

Early international entrepreneurship in China: Extent and determinants

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Early International Entrepreneurship in China

Extent and Determinants

Wim Naudé,¹ and Stephanié Rossouw²

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Abstract

We use data on 3,948 Chinese firms obtained from the World Bank's Investment Climate Private Enterprise Survey to investigate early international entrepreneurship (international new ventures) in China. The extent of early international entrepreneurship in China is significant: 65 per cent of the exporting firms start export operations within three years. Foreign shareholders within the firm and an entrepreneur with previous exporting experience are noted to significantly increase the probability that a firm internationalizes early. However, we find marked differences in the behaviour of indigenous and foreign-invested firms. Thus, while business networks are significant for firms wishing to export indirectly and for older indigenous firms, it is noted to delay the internationalization process of indigenous firms. Also, for an indigenous firm, the greater the foreign experience of its entrepreneur, the less likely it is to start exporting early.

Keywords: entrepreneurship, internationalization, international new ventures, exports, China

JEL classification: L26, L25, F14, F23, O53

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Acronyms

EO	entrepreneurial orientation
FDI	foreign direct investment
INV	international new venture theory
INVs	international new ventures
MNEs	multinational enterprises
SMEs	small- and medium-sized enterprises

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1 Introduction

Entrepreneurship is about the discovery and exploitation of opportunities (Shane and Venkataraman 2000). The field of international entrepreneurship is concerned with the ‘discovery, enactment, evaluation, and exploitation of opportunities—across national borders—to create future goods and services’ (Oviatt and McDougall 2005: 540). It aims to understand international new ventures (INVs), which are firms that internationalize early after their establishment. These firms have also been described as *born-globals*, *infant multinationals*, *instant internationals* and *global start-ups* (McDougall and Oviatt 2003: 9). The interest in INVs has been spurred on by the fact that an increasing number of firms are entering foreign markets very early after establishment.¹ Although there is no generally accepted definition of early internationalization, it has been seen as taking place when a firm starts to export within three years of establishment, or establishes a foreign presence, for instance through outward foreign direct investment (FDI) within that period (Zhou 2007: 285).

The purpose of this paper is to contribute to the international entrepreneurship literature, to improve our understanding, (i) of the extent and impact of international new ventures in emerging economies, and (ii) of international entrepreneurship in China.² Both of these topics have been neglected (see Yamakawa, Peng and Deeds 2008). According to Zhou (2007: 285) ‘almost all the empirical evidence [on international entrepreneurship] has so far been obtained from firms in advanced western economies’. This can be a serious shortcoming in the light of the growth in exports from emerging economies in recent years. Especially in China, the world’s largest emerging economy, the size and economic growth performance of the country have generated a large literature in the development and international economics literatures on the country’s performance (see e.g., Adams, Gangnes and Shachmurove 2006). However, even this literature has neglected the role of entrepreneurship in China’s growth, particularly the role of international entrepreneurship (Alon and Lerner 2008). Thus, there is a strong case that, as put by Yeung (2004: 88), ‘we need to know more about the nature and extent of Chinese entrepreneurship across borders’.

In light of the above we will set out in this paper to analyse the extent to which new (private sector firms) in China internationalize and identify the main determinants for early internationalization. In particular we are interested in contrasting the internationalization behaviour of direct and indirect exporters, and to identify the role played by foreign shareholding and ownership in the internationalization behaviour of firms. In contrast to the smaller datasets that most often characterize research in international entrepreneurship, we utilize a fairly large dataset, consisting of observations on 3,948 Chinese private sector firms surveyed by the World Bank in 2002 and 2003.

¹ This goes against much of the perceived wisdom in international business studies such as that of the Uppsala process model of international trade which posits that firms go through various ‘stages’ in their internationalization process, and that older, larger firms are more likely to internationalize than young, small firms, because they have more resources and more experience (see e.g., Johanson and Vahlne 1977, 1990).

² In this paper China refers to mainland China and does not include the territories of Hong Kong, Macau and Taiwan.

The remainder of the paper proceeds as follows. In the next section we provide a short review of the relevant literature on international entrepreneurship and on international entrepreneurship in China. We emphasize the gaps in the literature by noting the key findings in this literature and by sketching some of the salient features of entrepreneurship in China. In section 3, we extract from the dataset a description of the extent of internationalization by private Chinese firms, and contrast this with the extent of internationalization by larger firms. Section 4 contains our empirical results, where we report on the results from various regressions to identify the determinants of early internationalization of Chinese firms, and identify the impact of early internationalization on firm performance. Section 5 concludes.

2 Literature overview

We start this section by providing a brief review of the state of the international entrepreneurship literature, wherein we note its major shortcomings with respect to emerging economies; next we focus on the current understanding of internationalization by Chinese firms.

2.1 International entrepreneurship

The international entrepreneurship literature contributes to the international business literature in its concern about the speed and extent of especially (but not only) new firms' internationalization. In the earlier international business literature, the 'Uppsala' process model of internationalization posits that new firms tend to focus on the domestic market due to a lack of information on foreign markets and the process of exporting (Johanson and Vahlne 1977, 1990). Over time, as the firms gain experience and learn about the markets, they may eventually decide to become active abroad. First, they enter foreign markets in a less committed manner such as exporting, and only later on through a physical presence established abroad. Thus, one may discern various stages of internationalization.

By the early 1990s it was clear, however, that this model is unable to explain the extent and speed with which firms—especially small- and medium-sized enterprises (SMEs)—were internationalizing. The international entrepreneurship literature, through the international new venture theory (INV) associated with the contributions of Oviatt and McDougall (1994, 2005) brought entrepreneurship into the picture as a motivating factor in internationalization, and as such they describe international entrepreneurship as a discipline at the 'intersection' of international business studies and entrepreneurship studies.

An important influence in the INV theory has been the resource-based view (RBV) of the firm, wherein the capabilities and assets of a firm confer upon it the resources to expand internationally (Oviatt and McDougall 1994; Westhead, Wright and Ucbasaran 2001). It is distinct from the Uppsala process model of internationalization in that it sees internationalization largely as the result of an entrepreneurial firm's strategic intent, whereas in the former model internationalization is largely reactive and characterized by inertia (Autio, Sapienza and Almeida 2000: 909). Thus in the international entrepreneurship literature, firms internationalize so as to exploit their capabilities and

Table 1
Categorizing the determinants of the extent and speed of internationalization

Category	Typical Determinants
Enabling factors	Technological intensiveness, information and communication technologies (internet), transport
Motivating factors	Domestic competition, domestic regulation, institutional features
Mediating factors	Entrepreneur's characteristics, perceptions, entrepreneurial orientation, background, experience
Moderating factors	Knowledge, networks. Learning.

