

BORN GLOBALS - IS THERE FIRE BEHIND THE SMOKE?

Eliane Choquette; Morten Rask, Davide Sala & Philipp Schröder

Aarhus University

ABSTRACT

In this paper we ask whether Born Globals are different from other start-ups, apart from their rapid internationalization. Based on a unique longitudinal data set of the population of start-ups located in Denmark and established between 1995 and 2006, we are able to examine and, for the first time, compare several central performance characteristics and socio-economic impacts of Born Globals to a number of properly defined control groups of other types of start-ups, i.e. new ventures that stay local or feature less impressive internationalization patterns. We find that Born Globals are indeed on average superior to other start-ups on several performance measures. However, when looking at their growth, no systematic difference from other start-ups is found.

Keywords: Born Global, start-ups, socio-economic impacts, longitudinal data, Denmark

INTRODUCTION

New ventures that from inception generate a significant share of their turnover on international markets, so-called Born Globals, are perceived as an important firm archetype associated with a series of desirable effects for the domestic economy. While the main focus of existing research has been on identifying the antecedents and drivers behind the creation of such firms, the underlying assumption that these firms are superior to other start-ups has prevailed and has, so far, not been put to a proper test.

The aim of this paper is twofold: first, we assess how pervasive the phenomenon of Born Globals is, i.e. to which extent this type of start-ups is observed in an economy. Second, we wish to remedy to the lack of evidence on the development and indirectly the socio-economic impacts of Born Globals. The essence of this paper resides in comparing the evolution of Born Globals, in terms of turnover, employment, productivity and export scope, to the one of other start-ups that either never internationalized or did so at a slower pace and/or in a smaller scale. We do so by using the population of manufacturing start-ups located in Denmark founded during the period from 1995 to 2006.

The results of this empirical exercise present, for the first time, a proper control group where we start out by observing all firms in the Danish economy for a prolonged period of time in order to identify the population of startups, including Born Globals. This is an exercise that to our knowledge in the Born Global literature not has been done before. We find that Born Globals are indeed different: both compared to the entire population of startups as well as to other startups with other internationalization patterns than Born Globals. For example, Born Globals outperforms most other types of start-ups in terms of turnover, employment, and growth in the number of export destinations.

These results expand our knowledge of Born Globals beyond the start-up phase, which contributes to the future theoretical refinement in the field of International Entrepreneurship, trying to explain why these start-ups evolve the way they do. By showing how Born Globals compare to other start-ups in

the longer run, this paper moreover presents insights as to whether helping or encouraging firms to internationalize early is in the best interest of an economy or not.

The remainder of the paper is as follows: In the next section, we provide a brief review of the literature on Born Globals. The empirical approach adopted in our paper is thereafter presented, followed by a presentation of the data and the results. The last section concludes.

LITERATURE REVIEW

International Entrepreneurship (IE) has received increasing attention from a number of researchers over the last decade. What we know from prior research is that Born Globals are characterized as new ventures that rapidly derive a significant share of their turnover from many foreign markets. A recent thematic analysis illustrates that the international entrepreneurship domain is both influenced by the entrepreneurship and the international business literatures (Jones, Coviello, & Tang, 2011). IE research is very often viewed with an outset from the publication of Oviatt & McDougall's (1994) seminal article in which an international new venture is defined as a "*business organization that, from inception, seeks to derive significant competitive advantage from the use of resources and the sale of outputs in multiple countries*" (p.49). They furthermore suggest that there are four types of new ventures: export/import start-ups, multinational traders (with a multi-domestic approach), geographically focused start-ups (with foreign operations beyond exports) and global start-ups. The first two types of new ventures are not manufacturing firms and logistics is the primary activity coordinated across countries. Therefore their survival and growth can be understood through the well-documented research on exports and early internationalization (Andersson, 2000). Of the two remaining types, global start-ups have received the most conceptual and empirical attention in the international entrepreneurship literature.

