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2. Nascent Entrepreneurs

1. WHAT IS A NASCENT ENTREPRENEUR?[1]

The creation of a new venture is a process. Following Reynolds and White (1997, p. 6) and Reynolds (2000, p. 158ff.), this process, analogous to biological creation, can be considered to have four stages (conception, gestation, infancy and adolescence), with three transitions. The first transition begins when one or more persons start to commit time and resources to founding a new firm. If they do so on their own and if the new venture can be considered an independent start-up, they are called *nascent entrepreneurs*. If the entrepreneurship occurs within the context of an existing organization, they are considered to be nascent intrapreneurs. The second transition occurs when the gestation process is complete and when the new venture either starts as an operating business, or when the nascent entrepreneurs abandon their effort and a stillborn happens. The third transition is the passage from infancy to adolescence—the fledgling new firm's successful shift to an established new firm.

This chapter deals with the first two stages and the first two transitions of this process and with their main actors—nascent entrepreneurs. This means that we will neither look at nascent intrapreneurs, nor will we deal with the survival (or not) and growth pattern of active new firms. And we will not look at those who just state that they would prefer being self-employed over being an employee—a group which can be labeled latent entrepreneurs (Blanchflower, 2004; Blanchflower et al., 2001). Instead, we will focus on people who are currently taking explicit steps to start a new business. To fix ideas and following the definition used in the Panel Study of Entrepreneurial Dynamics (PSED) (Reynolds, 2000, p. 170f.; Shaver et al., 2001; Gartner and Carter, 2003, p. 203f.; Gartner et al., 2004; Reynolds et al., 2004a) and in the

Global Entrepreneurship Monitor (GEM) (Reynolds et al., 1999, 2000, 2001, 2002a, 2004b; Acs et al., 2005), a nascent entrepreneur is defined as a person who is now trying to start a new business, who expects to be the owner or part owner of the new firm, who has been active in trying to start the new firm in the past 12 months and whose start-up did not yet have a positive monthly cash flow that covers expenses and the owner-manager salaries for more than three month.

One advantage of this definition is that it makes clear in an operational way who is a nascent entrepreneur. From the answers to a number of survey questions we can decide whether a person is to be considered a nascent entrepreneur or not. If, for example, someone argues that he recently decided to become self-employed in the future, but did not take active steps of the kind outlined above, he is not. The decision to become self-employed comes first—taking first steps comes next (sometimes). The status of being a *nascent* entrepreneur or not according to the definition used here can be identified empirically. Given the various definitions of who is an *entrepreneur* (see Davidsson, 2004, ch. 1) it is evident that it depends on the specific definition chosen whether a person who is considered a nascent entrepreneur is viewed as an entrepreneur, too.

Using the definition of a nascent entrepreneur outlined above, the rest of the chapter will use the existing economics literature to discuss the following questions: How many nascent entrepreneurs are there (Section 2)? What do nascent entrepreneurs do (Section 3)? Who are the nascent entrepreneurs (Section 4)? What makes a nascent entrepreneur (Section 5)? What happens to nascent entrepreneurs and why (Section 6)? Section 7 concludes.

2. HOW MANY NASCENT ENTREPRENEURS ARE THERE?

Given that newly founded firms are important for the economic development of nations and regions (see Carree and Thurik, 2005, for a short overview of the recent literature on the role of entrepreneurship for economic growth and development) and that nascent entrepreneurs are by definition important for the foundation of new firms, information about nascent entrepreneurs is important for understanding crucial aspects of the economy. This information, however, can not be found in publications from official statistics. Some ten years ago, therefore, we knew next to nothing about nascent entrepreneurs. The situation improved considerably when results from two pioneering studies—the Wisconsin Entrepreneurial Climate Study conducted in spring 1993 and a national pilot study for the U.S. done in October/November 1993—were published (see Reynolds and White, 1997). Furthermore, in the U.S., the Panel Study of Entrepreneurial Dynamics (PSED) that started in 1998 now is a representative national database on the process of business formation (Reynolds, 2000; Reynolds et al., 2002b, 2004a; Gartner et al., 2004).