Source: Compiled from Oviatt and McDougall (2005).

assets abroad, and these actions are moderated by, and mediated through, their external environment. Thus Oviatt and McDougall (2005) propose to classify the elements which influence the speed of internationalization into *enabling*, *motivating*, *mediating* and *moderating* factors. We show the typical determinants of these in Table 1:

As the most important *enabling* factors, we include a firm's technological (or knowledge) intensity, the information and communication technologies (ICT) used, and the costs and efficiency of transport/logistics. These factors have been widely recognized as being important reasons why SMEs are increasingly venturing into international markets and are doing so at an earlier age (see, e.g., Wright and Etemad 2001). While it is straightforward to understand how ICT (such as the internet) and transport/logistics enable or facilitate international expansion (see, e.g., Naudé and Matthee 2007), a firm's technological intensity may also be an important factor. This is due to the need of firms with high R&D expenditures to increase the returns on their investment, as well as to ensure that they can appropriate the benefits from their innovations. Thus high-tech firms and more innovative firms are noted to internationalize earlier (Autio, Sapienza and Almeida 2000; Li 2001; Zucchella, Palamara and Denicolai 2007).

Motivating factors for internationalization refer to industry-level and institutional features in the country and region where the firm operates. If the industry is characterized by easy access and a high degree of competition, a firm may wish to internationalize (and internationalize sooner rather than later) in order to capture a larger market share (Alon and Lerner 2008). Institutional features refer to the 'rules of the game' within which the firm operates, and this will influence its enablement or obstruction to its international expansion. Thus, a less conducive environment where firms may face a heavy regulation burden, insufficient protection of property rights, high levels of corruption, a weak capital market and insufficient business infrastructure is often found to be associated with fewer new start-ups as well as slower firm growth (e.g., Fonseca, Lopez-Garcia and Pissarides 2001; Klapper, Laeven and Rajan 2006; Shaw and Darroch 2004). These factors, by impacting negatively on the resources and capabilities of a firm, and even more so on those of SMEs, will limit the speed and extent to which firms can internationalize. However, these may also act as motivating factors for firms wanting to escape the burdensome domestic environment (Witt and Lewin 2007).

Mediating factors are factors inherent to the entrepreneur. Thus, the entrepreneur's experience, background and education are found to play an important role in whether or

not a firm internationalizes (De Clerq and Bosma 2008; Zucchella, Palamara and Denicolai 2007; McNaughton 2003). More generally, the concept of entrepreneurial orientation is noted to relate significantly to the internationalization of a firm. Entrepreneurial orientation (EO) or entrepreneurial ‘proclivity’ is the ‘global mindset’ or ‘strategic posture’ of the entrepreneur and has been measured³ through his or her innovativeness, competitiveness, and pro-activeness (Tang et al. 2008; Acedo and Jones 2007; Zhou 2007). According to Jantunen et al. (2005), EO allows firms to be ‘better able to reconfigure their assets and business processes’, in other words it is a good indicator of the ‘dynamic capabilities’ that are needed in order for firms to adjust to different environments.

The final category of broad determinants of early internationalization summarized in Table 1 is *moderating* factors such as knowledge, learning and networks. These factors are central determinants of internationalization and are all theoretical approaches, including the Uppsala process model and the INV theory. Thus, in the Uppsala process model, firms delay internationalization due to a lack of knowledge and experience, and when they do internationalize, it is first towards markets that are more similar, especially in terms of cultural affinities. In extensions to the Uppsala model (e.g., Johanson and Mattsson 1988) it is argued that networks assist firms to overcome the disadvantages of knowledge and experience of foreign markets. Autio, Sapienza and Arenius (2005) describe ‘international social capital’ as an essential foundation for firm internationalization and state that new international ventures accelerate their learning process if they enter foreign markets in a manner that allows for interaction with local firms and customers.

Networks and social capital depend on proximity and interaction between entrepreneurs. Thus one would expect that entrepreneurs in areas characterized by a high degree of agglomeration, such as in cities, might more readily consider internationalization. Agglomeration of economic activity, such as in cities, allows firms to benefit from clustering together and enjoying positive spillover effects from the proximity to other firms. Consequently, clustering has been identified as an aspect of networking that may be important for internationalization of firms (Maitland, Rose and Nicholas 2005). Although networks are also important in the INV theory, it does not consider a firm’s newness or smallness to be an automatic disadvantage in internationalization. For instance, Autio, Sapienza and Almeida (2000) argue that a firm’s newness can be an advantage, in that young firms may be better able to learn from internationalization because of flexibility and not having become burdened by particular routines.

Most of the empirical research on the determinants of internationalization as contained in Table 1 is based on surveys of firms in advanced economies. In contrast, as was argued in the introduction, internationalization behaviour of firms in developing and emerging economies has been neglected. In rectifying this shortcoming, it should be the point of departure that the institutional environment faced by firms in emerging economies will require different types of firm-level capabilities to be successful (Yiu, Lau and Bruton 2007). In the next section, we therefore consider the institutional

³ Colvin and Slevin (1989) propose a scale to measure EO. Due to lack of data we are unable to implement their measure in the present case. However, we do have information on the innovativeness and competitiveness of the Chinese SMEs, which may be used to proxy EO.

environment faced by international entrepreneurs in China, and we relate this to firm capabilities in the internationalization process.

2.2 International entrepreneurship in China

There are two main ways in which a firm can internationalize, namely through exporting, and through establishing a physical presence abroad, normally through investments in a foreign country, typically either through joint ventures, mergers and acquisitions or through new ('greenfield') investments. In this paper we mainly focus on internationalization through exporting.⁴

As far as exports are concerned, China's success has been notable (Park et al. 2008). By 2006, the share of exports in China's GDP exceeded 40 per cent, substantially more than the world average of 27 per cent. By 2005 China was the world's 3rd largest exporter after Germany and the United States (Child and Rodrigues 2005: 381). Moreover, the share of exports in China's economy initially in 1979 was substantially below the world average and the averages even for low- and middle-income countries and much lower than that of high-income countries. Around 1990 China overtook the averages of these other country groups, and since accession to the World Trade Organization (WTO) in 2001, the country has experienced a significant acceleration in the share of exports in its economy. Indeed, between 2001 and 2006 exports from China grew on average by 23 per cent per annum.

A substantial literature deals with the determinants of China's export success. Recent overviews are contained in Adams, Gangnes and Shachmurove (2006) and Amiti and Freund (2007; 2008). Consensus has it that two of the most significant determinants are the size of China's domestic market and the influence of FDI.⁵ In particular, FDI has played a very significant role in China's export growth, as a significant amount of Chinese exports are not handled by indigenous or wholly-owned Chinese firms. Thus, according to Finkle and Thomas (2008: 970), 'the "made in China" label obscures an important point: indigenous Chinese companies make few of these products'. Although Finkle and Thomas may overstate their case somewhat, corroborating evidence suggests that the share of domestic content in China's exports is relatively low. Thus, Koopman, Wang and Wei (2008), utilizing foreign trade data, find that foreign content makes up to 50 per cent of Chinese exports, and that the ratio of foreign content is especially high in high-tech sectors such as electronics.

In terms of the extent and determinants of the speed at which Chinese firms internationalize, the literature is still scant. From an overview of the available literature we have attempted to group the various studies into major categories determining

⁴ Although we recognize the growing importance of outward FDI from China, this is currently mainly taking place through large state-owned enterprises whilst our concern is more with private sector firms. Indeed, our survey data covering 3,948 private firms do not contain a single firm with a direct physical presence in another country.