Knight & Cavusgil (1996) labeled these global start-ups as Born Globals and many others have followed this path (Chetty & Campbell-Hunt, 2004, Rialp, Rialp, & Knight, 2005). The entrepreneurship angle on these rapidly internationalizing firms was suggested already by McDougall

(1989) but early research has generally been dominated by international business viewpoints, which emphasized the short time lag between new firm establishment and its first international market entry. Yet, because the objects of research are newly established firms, it became obvious that a greater cross-fertilization between international business and entrepreneurship research was necessary and started to be called for (Madsen & Servais, 1997). Moreover, Oviatt & McDougall (1994) early on stressed that the reasons why firms are born as international new ventures as well as their role on the international market need to be further researched. The desire to better understand firms that rapidly internationalize naturally led to a large amount of research combining insights from both fields. Recently, Rask & Servais (2012) reviewed how prior research has conceptually modeled the merger of entrepreneurship and international business into the field of international entrepreneurship and, at the image of the two fields, found that existing conceptual models primarily focus on the founder or founding team as well as the speed, extent and scope of the internationalization process of such firms. Based on their review of the empirical literature on Born Globals, Madsen and Servais (1997) conclude that the background of the founder of the new venture is of key importance to our understanding of the phenomenon of Born Globals. This finding is in line with the arguments put forward by Oviatt & McDougall (1995) and Burgel and Murray (1998). Madsen and Servais (1997) emphasize factors like education as well as international professional and personal experience in creating the needed global mindset of entrepreneurs and thereby decreasing psychic distances. Knight and Cavusgil (2004) show that born global firms' entrepreneurial orientation is associated with an innovative and proactive approach to internationalization and that because of their unique entrepreneurial competences and outlook they are faster at making the leap into international markets. Yet, other facets of the Born Global phenomenon need to be researched for us to fully understand it. For instance, only scarce attention has been given to whether and how this type of firms contributes to the society in which they are located, despite the policy implications of such questions. In light of that, finding any insights on the socio-economic impacts of Born-Globals appears to be a very difficult exercise, possibly due to the lack of large scale, longitudinal studies (Coviello & Jones, 2004, Rask & Servais, 2012, Sui, Yu, & Baum, 2012). Very recent work on international new ventures is moving

towards the use of larger scale, longitudinal assessment of the phenomenon (Sui, Yu, & Baum, 2012), which is the approach used in this paper. Through a very extensive literature search, we found only few pieces of literature supporting the idea that Born Globals have a positive socio-economic impact. In Israel, one of the largest centers in the world for start-up enterprises and where a relatively large percentage becomes international traders, findings show that high-tech companies and especially Born Globals allowed the Israeli economy to escape from the brunt of the Great Recession of 2008 (Almor, 2011). Another recent study made by the European Union (Eurofound, 2012) shows that because of their young age, Born Globals tend to be mainly micro or small enterprises. Nevertheless, as they are young they are observed to possess high job creation potential. Entrepreneurs and staff in Born Globals are highly skilled and educated, particularly in their knowledge of technology and languages, and command higher than average wages. Furthermore, due to their relationships with other firms and their way of doing business (for example, through outsourcing production) there is anecdotal evidence that Born Globals have positive effects in terms of job creation in other companies.

In other words, the limited empirical evidence suggests that Born Globals positively contribute to the society in which they are located, but further research in other contexts and of larger scale is necessary. We know from the entrepreneurship literature that most entrepreneurial activities are considered to be beneficial for their surrounding society (Schumpeter, 1934/1961) in terms of economic growth meaning increase in labor force (Baumol, 1968) as well as in higher productivity (Wennekers & Thurik, 1999). Enlarging the scope of a firm's markets may be translated into economies of scales and possibility for further growth, which could have been otherwise limited by the size of the domestic market. Yet, given the risk associated with internationalization, early entry into export markets could also impede firms' performance, an angle that has not been discussed in the literature so far.

From the existing literature about the behavior of Born Globals discussed in the previous pages and with inspiration from the entrepreneurship literature mentioned above, we expect that the socio-economic impacts of the Born Globals will be through their contribution to the home country society by being faster at creating relative high level of turnover, employment and productivity.

EMPIRICAL STRATEGY

The first objective of this paper, namely to investigate the prevalence of Born Globals from an economy-wide perspective, is reached by presenting figures on the frequency of Born Globals across industrial sectors and years. The distribution of firms across sectors enables us to uncover a potential concentration of such start-ups in particular industries while depicting the share of Born Globals among newly established firms over the years allows us to assess whether their creation rate change over the years.