In 1999 the Global Entrepreneurship Monitor (GEM) project was started (Reynolds et al., 1999, 2000, 2001, 2002a, 2004b; Acs et al., 2005). At the heart of this international project are representative surveys of the adult population in the participating countries that use an identical questionnaire to measure various aspects of entrepreneurial activity. The share of nascent entrepreneurs in the population is measured by asking the interviewees a set of questions that closely follows the definition of a nascent entrepreneur given in Section 1. Thirty one countries participated in the 2003 wave of GEM and some 100,000 adults were interviewed. Table 2-1 reports the share of nascent entrepreneurs computed from these surveys (together with the lower and upper bounds of the 95% confidence interval for the point estimates).

From Table 2-1 it is evident that there are millions of nascent entrepreneurs. Using the figures reported for the share of nascent entrepreneurs in Table 2-1 and the numbers for the total population 18–64 years old from the GEM 2003 executive report (Reynolds et al., 2004b, p. 16), one calculates that in 2003 there were some 14.689 million nascent entrepreneurs in the U.S., 1.843 million in Germany and 1.271 million in the U.K.

Table 2-1 reveals one more striking fact: The share of nascent entrepreneurs differs widely between countries. While in Venezuela in 2003 one in five adults was a nascent entrepreneur, we found one in twelve in the U.S., one in 29 in Germany and the U.K. and one in 111 in France. Given that the shares are point estimates based on (representative) samples, the differences between the numbers reported in column two of Table 2-1 for two countries are not always statistically significantly different from zero at a usual error level (as can be seen from the lower and upper bounds of the 95% confidence intervals in columns 3 and 4)—consider, for example, the reported shares for New Zealand and the U.S., or Finland and Ireland. However, it is evident that there are many differences which are both statistically significant and large in an economic sense—just compare the U.S. with the U.K. and Germany and Germany with its neighbor countries France and the Netherlands. It should be noted in passing that similar differences in the share of nascent entrepreneurs have been found between regions in Germany (Wagner and Sternberg, 2004).

How can these differences in the share of nascent entrepreneurs across space be explained? What makes a country more or less entrepreneurial? Using data for 36 countries participating in the Global Entrepreneurship Monitor 2002, van Stel et al. (2003) investigate this question employing four empirical approaches: First, they hypothesize nascent entrepreneurship to be a function of the level of economic development of a country, using per capita income as an indicator. Second, they test for the influence of Porter's "Innovative Capacity Index" built from information on, among other things, the proportion of scientists and engineers in the workforce, intellectual property protection and R&D tax credits for the private sector, the presence of suppliers of specialized

TABLE 2-1 *Share of nascent entrepreneurs in the adult population (18–64 years) in 2003*

Country	Share of nascent entrepreneurs	Lower bound of 95% confidence interval	Upper bound of 95% confidence interval
Venezuela	0.192	0.174	0.210
Uganda	0.148	0.125	0.170
Argentina	0.124	0.109	0.140
Chile	0.109	0.095	0.124
New Zealand	0.093	0.079	0.107
U.S.	0.081	0.075	0.087
Iceland	0.073	0.061	0.085
Australia	0.066	0.055	0.077
Brazil	0.065	0.054	0.076
Ireland	0.051	0.040	0.062
Canada	0.051	0.040	0.061
Spain	0.044	0.039	0.049
Switzerland	0.043	0.034	0.053
China	0.043	0.033	0.053
Finland	0.041	0.030	0.051
Norway	0.040	0.030	0.050
Germany	0.035	0.030	0.040
U.K.	0.034	0.031	0.037
Denmark	0.031	0.023	0.038
Singapore	0.030	0.022	0.038
Slovenia	0.030	0.022	0.038
Greece	0.029	0.022	0.037
Belgium	0.028	0.021	0.035
South Africa	0.027	0.021	0.034
Italy	0.020	0.014	0.027
Sweden	0.020	0.014	0.027
Croatia	0.018	0.011	0.024
Netherlands	0.017	0.012	0.022
Hong Kong	0.017	0.011	0.023
Japan	0.014	0.008	0.019
France	0.009	0.004	0.013

Source: Global Entrepreneurship Monitor 2003 (data provided by Rolf Sternberg).

research and training, the quality of scientific research institutions and the availability of venture capital (for details, see Porter and Stern, 2002). Third, they take an eclectic stand and link nascent entrepreneurship to a portfolio of determinants including economic and noneconomic conditions, such as technology, demography, culture and institutions. Fourth, they combine the approaches mentioned before in a single empirical model.

