Love, J. H. (2002). Innovation and export performance: Evidence from UK and German manufacturing plants. *Research Policy, 31*, 1087–1102.
Rugman, A. M., & Verbeke, A. (2005). Towards a theory of regional multinationals: A transaction cost economics approach. *Management International Review, 45*, 5–17.
Rugman, A. M., & Verbeke, A. (2004a). A perspective on regional and global strategies of multinational enterprises. *Journal of International Business Studies, 35*, 3–18.
Rugman, A. M., & Verbeke, A. (2004b). Regional transnationals and Triad strategy. *Transnational Corporations, 13*, 1–20.
Salomon, R., & Jin, B. (2010). Do leading or lagging firms learn more from exporting? *Strategic Management Journal, 31*, 1088–1113.
Salomon, R., & Jin, B. (2008). Does knowledge spill to leaders or laggards? Exploring industry heterogeneity in learning by exporting. *Journal of International Business Studies, 39*, 132–150.
Salomon, R., & Shaver, J. M. (2005). Learning by exporting: New insights from examining firm innovation. *Journal of Economics and Management Strategy, 14*, 431–460.
Sapienza, H. J., Autio, E., George, G., & Zahra, S. A. (2006). A capabilities perspective on the effects of early internationalization on firm survival and growth. *Academy of Management Review, 31*, 914–933.
Schmidt, T., & Sofka, W. (2009). Liability of foreignness as a barrier to knowledge spillovers: Lost in translation? *Journal of International Management, 15*, 460–474.
Sharma, D., & Blostermo, A. (2003). The internationalisation process of born globals: A network view. *International Business Review, 12*, 753–793.
Shrader, R., Oviatt, B. M., & McDougall, P. P. (2000). How new ventures exploit trade-offs among international risk factors: Lessons for the accelerated internationalization of the 21st century. *Academy of Management Journal, 43*, 1227–1247.
Singh, J. V., Tucker, D. J., & House, R. J. (1986). Organizational legitimacy and the liability of newness. *Administrative Science Quarterly, 31*, 171–194.
Sorensen, J. B., & Stuart, T. E. (2000). Aging, obsolescence, and organizational innovation. *Administrative Science Quarterly, 45*, 81–112.
Sterlacchini, A. (2001). The determinants of export performance: A firm-level study of Italian manufacturing. *Review of World Economics, 137*, 450–472.
Sterlacchini, A. (1999). Do innovative activities matter to small firms in non-R&D-intensive industries? An application to export performance. *Research Policy, 28*, 819–832.
Sui, S., & Yu, Z. (2012). The pattern of foreign market entry of Canadian exporters. *Canadian Public Policy – Analyse De Politiques, 38*, 341–359.
Tse, C. H., Yu, L., & Zhu, J. (2015). A multimediation model of learning by exporting: Analysis of export-induced productivity gains. *Journal of Management*. http://dx.doi.org/10.1177/0149206315573998
Ulhoi, J. P. (2012). Modes and orders of market entry: Revisiting innovation and imitation strategies. *Technology Analysis & Strategic Management, 24*, 37–50.
Westhead, P., Wright, M., & Ucbasaran, D. (2001). The internationalization of new and small firms: A resource-based view. *Journal of Business Venturing, 1*, 333–358.
Wolff, J. A., & Pett, T. L. (2000). Internationalization of small firms: An examination of export competitive patterns, firm size, and export performance. *Journal of Small Business Management, 38*(2), 34–47.
Yeoh, P. (2004). International learning: Antecedents and performance implications among newly internationalizing companies in an exporting context. *International Marketing Review, 21*, 511–535.
Zahra, S. A. (2005). A theory of international new ventures: A decade of research. *Journal of International Business Studies, 36*, 20–42.
Zucchella, A., Palamara, G., & Denicolai, S. (2007). The drivers of the early internationalisation of the firm. *Journal of World Business, 42*, 268–280.