A core step in our analysis is the identification of Born Globals and the categorization of other kinds of start-ups. We follow previous research and operationalize Born Globals as firms that within three years from their inception export at least 25% of their turnover (Knight, Madsen, & Servais, 2004, Kuivalainen, Saarenketo, & Puumalainen, 2012, Kuivalainen, Sundqvista, & Servais, 2007, Zucchella, Palamara, & Denicolai, 2007). It is a working definition that abstracts from the destinations served, but rather captures the involvement of the firm on international markets by means of sales volume abroad (extent) and the rapidity at which international activities are implemented (speed). Prior research has often taken into account the number of export destinations (scope) when defining Born Globals. In this paper, we test possible differences in terms of export scope between Born Globals and other start-ups.

To investigate whether Born Globals are different or special relative to other young enterprises, we need to define the relevant categories for a comparison. As a principle, we should be comparing Born Globals to other firms that are similar in many respects, but in the salient characteristic of Born Globals. In line with our working definition, we deem the speed and the extent at which start-ups become international players as their most relevant characteristics. Therefore, all other comparison groups are constructed based on these two dimensions.

Using data on the population of firms in Denmark, we can easily identify start-ups at the year of inception and follow them over time, which enables us to provide a refined categorization of other kind of new firms. Figure 1 presents the categorization of each of these sub-types of start-ups. As a

first step, we split all new firms according to the speed at which they internationalize, where firms starting to export during their first three years of life are labelled "*Born-Exporters*" (BE). Start-ups which start exporting after three years from foundation are labelled "*Grown-Exporters*" (GE). We further refine these categories by looking at the extent of export activities over time. BE comprises Born Globals (BG), but also those firms that start exporting at an early stage of their life, but never grow to export a significant share of their turnovers, the "*Born-Exporters, low-extent*" (BELE). Likewise, some of the GE will never reach the 25% export sales threshold in their life span, the "*Grown-Exporters, low-extent*" (GELE). Some of the BE and GE will eventually export more than 25%, the "*Grown-Globals*" (GG). Start-ups that never internationalize in the period they are observed ("*Stay-Locals*" (SL)) are also considered as a comparison group.

In our analysis, we use these categories to compare several performance measures across start-up types. Through regression analysis, we assess whether Born Globals exhibit significantly larger levels of or growth in employment, productivity, and turnover during our sample span. While these variables are interesting per se, and have interesting implications for the domestic market, they do not represent the international dimension of Born Globals. Using disaggregated customs data, we extend our analysis also to the number of destinations to which each firm exports. This extension is possible because the BG status is independent of the market portfolio of these firms, and therefore we can test whether Born Globals outperform other firms in the economy along the international dimension. Had we used the number of destinations to define BG firms, a mean-test would tautologically confirm that on average Born Global export to more markets.

In our analysis we account for unobserved industry or time shocks that could also cause performance differences across firms. For instance, suppose that a foreign demand shock affects severely all firms but Born Globals. We are then likely to observe a significant difference in the turnover of any type of firms relative to BG firms, but not because of born globals' salient characteristics, but rather because of a shock we did not account for. To control for time and industry we use the two following linear regression models;

$$y_{ijt} = a + b_1bg_{ij} + j + t + e_{ijt}, \quad i = 1, \dots, N; t = 1, \dots, T. \quad (1)$$

$$y_{ijt} = a + b_1bg_{ij} + b_2gg_{ij} + b_2bele_{ij} + b_2gele_{ij} + j + t + e_{ijt}, \quad i = 1, \dots, N; t = 1, \dots, T. \quad (2)$$

where y denotes the outcome of interest of firm i in industry j in year t ; bg is a dummy variable for BG firms. Likewise, gg , $bele$, $gele$ are the indicators for the respective firm types. Because a firm obtains and preserves its status whenever it satisfies all criteria of our working definitions, the variable bg as well as the indicators for any other category is constant over time for a given start-up. For this reason, we do not control for firm fixed effects. t are year fixed effects and j are industry fixed effects. Finally, N is the total number of firms, and T is the total number of periods. The difference between the two models is that in the first one, BGs are compared to all other start-ups while in the second model BGs are compared to SL only (the base category). As such, when b_1 is statistically significant, it means that the mean of y for BG is statistically different from the one of SL, even after controlling for time and industry fixed effects. To find out whether “bg” and “gg” are also (statistically) different from one another, we perform a Wald test for the equivalence of b_1 and b_2 in model 2. This method thereby opens the door to cross-comparisons of any type of firms.