Both for the relationship of the share of nascent entrepreneurs with per capita income and with innovative capacity, van Stel et al. (2003) find a u-shaped relationship. Rising levels of economic development and innovative

capacity go along with a declining share of nascent entrepreneurs in the adult population up to a certain level and then start to rise again as per capita income or the index of innovative capacity increases still further. Using the empirical model based on the eclectic approach, they start with a set of twelve exogenous variables and apply a stepwise procedure to end with four determinants (the sign of the estimated regression coefficient is given in brackets): A variable measuring the stock of incumbent business owners (+), the innovative capacity index (−) social security costs as percent of GDP (−) and a dummy variable indicating whether a country has been a communist country in the past or not (−). In the full model, combining the other three approaches, the positive relationship with the stock of incumbent business owners, the negative impact of being a former communist country and the u-shaped relationship with the innovative capacity index still hold (while the u-shaped relationship with per capita income is no longer statistically significant at a conventional level); the regression coefficient of the social security costs variable remains negative, but is not longer statistically significant at a conventional level.

The authors themselves point out three limitations of their study: It is based on cross-section data for one moment in time only; it does not disaggregate by sector of activity (industry vs. services, etc.) nor does it make a distinction between "necessity entrepreneurship" (which refers to a situation where people are involved in entrepreneurship activities because they have no better choices for work) and "opportunity entrepreneurship" (where people are pursuing a business opportunity or personal interest while other choices to earn a living are open to them); and it assumes that the same empirical model is appropriate for countries as different as the U.S., Russia and Brazil. Furthermore, the stepwise approach used might be expected to end up in an empirical model that is tailor-made for the data set at hand.

In an empirical investigation that has a focus on the role of post-materialism as a cultural factor influencing cross-country differences in total entrepreneurial activity (defined as the share of nascent entrepreneurs plus the share of people who are owner-managers of a business less than 42 months old) Uhlaner and Thurik (2004) report estimates from an empirical model regressing the share of nascent entrepreneurs on five variables (see their Table 2, column 7). The study is based on data from 28 countries which is a subset of the countries that participated in the Global Entrepreneurship Monitor 2002 and, therefore, a subset used in the study by van Stel discussed above. They find a weakly significant positive relationship with an index of life satisfaction and a highly significant relationship with the gross enrollment ratio in secondary education; the estimated coefficients of the variables measuring post-materialism, per capita income and the gross enrollment ratio in tertiary education are statistically insignificant at any conventional level. Given that the investigation of cross-country differences in the share of nascent entrepreneurs

is not at the center of the study and the limitations of the study (which are similar to those mentioned in the context of the van Stel et al. study), the results should not be expected to shed much light on the topic considered here.

The two pioneering studies by van Stel et al. (2003) and by Uhlaner and Thurik (2004) are (to the best of my knowledge) the only large-scale empirical investigations looking at cross-country differences in the share of nascent entrepreneurs (see also Welter, 2001 for a comparison of Germany, the Netherlands, Sweden and the USA; for further studies on cross-country differences in total entrepreneurial activities—defined as the share of nascent entrepreneurs plus the share of people who are owner-managers of a business less than 42 months old—see Verheul and Thurik, 2003 and Verheul and Thurik, 2003). A limitation of these studies is the likely endogeneity of some of the covariates. Furthermore, it is an open question and one well worth future research efforts, whether the findings in these studies can be replicated for different samples of countries and for different periods and what is the role played by other factors not investigated hitherto.

3. WHAT DO NASCENT ENTREPRENEURS DO?

What activities are nascent entrepreneurs involved in when they are actively engaged in creating a new venture of their own? The only way to find out is to ask them and this has been done in the U.S. in the Wisconsin Entrepreneurial Climate Study conducted in Spring 1993, in a national pilot study for the U.S. done in October/November 1993 (Reynolds, 1997; Reynolds and White, 1997) and in the Panel Study of Entrepreneurial Dynamics (PSED, formerly Entrepreneurial Research Consortium/ERC) that started in 1998 (Reynolds, 2000; Reynolds et al., 2001, 2002a; Gartner and Carter, 2003). Furthermore, we have evidence from ERC-based surveys conducted in Norway (Alsos and Ljunggren, 1998) and in Canada (Diochon et al., 2001).