⁵ Other determinants, which have been identified as important include the country's competitive exchange rate, its large labour supply, low wages, and institutional encouragement for export-led growth (Adams, Gangnes and Shachmurove 2006: 120). See also Dollar (2008) for a discussion of the institutional support environment in China (such as the government's significant investment in transport infrastructure) as a factor in the country's export success.

(early) internationalization, namely enabling factors, motivating factors, mediating factors and moderating factors, as discussed in section 2.1.

Enabling factors in internationalization include a firm's technological (or knowledge) intensity, the information and communication technologies (ICT) used, and the costs and efficiency of transport/logistics. Whereas Liu, Xiao and Huang (2008) find that indigenous Chinese firms have low technological intensity, Dollar (2008) argues that all Chinese firms benefit from good ICT and transport infrastructure. Boisot and Meyer (2008) find that when the transport costs of going across domestic borders in China surpass costs of entering the international arena, firms will internationalize at a relatively early stage of development. They note that local protectionism and inefficient domestic logistics were some of the main reasons for the associated increase in the costs of doing business domestically.

Regarding the motivating factors for internationalization, Alon and Lerner (2008) offer confirmation from China that the more competitive firms, faced with greater domestic competition, are more likely to export, and that those with fewer competitors seem content to focus on the domestic market only. In a study on 108 Chinese electronic and communication firms, Tan (2001) argues that Chinese firms are 'entrepreneurial and economically successful' in every corner of the world, except in their homeland. He points out that Chinese firms enter the international arena (sooner rather than later) because of the antagonism directed at private ownership through government regulations. Tan (2001) also notes that the regulatory environment might inhibit top managers/entrepreneurs, as obtaining regulatory information can be a challenge or even if such information is readily available, it is too general.

Mediating factors in the extent and speed of internationalization include the entrepreneur's background, age, experience and entrepreneurial orientation (EO). In one of the most recent studies on the determinants of internationalization of Chinese firms, Alon and Lerner (2008), using exports as their measure of internationalization, find that the decision to export is positively influenced by the education level of the entrepreneur (or top manager) and the size of the firm (often seen as a proxy for the firm's resources). Unlike Liu, Xiao and Huang (2008), Zhou (2007) also finds that the size of the firm matters for exporting, and argues that this is because larger firms may have more resources and capabilities for learning than smaller firms.

One of the key firm-level mediating capabilities identified is EO, and in the case of China, it is also found to be important (e.g., Zhou 2007), but with some complicated twists. For instance, as Alon and Lerner (2008) report, studies on Chinese firms indicate that the more innovative the company is (a component of EO), the less likely it is to export, and would tend to focus more on the domestic market (although Zhao and Li 1997 do find a positive association between firms' R&D spending and their propensity to export). Tang et al. (2008) find a non-linear, inverted U-shape relationship between a firm's EO and its performance, arguing that firms with too high an EO actually have fewer resources available for internationalization.

Moderating factors such as knowledge, learning and networks have been identified in section 2.1 as the central determinants of internationalization in all theoretical approaches. Peng (1997) conducts a longitudinal case study of three Chinese firms and finds that when firms are denied growth routes, such as generic development or mergers and acquisitions, they might take an alternative route by creating enterprise groups, a

growth strategy that can be characterized as networking or ‘boundary blurring’. Johanson and Mattsson (1988) argue that networks assist firms to overcome the disadvantages of knowledge and experience of foreign markets. Networks, however, play a role in domestic entrepreneurship as well as in exports. Peng (2004), for instance, provides empirical evidence from 366 Chinese villages to illustrate that kinship networks act as informal institutional protection for property rights of private entrepreneurs, which in turn would have assisted these firms in credibly committing to exporting.

In sum, the existing literature on international entrepreneurship in China indicates that the country’s high economic growth has been driven through export-orientation, and that important determinants of this export success are local cost advantages and large inflows of FDI. However, the literature also shows that most exports are due to state-owned and foreign-owned, or firms with foreign partners. This is particularly the case in high-tech sectors, where the exports from China have a low degree of local content. The literature argues that indigenous private entrepreneurs tend to export less often because of limited knowledge, low technological-intensity and institutional limitations. As in empirical studies from other countries, studies on China also tend to find a role for enabling, motivating, mediating and moderating factors in explaining internationalization behaviour.

3 The extent of international entrepreneurship in China

3.1 Who are exporting?

Of the 3,948 firms participating in the World Bank’s Investment Climate Private Enterprise Survey, 183 firms did not respond to questions relating to their export activities. Twenty-seven per cent of those that did respond to the question were exporters (a total of 1,018 firms). This percentage is relatively high in comparison to firm-level studies in other countries; for instance, in Canada 12 per cent of the medium-sized firms export, in Australia only about 4 per cent of all registered firms export, whilst in Africa the percentage of manufacturing firms that export ranges from a low of 3.7 per cent in Ethiopia to 25 per cent in Kenya (see, e.g., Mengistae and Pattillo 2004; Riding, Ensign and Belanger 2007). However, this percentage is close to what has been found in previous firm-level surveys in China. For example, based data from 102,672 private firms obtained from the State Statistical Bureau of China, Girma et al. (2006) find that 23.1 per cent of the firms reported being involved with exporting.

Firms can export either directly or indirectly; in the latter case, for instance, through linkages to multinational enterprises. According to Acs and Terjesen (2008), the decision of a firm to export either directly or indirectly will depend on the number of value chain activities as well as the ‘perceived ex post costs of hold up, agency and monopoly rent extraction’. When the latter factors are important, firms may prefer to export directly. In the case of our sample of Chinese firms, the majority, 66 per cent (constituting 699 firms) prefer to export directly while 34 per cent (249) export only indirectly.

In Table 2 we contrast the exporting and non-exporting firms in our sample using Oviatt and McDougall’s (2005) conceptual framework for the determinants of

internationalization as an organizing framework. We also make a distinction between direct and indirect exporters. The table shows a number of differences between exporters and non-exporters in China. These are similar to those established in firm-level studies in other countries, and include the following:

- i) only about 27 per cent of firms export,
- ii) exporting firms tend to be larger than non-exporters,
- iii) exporting firms grow faster in terms of employment and sales than non-exporting firms,
- iv) exporting firms tend to be younger on average than non-exporting firms,
- v) exporting firms tend to spend more on R&D, and bring out more new products than non-exporters,
- vi) tend to have more foreign ownership/shareholding, and
- vii) have managers with more experience of foreign trade.