Data

To investigate the importance of born-global firms in an economy, one needs a large dataset not only comprising the whole population of firms but also information on each firms' year of establishment as well as foreign sales. We construct such a dataset by combining different firm registers available from Denmark Statistics. To implement our working definitions of firm types, we need for any given year and firm the following variables: turnover, export revenue and the year of foundation. The share of revenue sold abroad, i.e. export revenue divided by total turnover, constitutes the export intensity of the firm. To measure the socio-economic performance of different types of start-ups, we further need information on the number of employees and value added, which we use to compute the labor productivity of each firm in each year as value added per employee. We also use 2-digit industry codes to control for industry fixed effects.

Moreover, through a unique identifier, we link our firm data to custom data. This dataset provides detailed information on exporting activities of each firm in each year, both at the product and destination level. From this, we retrieve information on the scope of international activities of different start-ups and compare across categories.

In constructing our final sample, we eliminate observations which show inconsistent figures. In particular, we regard the following cases as data inconsistencies: a total or a foreign negative turnover, export revenues greater than total revenues, non-current assets or total assets that are negative, a year of foundation subsequent to when the firm is first observed, value added and equity that are both negative. Moreover, we limit our regression analyses to manufacturing start-ups as the detailed export data refers to export of goods only, and not of services. Finally, we exclude firms for which the first year we observe is larger than the founding year. This allows us to track the start-ups over time and compare their path. We end up with a panel of 566 manufacturing start-ups founded between 1995 and 2006, for a total of 3440 observations.

RESULTS

Tables 1 and 2 present the distribution of different firm types over the years and across sectors. From table 1 we see that around one-third of all new ventures established in Denmark between 1995 and 2006 are Born Globals. The number of Born Globals established every year has been growing while the share of all new ventures categorized as Born Globals has been more volatile. Table 2 shows that Born Globals are found in all manufacturing sectors, though they appear to mainly concentrate in the manufacturing of metal. The table also depicts a relatively equal distribution of new ventures across with the categories of BG, BELE and SL, together accounting for the large majority of start-ups. *Born Exporters* is the biggest group of startups, which suggests that speed matters in the internationalization process. In our sample, it appears that the norm is that either new ventures internationalize shortly after inception or never. What distinguishes Born Globals from other international new ventures is the extent at which they export. Indeed, Grown Globals only represent 2 percent of all start-ups. These

figures tell us that Born Globals are undeniably widespread in the Danish economy and that they are as common as start-ups never internationalizing and those internationalizing to a lower extent.

After having looked at the prevalence of Born Globals, and showing that indeed they account for a large part of all start-ups, we now turn to the part of our analysis where we assess whether Born Globals outperform other type of start-ups, as generally implicitly assumed in the literature.

Table 3 presents the summary statistics of the variables that we look at in our regression analysis for the overall sample as well as for each individual start-up type. While these numbers do not account for specific industry or time shocks that could also cause performance differences across firm, they give us a flavor of what is to come, namely that on average Born Globals are superior to all other start-ups when looking at levels of turnover, employment, productivity and export scope whereas differences in growth are less conclusive.

As shown in Table 4, when accounting for industry peculiarities and time effects, most of differences in terms of socio-economic outcomes remain, with the exception of labor productivity which turns out to be insignificant. The magnitude of these effects is considerable as Born Globals on average appear to have a turnover and a level of employment that are 79 percent and 60 percent higher compared to all other types of start-ups confounded. Naturally, when comparing to the group of ventures that never internationalize, these differences increase (see columns (ii), (iv)) and compared to this control group, Born Globals appear to be significantly more productive, of a magnitude of 6 percent. When looking at the difference between the coefficients estimates, we see that Born Globals have on average a higher turnover and employment than new ventures that internationalized to a smaller extent or at a slower pace. We also show that Born Globals are significantly different from other international start-ups when it comes to the scope of their export activities. Born Globals, on average, export to 7 more markets.