In the order of "popularity" among the respondents in the U.S. sample of 1993, the following start-up activities were reported by at least one third of the nascent entrepreneurs (Reynolds, 1997, p. 452; Reynolds and White, 1997, p. 41): Serious thought about business; looked for facilities/equipment; initiated savings to invest; invested own money in the new firm; organized start-up team; written business plan; bought facilities/equipment; sought financial support; license, patent, permits applied for; developed first model or prototype; received money from sales. About 95% of the nascent entrepreneurs indicated two or more start-up behaviors; the median number of steps taken was seven. Using a similar (but not identical) list of activities, Diochon et al. (2001) report similar results from interviews with some 120 nascent Canadian entrepreneurs performed in 2000: respondents are engaging in multiple activities and the

most intensely pursued are: defining market opportunities; personally investing money in the venture; purchasing raw materials, inventory, supplies or components; generating sales revenue; and marketing, promotional efforts. Looking at gender differences in start-up activities among 114 male and 35 female Norwegian nascent entrepreneurs interviewed in 1997, Alsos and Ljunggren (1998) find few differences between male and female nascents—among others, a smaller proportion of the women than of the men reported having prepared a business plan and hired employees.

Evidence on the "first behavior" of nascent entrepreneurs based on the interviews from the PSED is reported by Gartner and Carter (2003, p. 203f.). According to their findings, 57% of the 715 nascent entrepreneurs "spent a lot of time thinking about starting business" first, followed by 16% who "took classes or workshops on starting business," 15% "saving money to invest in business," 14% "invested own money in business" and 12% "developed model or procedures for product/service." The authors list 21 more start-up behaviors that occurred first among less than 10% of the nascent entrepreneurs. Carter and Kolvereid (1998) compare first activities between male and female nascent entrepreneurs in the U.S. and in Norway and they find variation across both gender and country.

Unfortunately, we do not have comprehensive and comparable evidence on the set of activities nascent entrepreneurs are involved in and on the timing of these events, for a large number of countries, because this is a topic that has not yet been investigated in the Global Entrepreneurship Monitor project. From the evidence we have on start-up activities it is clear that there is neither a fixed set of events (although some events are more common than others) nor a uniform sequence. The industry, the region and personal factors (like gender, skills and financial reserves of the nascent entrepreneurs) all matter in determining what a nascent entrepreneurs does and when.

4. WHO ARE THE NASCENT ENTREPRENEURS?

Are nascent entrepreneurs different from the rest of the adult population and is there a typical nascent entrepreneur with a typical set of characteristics? Table 2-2 reports the relationship between the prevalence rate of nascent entrepreneurs and selected personal characteristics and attitudes. This evidence is based on the (weighted) data from the 29 countries that took part in the Global Entrepreneurship Monitor in 2001 (Reynolds et al., 2001, p. 32).

According to Table 2-2, the share of nascent entrepreneurs in the total population covered by the surveys is much higher for men than for women and it declines with age; it is more than twice as high for those who know an entrepreneur than for those who do not and more than three times higher for

TABLE 2-2 *Impact of selected factors on nascent entrepreneurship (29 GEM countries, 2001)*