Table 2
Comparison of exporting with non-exporting firms in China

	Exporters			Non-exporters
	Total	Direct	Indirect	
Number in the sample	1,018	669	349	2,747
Average export share, %	50.2	55	31	0
Average firm age, yrs	14	13	19	16
Enabling factors				
Manufacturing sector, %	90.3	93	84	58
High technology sector, %	58.3	63	49	47.8
ISO certification, %	53	59	42	29.9
No. of new products introduced over past 3 yrs	30	33	26	13
Spending on R&D (in local currency)	7,692	8,260	6,521	4,644
Motivating factors				
National market share, %	15	15.4	15.6	15.5
No. of competitors in the domestic market	91	77	117	217
Proportion of senior management's time to deal with government regulations, %	18.3	19	16.9	20
% of annual sales as payments to public officials	1.3	1.2	1.6	2.1
Mediating factors				
% of firms with top managers with higher education	86.1	90	78	83
Yrs of experience of top manager with foreign firm	4.8	6.6	1.1	1.7
Average firm size, no. of employees	695	824	454	418
% of small firms (< 20 employees), %	0.05	0.02	11	15.5
Moderating factors				
Member of a business association or chamber of commerce, %	59	61	56	55
Foreign invested, %	44.5	57.6	19.5	10.5
Firm performance				
Employment growth over past 3 yrs, %	19.6	20.4	18	15.7
Sales growth over last year, %	4.1	1.2	15.5	0.74

Source: Authors' own calculations based on World Bank's Investment Climate Private Enterprise Survey.

Table 2 also shows that there are some noticeable differences between firms that export directly, and those that do so indirectly (through intermediaries such as multinational firms). In the case of China, indirect exporters, on average, are much smaller than direct exporters: they have fewer employees, and about 11 per cent of all indirect exporters are small firms, compared to only 0.02 per cent of direct exporters. This suggests that for smaller firms indirect exporting is an important channel for internationalizing. Indirect exporters seem to have less prior experience of international business: on average, top managers of indirect exporters had only one year of experience with foreign firm versus the 6.6 years in the case of a direct exporter. Indirect exporters also spend less money on R&D, and are less likely to have ISO certification. They also bring out fewer new products each year than direct exporters. This might suggest that there is less pressure to innovate on firms who export indirectly or to have managers experienced in international business.

3.2 How many firms start to export within their first three years?

The fact that exporting firms are much younger than non-exporting firms in China suggests that unless firms enter export markets relatively early, they may never do so. In other words, firms might adhere to routines not encouraging for internationalization. If so, this finding is consistent with the assertion by Autio, Sapienza and Almeida (2000) that older firms may find it harder to learn about foreign markets (and ‘unlearn’ habits aimed at the domestic market). In the words of Autio, Sapienza and Almeida (2000: 912):

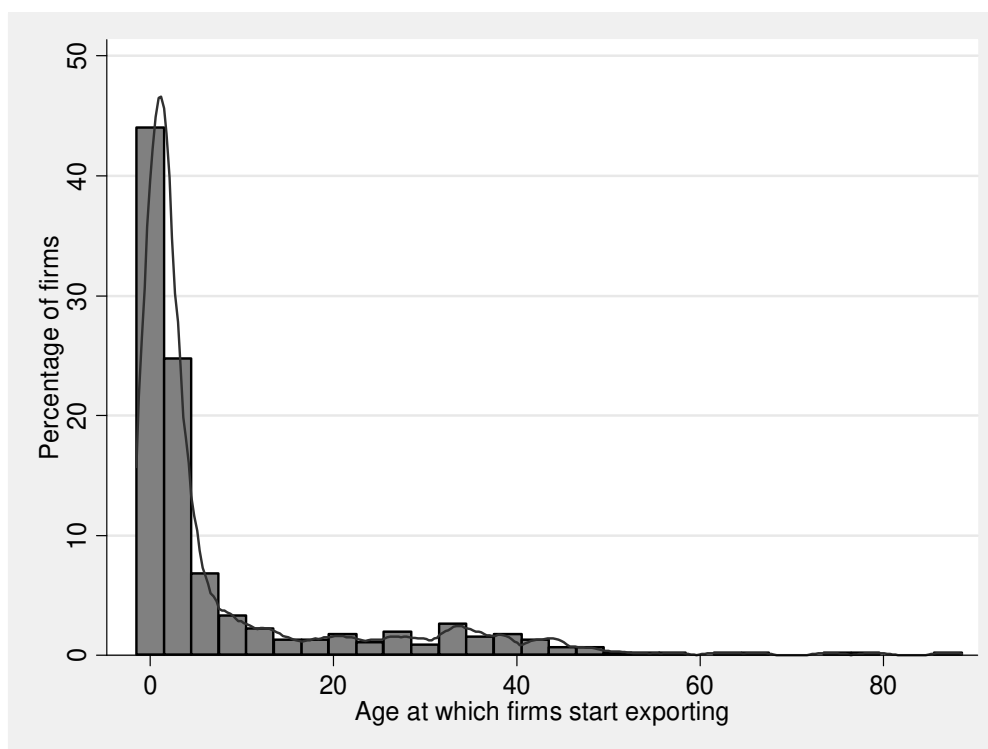
Like cognitive impediments to learning, political and relational barriers to new foreign knowledge develop over time in firms. The more time managers put into building a domestic power base, the more resistant they will be to shifting the major attention of their firms to full-fledged efforts in foreign markets, and the more likely they will be to focus on the negatives of those options.

Given that exporters are much younger than non-exporters, we asked how rapidly after establishment did firms in China start to export. In our sample, for studying the speed to internationalization we have only 525 firms for which information is available as to when they started to export and when they were established. Figure 1 below plots a histogram and Kernel density estimate plot for the speed of internationalization of these 525 firms.

Figure 1 shows that the extent of INVs in China is significant, with the majority of firms for whom we have data, reporting that they had internationalized rather quickly after being established. To be specific, 328 of the 525 firms (i.e., 62 per cent of the responses or 32 per cent of all exporters) for whom we have data, indicated that they started exporting within the first three years. Moreover, 80 per cent of the INVs export directly. The ‘born-global’ phenomenon is thus notable in China.

In the remainder of this section we describe the features of these early internationalizing firms (INVs) and point to some of the ways in which they differ from late internationalizing firms.

Figure 1
Distribution of the age at which Chinese firms start to export



Source: Authors' own calculations based on World Bank's Investment Climate Private Enterprise Survey.

3.3 Summary characteristics of international new ventures

Table 3 compares early internationalizing with later internationalizing firms in China. As in Table 2, we contrast the features of the exporting firms with those of the non-exporters. Of the 1,018 reported exporters, only 525 firms answered the question pertaining to their starting date of export. Table 3 shows that the INVs are much younger on average than the late exporting firms, and that they also export substantially more—62 per cent of their sales compared to 33 per cent of sales in the case of late exporters. Early internationalizing and late exporting firms tend to match up when it comes to the manufacturing sector, and the amount of high technology products produced.

It is also notable from Table 3 that INVs spend more money on R&D, although they introduce fewer new products than the late exporters and on average face fewer competitors in the domestic market.

With respect to the motivating factors, Table 3 shows that the early internationalizing firms tend to be less affected by government red tape (senior managers spend less time with regard to regulations) as well as corruption, whereas INVs spend on average less than late exporters and non-exporters on bribes. This may reflect the fact that a recognized motivation for internationalization in China is the desire of domestic firms to partly escape domestic restrictions.