The previous results relate to performance differences in levels. Yet, to understand better how Born Globals contribute to their local community, looking at differences in growth rate also appears relevant. Indeed, it could be that Born Globals are larger and more productive, on average, than other

types of start-ups, but their development over time might be very similar. This is in part what the figures in Table 3 suggested. In Table 5, we show that after controlling for industry differences and time effects, Born Globals and Grown Globals are growing at similar rates on all dimensions. In terms of employment and productivity growth, no type of start-ups significantly distinguishes itself. One reason which may explain the absence of difference in terms of employment growth could reside in the fact that firms might grow outside of the country of origin. Indeed, as Born Globals derive a larger share of their total sales from international activities, they might be more likely to establish physical presence in foreign markets, and thereby grow outside their country of origin. Another reason may come from the fact that different type of start-ups may present opposing growth path. For instance, if we imagine that Born Globals experience a sharp increase in employment and turnover in their first years of existence because they need to juggle with a larger scope of activities and different markets, other ventures that are slower at internationalizing or that remain on the domestic market may exhibit a more gradual growth path. This could be tested by looking at the evolution of the different types of start-ups in relation to the chosen socio-economic outcomes over their years of age.

Differences in terms of turnover growth exist between Born Globals and BELE, GELE and never internationalizing start-ups. The difference amount to a 33 percent higher yearly growth rate between Born Globals and Stay Locals. When looking at the growth in the number of export markets of Born Globals, the results show that they tend to have a higher growth in their international scope than other start-ups, and particularly those which started exporting early on but to a lower extent. .

CONCLUSION

This paper set out first to assess to which extent Born Globals are observed among start-ups and how different they are in comparison to other types of start-ups; and second, to remedy to the lack of evidence on the socio-economic impacts of Born Globals, particularly by looking at how Born Globals evolve over time in terms of turnover, employment and productivity. We find that there is in fact fire behind the smoke: the phenomenon of Born Globals is a persistent feature of all manufacturing sectors and Born Globals exhibit superior performance on a number of dimensions.

Our findings show that Born Globals appear to be performing better than most other types of start-ups on several indicators (turnover, employment and number of export destinations). However, when looking at how they evolve over time the differences are not as clear. Indeed, we show that besides that their turnover is on average growing at a faster rate, Born Globals do not exhibit a significantly higher growth in terms of employment and productivity, two dimensions that carry large socio-economic impacts. In terms of export performance, Born Globals tend to enter more markets over time, particularly compared to start-ups which started to internationalize early on but for which export activities remain at a limited extent.

The results of this empirical exercise have important contributions, not least for policy purposes. Indeed, by showing how Born Globals compare to other start-ups in the longer run, this paper provides insights as to whether helping or encouraging firms to internationalize early on is in the best interest of an economy or not. Our findings reveal that Born Globals are on average more performing compare to others, despite that preliminary findings suggest that they do not grow faster. Theoretically, providing evidence of the long-run performance of Born Globals would hopefully open the door for theoretical refinements trying to explain why these start-ups evolve the way they do.

Several avenues are interesting for future research. First and foremost, more work on the growth path of Born Globals compared to other start-ups need to be carried out. Moreover, it would be natural to extend the analysis to non-manufacturing start-ups, an exercise which could depict systematic differences across industries. Finally, it would be relevant to research to which extent these Born Globals in reality consist of spin-offs from larger and more established firms. This would nicely relate to the debate surrounding the creation of firms.

REFERENCES

- Almor, Tamar. 2011. Dancing as fast as they can: Israeli high-tech firms and the Great Recession of 2008. *Thunderbird International Business Review*, 53(2): 195-208.
- Andersson, Svante. 2000. The internationalization of the firm from an entrepreneurial perspective. *International Studies of Management & Organization*, 30(1): 63-92.

- Baumol, William J. 1968. Entrepreneurship in economic theory. *The American Economic Review*, 58(2): 64-71.
- Bloodgood, J.M., H.J. Sapienza, & J.G. Almeida. 1996. The internationalization of new high-potential U.S. ventures: Antecedents and outcomes. *Entrepreneurship Theory and Practice*, 20(4): 61-76.
- Burgel, O. & G.C. Murray. 1998. The international activities of British start-up companies in high-technology industries: Differences between internationalisers and non-internationalisers. In P. D. Reynolds, W. D. Bygrave, N. M. Carter, S. Manigart, C. M. Mason, G. Meyer & K. Shaver, editor, *Frontiers of Entrepreneurship Research*. Babson Park, MA: Babson College.
- Chetty, Sylvie & Colin Campbell-Hunt. 2004. A strategic approach to internationalization: a traditional versus a "born-global" approach. *Journal of International Marketing*, 12(1): 57-81.
- Clerides, S. K., S. Lach, & J. R. Tybout. 1998. Is learning by exporting important? Micro-dynamic evidence from Colombia, Mexico, and Morocco. *The Quarterly Journal of Economics*, 113(3): 903-47.
- Coviello, N. & M. Jones. 2004. Methodological Issues in International Entrepreneurship Research. *Journal of Business Venturing*, 19(4): 485-508.
- Eurofound. 2012. Born global: The potential of job creation in new international businesses. Luxembourg: Publications Office of the European Union.
- Forsgren, Mats. 2013. *Theories of the multinational firm: A multidimensional creature in the global economy*: Edward Elgar Publishing.
- Jones, Marian V., Nicole Coviello, & Yee Kwan Tang. 2011. International Entrepreneurship Research (1989-2009): A domain ontology and thematic analysis. *Journal of Business Venturing*, 26(6): 632-59.