Factor	Share of nascent entrepreneurs in selected groups of people
Gender:	
Men	9.3%
Women	4.2%
Age:	
18–24 years old	8.0%
25–34 years old	7.9%
35–44 years old	7.5%
45–54 years old	5.2%
55–64 years old	4.5%
Contact with entrepreneurs:	
Know an entrepreneur: Yes	11.6%
Know an entrepreneur: No	5.1%
Perception of business opportunities:	
Good opportunity for business: Yes	14.5%
Good opportunity for business: No	4.3%
Business skills:	
Have skills to start a business: Yes	13.8%
Have skills to start a business: No	2.4%
Fear of failure:	
Failure fear NOT a problem: Yes	8.5%
Failure fear NOT a problem: No	4.1%
Family's economic future:	
Family future looks: Better	10.5%
Family future looks: Same	4.4%
Family future looks: Worse	3.3%
Country's economic future:	
Country future looks: Better	8.6%
Country future looks: Same	5.1%
Country future looks: Worse	6.3%
Educational attainment:	
Graduate program experience	5.4%
Beyond secondary school	7.6%
Secondary school degree	8.4%
Not completed secondary school	5.7%
Labor force status:	
Working full or part time	8.4%
Not working: Homecare, unemployed	4.3%
Not in labor force: Retired, student	3.4%
Relative household income:	
HH income in upper third for country	7.9%
HH income in middle third for country	6.9%
HH income in lower third for country	6.1%

Source: Global Entrepreneurship Monitor 2001 Summary Report (Reynolds et al., 2001, p. 32).

those who perceive a good opportunity for business compared to those who do not; the presence of business skills increases the share by a factor of nearly 6. Fear of failure matters—the share of nascent entrepreneurs is twice as high among those who fear failure as those who do. The better the family future looks, the higher is the prevalence rate of nascent entrepreneurs; the link with the perception of the country's economic future, however, is nonmonotonic with the lowest share of nascents among those who state that the country's future looks the same as today. As regards educational attainment, the share of nascents is lowest for those at the top and at the bottom end and considerably higher in between. Nascent entrepreneurs are more often found among individuals who are working full or part time than among those who are not working or are not in the labor force. The higher the household income, the higher is the prevalence rate of nascent entrepreneurs. This evidence from the Global Entrepreneurship Monitor project shows that certain types of individuals are more likely to be involved in creating a new venture, but that individuals from all categories are involved to some extent.

Although the evidence reported in Table 2-2 reveals important facts about nascent entrepreneurs two shortcomings are evident.

First, a look at the (weighted) average of data from 29 countries in one year is a bird's eye view—a closer look at data for single countries (or regions inside countries) and several years will demonstrate important differences across both space and time. Fortunately, there are detailed annual country reports for each country which took part in the Global Entrepreneurship Monitor project and most of these reports are available free of charge from the project's homepage (www.gemconsortium.org). Furthermore, comprehensive descriptive information on nascent entrepreneurs in selected countries are available from other sources, too—for the U.S. (see evidence based on the Panel Study of Entrepreneurial Dynamics reported in Reynolds et al., 2002b, 2004a), Canada (Diochon et al., 2001), Sweden (Delmar and Davidsson, 2000), for Germany as a whole (Welter, 2001) and for selected regions in Germany (Bergmann et al., 2002; Lückgen and Oberschachtsiek, 2004). This provides researchers interested in a specific country, or in inter-country comparisons, with a rich set of information; and it offers the possibility to augment the bird's eye view given in Table 2-2 by views through a looking glass.

Second, the empirical evidence reported in Table 2-2 is only descriptive in nature and it does not reveal the extent to which the various factors considered are interrelated. To give just one example, consider the relationship between gender and nascent entrepreneurship on the one hand and between labor force status and nascent entrepreneurship on the other hand. Men are more than twice as often involved in creating new ventures than women and so are people who are working full or part time compared to those who are not working or are not in the labor force. Given that the share of men who are in paid employment

is much higher than the share of women, what is the ceteris paribus effect of being male and of working full or part time, on the propensity of being a nascent entrepreneur? Descriptive bivariate comparisons cannot reveal this. Multivariate analyses that tackle this topic are reviewed in the next section.

5. WHAT MAKES A NASCENT ENTREPRENEUR?

Empirical investigations of the ceteris paribus impact of individual (and other) characteristics and attitudes on the propensity to become a nascent entrepreneur are usually—either explicitly or implicitly—based on a theoretical framework that can be outlined as follows.