Table 3
Comparison of INVs with later internationalizing firms

	INVs	Late exporting firms	Non-exporters
Number in the sample	328	197	2,747
Average export share, %	62	33	0
Average firm age, yrs	8.5	31	16
Enabling factors			
Manufacturing sector, %	94	96	58
High technology sector, %	62	58	47.8
ISO certification, %	54	63	29.9
No. of new products introduced over past three yrs	13	17	13
Spending on R&D (in local currency)	9,570	5,956	4,644
Motivating factors			
National market share, %	13.3	15.8	15.5
No. of domestic competitors	122	281	217
% of senior management's time spent on govt. regulations	11.9	13.5	20
% of annual sales as bribes	0.99	1.6	2.1
Mediating factors			
% of firms with top managers with higher education	89	82	83
Yrs of experience of top manager with foreign firm	7	2	1.7
Average firm size, employees	653	808	418
% of small firms (< 20 employees)	0.04	0	15.5
Moderating factors			
Member of a business network, %	54	76	55
Located in capital city, %	13	25	7.1
Foreign invested, %	75	23	10.5
Firm performance			
Employment growth past 3 yrs	28.7	17	15.7
Sales growth over last yr	-7.2	8.4	0.74

Source: Authors' own calculations based on World Bank's Investment Climate Private Enterprise Survey.

As for the mediating factors in early internationalization, the table clearly indicates the importance of international experience and education, as well as firm resources. Thus, amongst INVs, more managers have higher education, and the top manager of the firm has on average seven years of prior experience with a foreign firm versus two-year average in a late exporting firm. Although INVs are, on average, smaller than late exporters, there does not seem to be a significant difference in the proportion of INVs and the late exporters that can be classified as small exporting firms, with only 0.04 per cent for INVs and 0 per cent for late exporters.

Perhaps the most important moderating factor in early internationalization in China is whether or not a firm has foreign shareholders (foreign invested). Table 3 shows that in the case of INVs, 75 per cent have foreign shareholding or ownership, as compared to only 23 per cent of the late exporters. Membership in a business association or chamber of commerce seems to play a bigger role for late exporters and they also tend to be more concentrated in the capital city than early internationalizers.

Finally, Table 3 shows that whereas the INVs enjoy much higher employment growth over the three years preceding the survey, they fare poorly in terms of sales growth.

Indeed, as against the year preceding the survey, sales growth amongst INVs contracted by 7 per cent, versus the 8 per cent growth rate in late exporting firms. Although growth, evaluated on the basis of only one year's sales, is not sufficient to judge the medium of longer-term sales performance of INVs, it does suggest, particularly when contrasted with the much better performance of late exporters over the same period, that early internationalizing firms do face significant risks, and perhaps more volatility in their sales than late exporters (who also export less and use indirect channels when they do export).

4 Methodology

4.1 Estimating equation and estimators

In the previous section we analysed and discussed the extent of early internationalization by Chinese firms. Next we continue with our analysis, with the aim of identifying the determinants and impact of early internationalization. As mentioned earlier, we define early internationalization as a privately-held Chinese owned firm that entered the export markets within three years after start-up. We measure internationalization in two ways: first, by the firm's export initiation decision, that is whether or not the firm undertook exports within the first three years of being established. As dependent variable we code a dummy variable to equal 1 if the firm exported within the first three years after establishment, otherwise 0. Second, we measure the degree of internationalization by the percentage share of exports in the total sales of an early internationalizing firm.

Our dependent variable in the first case is a discrete variable, thus we cannot use a common estimator such as ordinary least squares (OLS). This is because there is a large number of firms with no exports in a particular year: in our dataset only 1,018 of 3,948 firms indicated that they exported; and of these, only 328 had begun to export within the first three years after establishment. The cases of zero exports or no foreign presence may not be random but are due to some particular feature of the individual firms so that using an OLS estimator could lead to biased estimates. We use instead a Heckman two-step estimator, implemented in Stata 9.1. This is used to investigate the determinants of the decision of a (young) Chinese firm to enter the export market, as well as the extent of exports as a second step. The use of the Heckman estimator is particularly appropriate in the present case as it corresponds to the notion that firms go through stages in the internationalization process. Thus we can take into account the fact that there is a difference between the probability that a particular firm will export (which is termed the selection stage), and the level of exports once there are positive exports (which is termed the outcome stage). The latter corresponds to later stages in the export development/internationalization process. Firms select to export, and then decide how much to export; as they gain more experience, they will be entering export markets in a more committed manner (Matthee and Naudé 2008).⁶

⁶ Outcomes are observed only for the firms that selected to export. If the factors that determine the choice/selection whether or not to export differ from those that determine the volume of exports, not taking the selection into account is tantamount to having the model subject to an omitted variable bias (Heckman 1979).

Given our discrete dependent variables, the selection stage can be modelled as follows:

$$E_i^* = D_i \delta + \varepsilon_i \quad (1)$$

Here E_i^* is a latent variable corresponding to the ‘desired’ level of exports, which will only be observed once a firm has decided to export within the first three years, thus $E_i = 0$ if $E_i \leq 0$ and $E_i = 1$ if $E_i > 0$ within three years after start-up. The vector D_i contains the determinants of export initiation decision which will contain variables corresponding to the enabling, motivating, mediation and moderating factors in internationalization as discussed in section 2.

Once E_i is known, the outcome stage, which will correspond to our dependent variable (ii) above, can be modelled as:

$$X_i^* = Y_i \beta + u_i \quad (2)$$

With $X_i = X_i^*$ if $E_i = 1$ and X_i not observed if $E_i = 0$.

Finally, we estimate the impact of early internationalization on firm performance. As dependent variables we use measures of firm performance, sales growth and growth in employment. As noted earlier, there is some debate in the literature about the most appropriate measure of firm performance to use, but these measures have been used frequently, and we have no other measures available for the firms in our sample. As independent variables, we use the speed of a firm’s internationalization, which we define as the period between the time when the firm was established, and when it first started exporting. We control for firm-level characteristics.

4.2 Variables and data

We already discussed our dependent variables in the previous section. The dependent variables were all obtained from the World Bank’s Investment Climate Private Enterprise Survey conducted in 2002 and 2003.

Our explanatory variables and their sources are listed in Table 4. We classify these according to the enabling, motivating, mediating and moderating factors (see Oviatt and McDougall 2005) as was explained in section 2 (see Table 1). Our explanatory variables were obtained from the World Bank’s Investment Climate Private Enterprise Survey. In total, the World Bank made data available for 3,948 Chinese firms. Of these, 1,018 were exporters and 328 were early internationalizing firms. Our choice of explanatory variables with which to measure enabling, mediating, motivating and moderating factors were thus constrained by the questions contained in the questionnaire. We also had to make a prudent choice about the number of explanatory variables to include, as good econometric practice suggests parsimony in model fitting.