Knight, Gary A. & S. Tamer Cavusgil. 1996. The born global firm: A challenge to traditional internationalization theory. *Advances in international marketing*, 8: 11-26.

Knight, Gary A. & S. Tamer Cavusgil. 2004. Innovation, Organizational capabilities, and the born-global firm, *Journal of International Business Studies*.

Knight, Gary, Tage Koed Madsen, & Per Servais. 2004. An inquiry into born-global firms in Europe and the USA. *International Marketing Review*, 21(6): 645-65.

Kuivalainen, Olli, Sami Saarenketo, & Kaisu Puumalainen. 2012. Start-up patterns of internationalization: A framework and its application in the context of knowledge-intensive SMEs. *European Management Journal*, 30(4): 372-85.

Kuivalainen, Olli, Sanna Sundqvista, & Per Servais. 2007. Firms' degree of born-globalness, international entrepreneurial orientation and export performance *Journal of World Business*, 42(3): 253-67.

Madsen, Tage Koed & Per Servais. 1997. The internationalization of Born Globals: An evolutionary process? *International Business Review*, 6(6): 561-83.

McDougall, P.P. 1989. International vs. domestic entrepreneurship: A comparison of new venture behavior and industry structure in the computer and communications industries. *Journal of Business Venturing*, 4: 387-400.

Mort, Gillian Sullivan & Jay Weerawardena. 2006. Networking capability and international entrepreneurship: How networks function in Australian born global firms. *International Marketing Review*, 23(5): 549-72.

Oviatt, B. M. & M. P. McDougall. 1994. Towards a theory of international new ventures. *Journal of International Business Studies*, 36(1): 29-41.

- Oviatt, Benjamin M. & Patricia Phillips McDougall. 1995. Global start-ups: Entrepreneurs on a worldwide stage. *Academy of Management Executive*, 9(2): 30-43.
- Rask, Morten & Per Servais. 2012. Models of international entrepreneurship. In Feinberg, Susan & Tunga Kiyak, editors, *AIB 2012 Annual Meeting*. Washington DC.
- Rialp, Alex, Josep Rialp, & Gary Knight. 2005. The phenomenon of early internationalizing firms: what do we know after a decade (1993-2003) of scientific inquiry? *International Business Review*, 14(2).
- Schumpeter, Joseph A. 1934/1961. *The Theory of economic development* New York: Oxford University Press.
- Sui, S., Z. Yu, & M. Baum. 2012. Prevalence and longitudinal trends of early internationalization patterns among Canadian SMEs. *International Marketing Review*, 29(5): 519-35.
- Wennekers, Sander & Roy Thurik. 1999. Linking entrepreneurship and economic growth. *Small Business Economics*, 13(1): 27-56.
- Zahra, Shaker A & Gerard George. 2002. International entrepreneurship: The current status of the field and future research agenda. In M. Hitt, D. Ireland, D. Sexton & M. Camp, editor, *Strategic Entrepreneurship: Creating an Integrated Mindset*. Oxford: Blackwell.
- Zucchella, Antonella, G. Palamara, & S. Denicolai. 2007. The drivers of the early internationalization of the firm. *Journal of World Business*, 42(3): 268-80.