Consider a utility-maximizing individual that has the choice between paid employment and self-employment (taking the decision to participate in the labor market as given). This person will choose the self-employment option if the discounted expected life-time utility from self-employment ($\mathrm{DELU_s}$) is higher than that from paid employment ($\mathrm{DELU_p}$). The difference N_i between $\mathrm{DELU_{s}}i$ and $\mathrm{DELU_{p}}i$,

$$N_i = \mathrm{DELU_{s}}i - \mathrm{DELU_{p}}i \tag{1}$$

is therefore crucial for the decision of individual i and it will choose self-employment if N_i is positive. $\mathrm{DELU_{s}}i$ and $\mathrm{DELU_{p}}i$ are determined by the expected monetary and nonmonetary returns from self-employment and paid employment according to the utility function of the person and the individual's discount rate. Higher returns lead to higher values of DELU.

The expected monetary and nonmonetary returns from both types of employment depend on variables that are either endowments of the individual i (like age, a university degree or the degree of risk-aversion) or other relevant variables (like characteristics of the region a person lives in). All these variables are summarized in a vector x_i. Given that N_i depends on $\mathrm{DELU_{s}}i$ and $\mathrm{DELU_{p}}i$ and $\mathrm{DELU_{s}}i$ and $\mathrm{DELU_{p}}i$ depend on the monetary and nonmonetary returns, N_i can be written as a function of x_i:

$$N_i = N_i(x_i). \tag{2}$$

Elements of x_i that have a more positive or less negative impact on $\mathrm{DELU_{s}}i$ than on $\mathrm{DELU_{p}}i$ increase N_i (and vice versa). Given that the expected monetary and nonmonetary returns from both types of employment, the utility function and the discount rate of an individual are unknown to an observer, we cannot observe N_i. Therefore, we cannot test directly whether an individual characteristic or attitude (say, a university degree or a high degree of risk aversion) has a positive impact on N_i or not. If, however, N_i is greater than the

critical value zero, according to our theoretical framework, a person will choose to become an entrepreneur and the decision to do so or not is observable.

Empirical models that investigate the ceteris paribus influence of the elements of x_i on the probability that a person is a nascent entrepreneur use this known decision. In these models, the dummy variable indicating whether a person is a nascent entrepreneur or not is regressed on a set of exogenous variables comprising characteristics and attitudes of the individual and on other variables considered as relevant for this decision. Given the dichotomous nature of the endogenous variable these empirical models are estimated by (variants of) logit or probit and the empirical approach can be labeled a reduced form logit (or probit) approach.

Note that by focusing on the factors affecting the decision to become self-employed, as opposed to remaining in paid employment, instead of looking at differences in the probability that people are self-employed rather than employees, one avoids confounding entry and survival effects: The probability of being self-employed at a point in time depends on the probability of switching into self-employment in the past and then surviving as a self-employed until the time of the survey (see Parker, 2004, p. 25f).

While there is a large empirical literature on the ceteris paribus impact of personal and other variables on the probability of being an "adult" entrepreneur versus a paid employee (surveyed in Parker, 2004, Chap. 3), econometric investigations that ask what makes a nascent entrepreneur are scarce. One group of these studies deals with the more general question what makes a "typical" nascent entrepreneur, attempting to identify factors that are statistically significant for the decision to create a new venture or not. A number of econometric investigations tackle more specific issues (like gender differences in the propensity to become a nascent entrepreneur, or the role of young and small firms as hothouses for nascent entrepreneurs). These two groups of studies are reviewed in turn.

In a pioneering study, Reynolds and White (1997, p. 52ff.) and Reynolds (1997) use the data from a national pilot study for the U.S. done in October/November 1993 (mentioned above) to estimate in a first step logistic regression models predicting nascent entrepreneurs. The forward stepwise and backward stepwise procedures applied lead to slightly different "optimal models," but three characteristics are statistically significant in both cases: age (with a negative impact) and self-employment and divorce, both of which increase the tendency. A number of other factors are present in one or the other variants of the empirical model. To consider the potential impact of interaction among the various factors, in a second step a variant of the Automatic Interaction Detection (AID) technique is applied. This leads to the identification of subgroups in the adult population where many, few or no nascent entrepreneurs can be found. For instance, 69% of new firm start-ups

are provided by 17% of the adult population: people aged 25 to 34 that are self-employed, unemployed or students and those with employment and more than a high school degree.