Table 4
Variables used in the regression analyses

Variable name	Description
Enabling factors	
Age of firm	The length of time that a firm has been in business, measured as the difference between the date of the survey and the firm's start-up date.
High tech product	A dummy variable which = 1 if the firm is in a high technology sector, which includes IT services, chemicals and pharmaceuticals, electronics and auto and auto components.
ISO certification	A dummy variable = 1 if a firm has received ISO certification.
R&D spending	The value of R&D spending in local currency unit in the year preceding the survey.
New products introduced	The number of new products introduced by the firm over the three years preceding the survey.
Motivating factors	
Government regulations	The per cent of senior management's time taken up to deal with government regulations and red tape.
National market share	The firm's per cent share of the national market.
Competitors	The number of competitors in the domestic market.
Mediating factors	
Firm size	The size of the firm, measured by the number of employees.
Prior experience	A dummy variable = 1 if the top manager had previously worked for a firm which exported.
Education	A dummy variable = 1 if the top manager has a tertiary educational qualification.
Foreign experience	The number of years of experience which the top manager had with a foreign firm.
Moderating factors	
Foreign shareholding	A dummy variable = 1 if the firm has foreign shareholding/ownership and = 0 if the firm is wholly indigenous.
Networks	A dummy variable = 1 if the firm is a member of a business organization or a chamber of commerce.
Firm performance	
Sales growth	The % growth in sales over the most recent year preceding the survey.
Employment growth	The % growth in permanent employment over the past three years.

Source: Authors' own calculations based on World Bank's Investment Climate Private Enterprise Survey.

5 Results and analysis

5.1 Regression results: determinants of internationalization (all Chinese firms)

We estimated Equations (1) and (2) using the Heckman two-step estimator for (i) total exports by all firms in the sample, (ii) direct exports by only those firms that had decided to export directly, and (iii) total exports by those firms that became international within the first three years. In this way we can contrast the determinants of internationalization between direct, indirect, early and later internationalizing firms in China. The regression results are reported in Table 5. We also estimated (1) and (2) for (i) to (iii) above but confined ourselves to indigenous Chinese firms only, i.e., Chinese firms with no foreign shareholding. In our sample there were 3,144 such firms, of which

555 (18 per cent) exported and of which 85 entered export markets within their first three years. These results are reported in Table 6.

In Table 5 we report the results from the selection stage (Equation 1) in the bottom half, and the results from the outcome stage (Equation 2, conditional on Equation 1) in the upper half. At the bottom of the table we report a number of diagnostics, which show that the regressions are statistically significant (as measured by the Wald χ^2 test) and that the correlation coefficient (ρ) between the error terms in (1) and (2) is relatively large (between -0.36 and -0.83). This indicates that it is appropriate in this case to use the Heckman two-step estimator, and that estimating the outcome Equation (2) with OLS would have resulted in biased estimates.

Table 5
Heckman two-step regression results for all Chinese private firms
(dependent variables: decision to export and export share)

Variable	All exporters		Direct exporters		INVs: total exports	
	Outcome model					
Age of firm	-0.23	(-1.30)	-0.53	(-2.00)**	-0.78	(-0.83)
National market share	-0.31	(-3.02)**	-0.40	(-3.09)**	-0.41	(-2.65)**
Competitors	0.00	(-0.19)	0.008	(0.79)	0.01	(1.28)
New products introduced	0.08	(1.74)*	-0.04	(-0.75)	0.04	(0.57)
Government regulations	0.50	(2.28)**	0.50	(1.76)*	1.06	(1.98)*
Prior experience	-6.13	(-0.54)	-9.28	(-0.76)	-9.9	(-0.43)
Firm size	-0.007	(-2.19)**	-0.009	(-1.82)*	-0.004	(-0.71)
Foreign experience	0.74	(2.47)**	0.39	(0.94)	0.97	(3.07)**
Networks	-8.73	(-1.40)	-16.10	(-2.01)*	-11.26	(-1.45)
Foreign shareholding	13.10	(1.95)*	-8.67	(-0.70)	18.82	(0.47)
Constant	52.23	(2.33)**	104.4	(2.76)**	49.67	(0.67)
	Selection model					
Age of firm	-0.00	(-0.07)	-0.002	(-0.34)		
High tech product	0.33	(2.22)**	0.33	(1.91)*	-0.13	(-0.51)
ISO	0.61	(4.03)***	0.47	(2.75)**	0.10	(0.39)
Competitors	-0.00	(-0.81)	-0.00	(-0.94)	-0.00	(-0.57)
R&D spending	-0.00	(-1.03)	-0.00	(-1.74)*	-0.00	(0.93)
Government regulation	0.002	(0.25)	0.003	(0.38)	-0.02	(-1.55)
Education	-0.03	(-0.12)	0.31	(1.00)	0.26	(0.73)
Prior experience	1.40	(8.36)***	0.86	(5.05)***	0.76	(3.09)**
Firm size	0.0004	(3.75)***	0.0005	(4.41)***	-0.00	(-0.48)
Foreign experience	0.006	(0.45)	0.03	(2.26)**	0.003	(0.18)
Networks	0.27	(1.76)*	0.27	(1.53)	-0.12	(-0.49)
Foreign shareholding	0.51	(2.87)**	0.86	(4.57)***	1.28	(5.30)***
Constant	-2.19	(-8.44)***	-2.95	(-7.70)***	-1.24	(-2.77)**
No. of obs	638		682		175	
Censored obs	512		602		114	
Uncensored obs	126		80		61	
Wald χ^2	192.17***		141.65***		99.37***	
ρ	-0.42		-0.83		-0.36	

Note: z-ratios in parenthesis. ***, ** and * indicate significance at the 1%, 5% and 10 % levels respectively.

Source: Authors' calculations.

First, we discuss the results from the selection model (i.e., the factors that determine the probability that a firm will initiate internationalization). Comparing across the three categories of internationalizing firms, namely all exporters, direct exporters and early exporters (columns 2 to 4), we can see that there are broad similarities, but also some notable differences. The three categories are similar in that foreign shareholding and prior experience of the top manager/entrepreneur in an exporting firm are significant determinants raising the probability that a firm will enter export markets. Unlike in the case of OLS regression the marginal effects from a selection model need to be computed; the rule of thumb is that the marginal effect can be obtained by dividing the coefficient on a variable by 2.5. Using this rule of thumb, the results in Table 5 show that the probability in China of a firm to consider exporting increases by about 50 per cent if the entrepreneur or top manager has previously been involved in an exporting firm, and that having foreign shareholding or ownership raises the probability of exporting by about 20 per cent.

The results in Table 5 also suggest that INVs are influenced by different considerations in internationalization. Thus, prior experience in an exporting venture, and foreign shareholding/ownership are the only two determinants of whether or not a firm in the present sample will start to export within its first three years. Foreign shareholding has by far the largest effect—also when compared to the entire sample—with foreign shareholding increasing by about 50 per cent the probability that a new firm will start exporting before its third year. In the case of all firms having a high technology product and ISO certification raises the probability of exporting. Firm size is also significant, although the coefficient is very small.

In the case of all exporters (direct and indirect) being part of a network is also important in raising the probability that a firm will export, although networks do not seem to be important for either direct exporters, or for the decision to export within the first three years. Surprisingly, being a member of a business network is negatively associated with a firm's export share in the case of directly exporting firm (column 3). What these findings suggest is that in China, business networks enable firms not wishing to export directly, to enter export markets indirectly. Thus networks could facilitate contacts and introductions to other firms, such as multinational enterprises, through which exports can be handled. This explanation is consistent with the findings of Peng (2004) on the roles of networks in China. However, for directly exporting firms, networks do not matter for the decision whether or not to export, but if the firm is member of a network, its share of exports tends to be lower. This may reflect the possibility that networks may lock firms into practices and procedures that are not conducive to rapid learning and experimentation, and that networks in China are relatively more effective for participation in the domestic than the international markets.