Figure 1: Definition of start-ups according to their speed and extent of internationalization

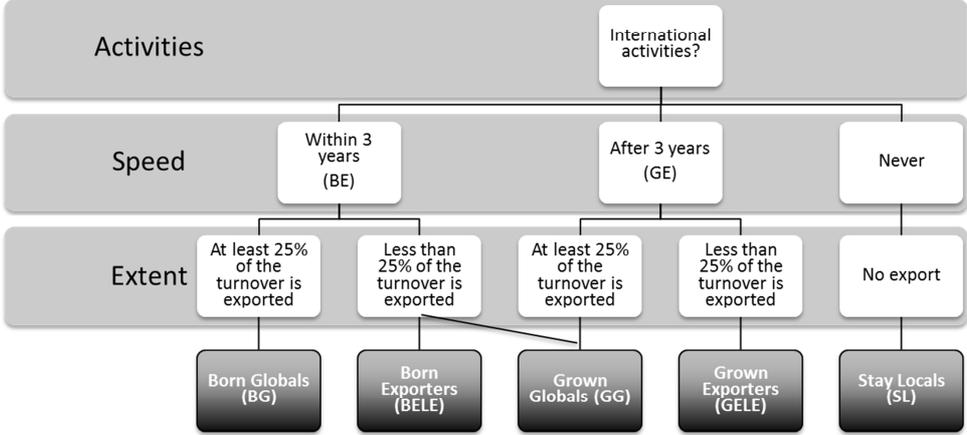


Table 1. Distribution of observations and start-up types across years

	Distribution of observations, by stat-up type (stock of firms)						Distribution of start-ups (flow measure)		
	BG	GG	BELE	GELE	SL	Total	Total # of new firms established in year t	# of BG established in year t	Share of BG out of all stat-ups established in year t
1995	11	1	16	9	13	50	50	11	0,22
1996	26	5	33	13	23	100	51	16	0,31
1997	44	7	47	20	33	151	51	18	0,35
1998	51	8	55	26	45	185	38	8	0,21
1999	54	10	70	28	57	219	48	10	0,21
2000	73	10	81	28	70	262	51	20	0,39
2001	88	12	97	31	86	314	61	20	0,33
2002	109	12	108	33	102	364	61	24	0,39
2003	127	12	128	32	115	414	64	19	0,30
2004	147	12	142	31	125	457	55	24	0,44
2005	146	12	148	30	139	475	33	3	0,09
2006	137	12	142	28	130	449	3	1	0,33
Total	1,013	113	1,067	309	938	3,440	566	174	
Pct of all observations	0,29	0,03	0,31	0,09	0,27		Overall share of BG	0,31	

Note: BG: Born-Globals; BELE: Born-Exporters, with export sales less than 25%; GG: Grown-Globals; GELE: Grown-Exporters, with export sales less than 25%; start-ups that are observed with gaps (going in-and-out of the sample several times) are excluded, so *exit* refers to permanent exits. Manufacturing stat-ups only.

Table 2. Sectoral distribution of new ventures

Manufacturing	Distribution of start-ups by types and sector						Share of start-ups by types and sector				
	BG	GG	BELE	GELE	SL	Total	BG	GG	BELE	GELE	SL
Food, beverages, and tobacco	18	1	17	3	30	69	0,26	0,01	0,25	0,04	0,43
Textile and leather	7	1	6	1	2	17	0,41	0,06	0,35	0,06	0,12
Wood products, printing and publishing	13	2	29	7	37	88	0,15	0,02	0,33	0,08	0,42
Chemicals and plastic products	17	1	13	1	1	33	0,52	0,03	0,39	0,03	0,03
Other non-metallic mineral products	5	0	3	1	10	19	0,26	0,00	0,16	0,05	0,53
Metal products	95	7	89	19	86	296	0,32	0,02	0,30	0,06	0,29
Furniture and other manufacturing	19	0	19	2	4	44	0,43	0,00	0,43	0,05	0,09
Total	174	12	176	34	170	566	0,31	0,02	0,31	0,06	0,30

Note: BG: Born-Globals; BELE: Born-Exporters, with export sales less than 25%; GG: Grown-Globals; GELE: Grown-Exporters, with export sales less than 25%; SL: Stay-Locals; start-ups that are observed with gaps (going in-and-out of the sample several times) are excluded.