Further evidence for the U.S. for the determinants of the decision to become a nascent entrepreneur is reported by Kim et al. (2003) based on data from the Panel Study of Entrepreneurial Dynamics (PSED). From the results of logistic regressions they conclude that (contradicting the expectations of liquidity constraint theory) financial resources are not significantly associated with becoming a nascent entrepreneur, while several human capital variables (some college or college graduate, full-time work experience, previous start-up experience, current self-employment and the percentage of relatives who are entrepreneurs), age, being male and black or Hispanic (compared to white) all have a significant positive impact.

Comparable results for other countries are scarce. Delmar and Davidsson (2000) use an approach quite similar to the one adopted by Reynolds and White (1997) and Reynolds (1997) to look a Swedish data. Among other factors, they find a negative impact of age and positive effects of being male, having self-employed parents, education, being self-employed and having experience in management on the probability of becoming a nascent entrepreneur (see also the results from logistic regression reported in Davidsson and Honig (2003), Table 1). Using data from the first wave of the Global Entrepreneurship Monitor (GEM) for Germany collected in 1999, Sternberg (2000, p. 58f.) estimates a logit regression to investigate the ceteris paribus impact of age, gender, living in western or eastern Germany, size of city, education, household income and number of persons living in the household on the probability of becoming a nascent entrepreneur. He finds a strong positive effect of being male and a negative effect of being more than 54 years old.

What do we learn from these studies that attempt to identify factors that are important for becoming a nascent entrepreneur or not? In my view, not a great deal. The most important reason for this pessimistic view is that we do not have evidence from numerous studies covering many different countries and applying identical (or at least highly similar) empirical models to different data sets. Therefore, a promising strategy for further research might be the coordination of an international research project that brings together experts from many countries who agree on a common empirical methodology to be applied to comparable data sets like those from the GEM project (for a role model, see the project on regional differences in new firm formation described in Reynolds et al., 1994). From such a project we can learn a lot about what makes a nascent entrepreneur and how and why determinants differ across space and time.

Besides the papers that try to answer the question what makes a "typical" nascent entrepreneur and identify factors that are statistically significant for

the decision to create a new venture or not, several econometric investigations tackle more specific issues related to nascent entrepreneurship. This literature is reviewed below, starting with papers that focus on the ceteris paribus impact of one specific personal characteristic and followed by studies that investigate the ceteris paribus impact of elements of the environment a person lives and works in.

Gender: In western industrialized countries, men are on average more than twice as active in entrepreneurship as women. Little is known about precisely why this is the case. Using data from the Regional Entrepreneurship Monitor (REM) Germany, a recent representative survey of the adult German population described in detail in Lückgen and Oberschachtsiek (2004), Wagner (2004a) estimates an empirical model for the decision to become self-employed to test for differences between women and men in the ceteris paribus impact of several characteristics and attitudes, taking the rare events nature of becoming an entrepreneur into account. Furthermore, a nonparametric approach using Mahalanobis distance matching of man and women who are as similar as possible is used to investigate the difference in the propensity to become self-employed by gender. The core finding of this empirical exercise is that fear of failure as a reason not to start a business has a much smaller negative influence on the propensity to step into self-employment for men than for women—in other words, women tend to be much more risk averse than men.

Professional background: Recently, Edward Lazear (2002, 2004) proposed a "jack-of-all-trades" theory of entrepreneurship. Based on a coherent model of the choice between self-employment and paid employment, he shows that having a background in a large number of different roles increases the probability of becoming an entrepreneur. The intuition behind this proposition is that entrepreneurs must have sufficient knowledge about a variety of issues to combine the many ingredients needed for survival and success in a business. For paid employees in contrast, it suffices and pays to be a specialist in the field demanded by the job taken. Lazear (2002, 2004) and Wagner (2003a) show that this theory is supported by empirical results for self-employed vs. paid employees in the U.S. and in Germany, respectively. Using the REM data (mentioned above) Wagner (2003b) tests the jack-of-all-trades hypothesis for nascent entrepreneurs vs. persons who decide to continue working as paid employees. He finds evidence of a ceteris paribus positive impact of both the number of fields of professional experience and the number of professional degrees for the decision to become a nascent entrepreneur.