Once a firm decides to start exporting, it has to decide the extent/share of its exports. In Table 5 the factors that influence the eventual outcome in terms of the share of total sales resulting from exports, are identified in the upper part of the table. Here again there are some common factors, and it seems that INVs are somewhat different from the general exporters or direct exporters. Two factors which impact on the ratio of exports of all firms are their share of the national market, and government regulations. The coefficient on their national market share is negative (ranging from -0.31 to -0.41), and tends to be larger for direct exporters and INVs. The size of the coefficient implies that in the general case a 10 per cent increase in a firm's domestic market share is associated with an 8 per cent smaller export share. This finding is consistent with findings

elsewhere that Chinese firms may enter international markets because of strong domestic competition and that with stronger domestic competition they would focus more on expanding their export market.

Government regulations have a significant impact on the extent of exports of all firms, but most noticeably on the exports of INVs. The coefficient, perhaps surprisingly, is positive. However, it should be kept in mind that the current regression analysis does not imply causality, but rather association. The significance, and positive sign of the coefficient on government regulations therefore suggest that the more firms export, the more time their top managers/entrepreneurs need to spend on government regulations, but that these do not discourage exports; it can also be seen in the selection model that government regulations have no impact on the decision/probability of any type of firm to enter export markets. However, when they do so, and as they export more, the 'paper work' becomes significant.

INVs seem to differ from other exporting firms in terms of the factors that determine the extent of their exports: firm size plays no role in the case of INVs, and the top manager/entrepreneur's years of previous experience in a foreign or foreign-owned firm is much more important. It is interesting to note that whereas firm size was positively associated with the probability of entering export markets, once a larger firm has entered export markets, the share of exports in total sales is less than that of smaller firms. For INVs, the previous experience of their top manager or entrepreneur is important: an additional year of experience is consistent with an increase of around 9 per cent in their export share.

Finally, in the case of the entire sample we note that whereas foreign shareholding is an important determinant of the decision to enter export markets, it is important only in expanding the share of exports in total sales. In case of direct exporters and INVs, foreign shareholding is not significantly associated with the share of exports. This could point to the importance of indirect exports through the mediating effects of multinational enterprises (MNEs) in China for many exporters, but not for INVs.

5.2 Regression results: determinants of internationalization of indigenous Chinese firms

The results reported in Table 5 are for all Chinese firms, regardless of whether they have foreign shareholding or ownership, which, as we have seen, is a significant determinant of the probability to export and specifically for entering export markets at an early age. In this section we limit our attention only to indigenous Chinese firms, i.e., firms without any foreign shareholding or ownership. As in the previous case, we estimate Equations (1) and (2) for the case of (i) all indigenous Chinese firms in the sample, (ii) only those indigenous Chinese firms that export directly, and (iii) only those indigenous Chinese firms that start exporting within three years of start-up.

The regression results are given in Table 6. As in Table 5, we can see that the regressions are statistically significant (as measured by the Wald χ^2 test) and that the correlation coefficient (ρ) between the error terms in (1) and (2) is relatively large in at least two cases (columns 3 and 4). This indicates that it is appropriate in these cases to use the Heckman two-step estimator, and that estimating the outcome Equation (2) with OLS would have resulted in biased estimates.

Table 6
Heckman two-step regression results for indigenous Chinese private firms
(dependent variables: decision to export and export share)

Variable	Indigenous exporters					
	All exports		Direct exports		INVs	
	Outcome model					
Age of firm	-0.06	(-0.39)	-0.42	(-2.25)**	0.57	(0.72)
National market share	-0.13	(-1.22)	-0.11	(-1.02)	0.03	(0.26)
Competitors	-0.00	(-0.29)	0.005	(0.63)	0.06	(0.73)
New products introduced	-0.02	(-0.33)	0.07	(1.18)	-0.14	(-0.17)
Government regulations	0.02	(0.09)	0.30	(1.04)	1.30	(2.51)**
Prior experience	1.15	(0.10)	8.50	(0.86)	-28.50	(-3.12)**
Firm size	-0.00	(-0.40)	-0.005	(-1.32)	0.002	(0.36)
Foreign experience	1.08	(1.13)	0.50	(0.47)	-0.42	(-0.23)
Networks	-12.13	(-1.63)	-16.94	(-2.38)**	4.23	(0.52)
Constant	32.3	(1.46)	50.49	(1.83)*	31.12	(1.95)*
	Selection model					
Age of firm	-0.00	(-0.55)	-0.01	(-0.85)	-	
High tech product	0.40	(2.18)**	0.24	(1.06)	0.15	(0.43)
ISO	0.70	(3.68)***	0.73	(2.95)**	-0.71	(-1.93)*
Competitors	-0.00	(-0.76)	-0.00	(-0.51)	-0.002	(-0.84)
R&D spending	-0.00	(-0.66)	-0.00	(-0.56)	-0.00	(0.77)
Government regulation	0.00	(0.40)	0.00	(0.37)	-0.04	(-2.00)**
Education	0.08	(0.32)	0.74	(1.38)	1.02	(1.61)
Prior experience	1.50	(7.21)***	0.81	(3.44)***	0.82	(2.34)**
Firm size	0.0004	(3.14)**	0.0005	(4.31)***	-0.00	(-1.11)
Foreign experience	0.05	(1.40)	0.13	(3.15)**	-0.17	(-2.07)**
Networks	0.33	(1.69)*	-0.03	(-0.14)	-0.68	(-1.87)**
Constant	-2.44	(-7.82)***	-3.40	(-5.56)***	-0.52	(-0.83)
No. of obs	510		548		114	
Censored obs	440		514		95	
Uncensored obs	70		34		19	
Wald χ^2	83.78***		71.33***		31.24**	
ρ	0.01		-0.37		-0.83	

Note: z-ratios in parentheses. ***, ** and * indicate significance at the 1%, 5% and 10 % levels, respectively.

Source: Authors' calculations.

Table 6 shows that also here, there are some commonalities as well as some notable differences between the export determinants of the various types of indigenous Chinese firms. Similarly to the results in Table 5, we can see that the prior experience of the top manager/entrepreneur in an exporting firm is a highly significant determinant of the probability that a firm will enter the export markets. Also, in the case where total exports (direct and indirect) are examined (column 2), having a high tech product, ISO certification and being a larger firm are again factors that have a statistically significant and positive impact on the probability that an indigenous firm will start to export. However, in the case of indigenous firms, as opposed to the sample that included foreign invested firms, belonging to a business network is now significant for all

exporters (column 2) in determining the probability of exporting, but not significant in explaining the share of exports once a firm starts to export.

We can see that the number of years of prior experience of the top manager/entrepreneur in a foreign-owned firm is positively and significantly associated with the probability that an indigenous firm will start exporting directly. As far as the determinants of the extent of exporting are concerned, once an indigenous firm makes the decision to start exporting directly, Table 6 shows that only two variables are noted as statistically significant: the age of the firm and whether the firm belongs to a business network. The age of the firm is negatively associated with the extent of exporting, suggesting that as firms age, their export shares decline. This would be the case if either the aging firms become less adaptable/flexible in adjusting to international challenges (older firms may be slower to learn, as noted by Autio, Sapienza and Almeida 2000) or the exporting firms over time turn their international experience into an advantage domestically so that the share of their domestic sales increases. As in the case of Table 5, we find that for indigenous firms in China membership in a business network is negatively associated with the firms' export share.