Table 3. Summary statistics

Variables	Whole sample		BG		BELE		GG		GELE		SL	
	Mean	Std.dev.	Mean	Std.dev.	Mean	Std.dev.	Mean	Std.dev.	Mean	Std.dev.	Mean	Std.dev.
<i>Levels</i>												
Turnover (ln)	16,32	1,22	16,87***	1,49	16,28	1,03	16,42	0,79	16,00	1,02	15,87	0,93
Employment (ln)	2,87	1,04	3,27***	1,27	2,83	0,87	2,84	0,56	2,70	0,86	2,55	0,91
Labor productivity (ln)	12,55	0,69	12,58*	0,66	12,56	0,66	12,66	0,61	12,50	0,70	12,51	0,76
Nb export destinations	7,35	9,20	10,65***	10,56	2,58	2,76	4,77	5,38	1,96	1,40		
<i>Yearly Growth</i>												
Turnover (rate)	0,45	1,80	0,68***	2,36	0,35	1,24	0,45	1,90	0,31	0,87	0,36	1,84
Employment (rate)	0,16	0,76	0,17	0,69	0,17	0,91	0,14	0,52	0,15	0,43	0,14	0,76
Labor productivity (rate)	0,51	6,13	0,42	2,96	0,49	3,03	0,21	0,82	1,86	17,25	0,19	3,65
Nb export destinations	0,84	3,44	1,21***	4,03	0,12	2,05	0,81	2,37	0,15	1,35		

Note: BG: Born-Globals; BELE: Born-Exporters, with export sales less than 25%; GG: Grown-Globals; GELE: Grown-Exporters, with export sales less than 25%; SL: Stay-Locals; *** and * indicate that BG are statistically different to all other start-ups at the 1 and 10 percent level respectively. Manufacturing start-ups only.

Table 4. Export performance of BG compared to other start-ups (in levels)

	Turnover (log)		Employment (log)		Value added per worker (log)		Number of export destinations	
	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)
BG	0,78*** (0,05)	1,05*** (0,06)	0,6*** (0,04)	0,81*** (0,05)	0,04 (0,03)	0,06* (0,03)	7,77*** (0,41)	8,82*** (0,72)
BELE		0,45*** (0,04)		0,35*** (0,04)		0,04 (0,03)		0,64 (0,64)
GG		0,64*** (0,07)		0,41*** (0,06)		0,12** (0,06)		3,66*** (0,87)
GELE		0,25*** (0,06)		0,27*** (0,05)		-0,03 (0,04)		<i>base category</i>
Employment (log)					-0,05*** (0,02)	-0,05*** (0,02)		
nb obs	3440	3440	3440	3440	3418	3418	1266	1266
R-squared	0,1448	0,1672	0,1133	0,1304	0,1292	0,1309	0,2173	0,2218

Note: All regressions are estimated using pooled linear regression models and include time and industry fixed effects. Robust standard errors in parentheses. BG: Born-Globals; BELE: Born-Exporters, with export sales less than 25%; GG: Grown-Globals; GELE: Grown-Exporters, with export sales less than 25%. ***, ** and * indicate statistically significant coefficients at the 1, 5 and 10 percent level respectively. Bold numbers denote that the mean comparison with BG is statistically significant (Wald test). Start-ups that are observed with gaps (going in-and-out of the sample several times) are excluded.

Table 5. Performance of BG compared to other start-ups (growth)

	Turnover (yearly growth rate)		Employment (yearly growth rate)		Value added per worker (yearly growth rate)		Number of export destinations (yearly growth)	
	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)
BG	0,34*** (0,09)	0,33*** (0,11)	0,03 (0,03)	0,04 (0,04)	-0,03 (0,17)	0,26 (0,17)	0,96*** (0,20)	0,57 (0,36)
BELE		-0,01 (0,08)		0,04 (0,04)		0,23 (0,15)		-0,55 (0,37)
GG		0,07 (0,20)		-0,01 (0,06)		-0,02 (0,18)		0,22 (0,45)
GELE		-0,11 (0,08)		-0,01 (0,04)		1,37 (0,91)		<i>base category</i>
Employment (growth rate)						-0,3** (0,14)		
nb obs	2874	2874	2874	2874	2871	2871	977	977
R-squared	0,0303	0,0306	0,0183	0,0189	0,0903	0,0939	0,0481	0,0505

Note: All regressions are estimated using pooled linear regression models and include time and industry fixed effects. Robust standard errors in parentheses. BG: Born-Globals; BELE: Born-Exporters, with export sales less than 25%; GG: Grown-Globals; GELE: Grown-Exporters, with export sales less than 25%. ***, ** and * indicate statistically significant coefficients at the 1, 5 and 10 percent level respectively. Bold numbers denote that the mean comparison with BG is statistically significant (Wald test). Start-ups that are observed with gaps (going in-and-out of the sample several times) are excluded.