Of the 3,144 indigenous Chinese firms in the sample, only 85 firms (3 per cent) were early internationalizing firms or international new ventures, i.e., entering export markets within three years after start-up. In column 4 of Table 6, we report the regression results of modelling the decision of an indigenous firm to start exporting within the first three years, as well as the subsequent export shares for the firms that make the decision. It can be concluded that indigenous INVs in China face a number of different determinants in their internationalization behaviour. For one, belonging to a business network seems to delay the internationalization of indigenous firms in China: we can see this from the fact that for exports in general the effect of network membership is positive, but the effect is negative when considering early exporting. Again, as in the previous results, this suggests that business network membership in China offers advantages mainly for competing in the domestic market or for exporting indirectly, and that firms selecting to become members of such business networks have their primary sights on the domestic market; they have less international orientation.

What we also find surprising and unexpected as far as the internationalization behaviour of indigenous Chinese INVs is concerned, is the observation that the prior foreign experience of the top manager and the firm's ISO certification are negatively associated with the probability of early internationalization. This suggests that firms might find it difficult and time-consuming to obtain the ISO certification, and that few firms which internationalize within the first three years apply for the certification. There might be two explanations for the negative impact of a top manager's previous work experience in a foreign owned firm. The first is consistent with the IE literature, in which early internationalization is seen as an attempt by the firm to strengthen its firm capabilities and to learn quickly about foreign environments. Thus it may be the case that the more experience a manager or entrepreneur has had in a foreign firm, the less urgent the need to export early seems to be, and the indigenous firm could, instead, use the existing foreign experience to obtain competitive benefits first in the domestic market—and perhaps later enter the export markets, and in a more direct manner once they do so.

On the other hand, the delayed internationalization of firms in which top managers have foreign experience may imply that indigenous Chinese firms may underestimate the complexities involved in 'going global'. Unaware of the risks and resources required for

successful internationalization, indigenous companies may be ‘rushing in’. Thus, the firms that have the benefit of managers with foreign experience may be more cautious, preferring to internationalize more gradually.

Table 6 shows that government regulations also create a barrier for firms to internationalize within the first three years. This is the only instance in this paper where we find the extent of government regulations to be prohibitive towards exporting. When the firms are older, or have foreign shareholding, government regulations do not seem to have the same negative impact, suggesting that there might be a learning/experience process involved in handling the burden of bureaucracy.

Finally, we see from Table 6 that as far as the export share of indigenous Chinese INV is concerned, prior experience of exporting by a top manager has a negative association. Thus, whilst prior exporting experience helps a new indigenous firm to break into the export markets, it lowers a firm’s subsequent export share. This could reflect the fact that going global is often a part of a firm’s strategy to raise its competitiveness in domestic markets. Thus, the INVs with export-experienced top managers may be more successful in benefiting from internationalization, and will turn these benefits to their advantage on the domestic market, leading to a rise in their share of domestic sales relative to export sales.

6 Summary and conclusions

The aim of our paper was to contribute to the growing literature on international entrepreneurship by improving our understanding of the extent and impact of international new ventures (INVs) in emerging economies, and specifically by improving our knowledge of international entrepreneurs and INVs in China.

Through our analysis of the 3,948 firms participating in the World Bank’s Investment Climate Private Enterprise Survey, it was found that 22.2 per cent (835 firms) of the responding 3,948 firms were exporters and that even though this percentage was relatively high in comparison to firm-level studies in other countries, it was on par with observations from other earlier Chinese firm-level studies. It was also noted that exporting firms in China tend:

- i) to export more directly,
- ii) to be larger than non-exporting firms,
- iii) to grow faster in terms of employment and sales than non-exporting firms,
- iv) to be younger on average than non-exporting firms,
- v) to spend more on R&D, and bring out more new products than non-exporters,
- vi) to have more foreign ownership/shareholding, and
- vii) to have managers with more experience of foreign trade.

A particular contribution of our paper is the focus on the neglected topic of international new ventures (INVs) in China. We find this phenomenon to be significant, with 32 per cent of exporting firms having started their exports within the first three years. Analysis showed that foreign shareholding, business networks and prior exporting experience of

the top manager/entrepreneur are significant determinants in raising the probability that the firm will enter the export markets and, specifically, that it will start within three years of set-up. It was noted that in China the probability of a firm exporting increases by about 50 per cent if the entrepreneur or top manager has previously been involved in an exporting firm, and that having foreign shareholding or ownership raises the probability by about 20 per cent. These two variables, respectively, fall into the mediating and moderating factor categories suggested by Oviatt and McDougall (2005). The positive role played by prior experienced top manager/entrepreneur in INVs is also reiterated elsewhere in the literature (e.g., De Clercq and Bosma 2008; Zucchella et al. 2007; McNaughton 2003). The positive impact of having foreign ownership for 'going global' is consistent with Autio et al. (2005) who emphasize that being a part of a network is an essential foundation for firm internationalization and that it accelerates INVs learning process.

Furthermore, it was found that the extent/share of INV and the exports of directly exporting firms was influenced by their success on the national market, as well as government regulations. It was estimated that a 10 per cent increase in a firm's share on the domestic market is associated with an 8 per cent smaller share in exports. This finding is consistent with findings elsewhere: Chinese firms may go international because of strong domestic competition and that with stronger domestic competition they focus more on expanding their export markets. It can be concluded that the more firms export, the more time top managers/entrepreneurs need to handle government regulations, but that this does not discourage exports. This may contradict the main view in the literature, as in Fonseca Lopez-Garcia and (2001), Klapper, Laeven and Rajan (2006) and Shaw and Darroch (2004) who find that a less conducive environment where firms face a heavy regulation burden is often associated with fewer new start-ups as well as slower firm growth.

With regard to indigenous Chinese firms, it was determined that they enter internationalization based on the years of foreign-firm experience of their top manager/entrepreneur, firm size and whether or not they had an ISO certification. The share of the indigenous firms' (direct/INVs) exports is once again influenced by the foreign-firm experience of their top manager/entrepreneur as well as the size of the firm, its network affiliations and the degree of subjection from government regulation.

A number of avenues for further research into international entrepreneurship in China stands out from the present analysis. One is the issue of firm size: to investigate how small firms (constituting the minority in the present sample) internationalize. A second possible avenue for further research is determining how early internationalization impacts on firm performance. In this paper we found tentative evidence for China that the firms which internationalized at an early stage may perform worse than firms internationalizing later; this is particularly true if the firms are indigenous. And third, we have found an ambiguous role in internationalization for networks. Further research could shed more light on the nature and impact of Chinese business networks on the extent and success of a firm's internationalization. Finally, more and more Chinese firms are going global, not only through exporting, but through outward foreign direct investment. The sample used in this paper did not enable us to investigate this dimension of internationalization, and it remains a relatively unexplored field of study.

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