Failure in the past: Folklore has it that the comparatively low proportion of self-employed in Germany is in part due to a habit that might be termed "stigmatization of failure": taking a second chance to build one's own firm after failing as a self-employed person is said to be much more difficult in Germany than in other countries. Wagner (2003c) uses the REM data (mentioned above)

to document that 8% of all people whose former firm went out of business are nascent entrepreneurs today, while the share of failed entrepreneurs among the nascent entrepreneurs is 23%. He investigates the determinants of such a restart. It turns out that both individual and regional factors are important for taking a second chance: this probability is negatively related to age, a high risk aversion and the share of persons in the region who failed in the past, while it is positively related to personal contacts with a young entrepreneur and the regional share of nascent entrepreneurs.

Regional characteristics: Two stylized facts emerged from a number of empirical studies for many countries—new venture entry rates differ between regions and the propensity to become an entrepreneur is influenced by socio-demographic variables and attitudes. Wagner and Sternberg (2004) develop a theoretical framework to discuss this link and test whether, for a person of a given age, degree of schooling, attitude toward risk and regional variables and policies matter for the decision to start a new business ceteris paribus. Using the REM data (mentioned above) they find that the propensity to be a nascent entrepreneur is higher for people who live in more densely populated and faster growing regions with higher rates of new firm formation, while high prices of land have the opposite impact. Interestingly, it does not matter whether the region has a "left wing" or "right wing" government.

Characteristics of the (former) workplace: A stylized fact emerging from a number of empirical studies on the inter-regional differences in new firm formation is that the start-up rate in a region tends to be positively related to the share of employees working in small firms, or the proportion of small firms among all firms in the region (see, e.g., Audretsch and Fritsch, 1994; Gerlach and Wagner, 1994; Reynolds et al., 1994; Armington and Acs, 2002). A similar point has been made in studies dealing with inter-industry differences in new firm formation (see, e.g., Beesley and Hamilton, 1984). A theoretical explanation for this empirical regularity argues that working in a small firm tends to provide employees with a much more relevant experience for starting a new business (e.g., contacts with customers and with the owner of the firm who therefore provides a role model to follow) than working in a large firm (see, e.g., Johnson, 1986 and Mason, 1991). Furthermore, it is well known that job quality tends to be lower in smaller firms along many dimensions, including wages, fringe benefits, job security, participation and opportunities for skill enhancement (see Wagner, 1997 for a survey of the German evidence). Therefore, it is possible that workers are more likely to leave small firms rather than large firms to step into self-employment because of this lower quality of jobs. If this arguments holds, one should expect that people who are working in a small firm (or did so in the past) should have a higher propensity to step into self-employment than others who work(ed) for a large enterprise. A similar argument can be made for those who work(ed) in young firms compared to those

in old firms: Through a close contact with a successful entrepreneur, employees in a young firm have the opportunity to gather information about the transition from paid employment to self-employment with all its problems and about possible solutions. The "employer-as-a-role-model" argument put forward in the context of the small firm should be even more relevant here, because not all small firms are young (and, therefore, not all owners of small firms are role models for potential starters of new firms today), but most of the young firms are small. And we expect it to be most relevant in the case of work experience gathered in young and small firms. Using the REM data (mentioned above) Wagner (2004b) tests the hypothesis that young and small firms are hothouses for nascent entrepreneurs, controlling for various individual characteristics and attitudes. He finds that work experience in a firm that is both young and small is statistically significant and economically important for the decision to become a nascent entrepreneur.

The studies reviewed above that focus on the ceteris paribus impact of specific personal characteristics or on selected elements of the environment a person lives and works in on the decision to start creating a new venture shed some light on important aspects of nascent entrepreneurship. However, given that they each are based on a single data set from a single country, collected in a single point in time, it is an open question whether the results are valid in general. Hopefully, further research attempting to replicate these findings using different data sets will tell. And, obviously, there are many aspects related to the determinants of nascent entrepreneurship that are waiting for theoretical and empirical investigations as well.

6. WHAT HAPPENS TO NASCENT ENTREPRENEURS AND WHY?

Not all nascent entrepreneurs see their vision through to an eventual start-up in some given period of time (say, in a year after they outed themselves as nascent entrepreneurs in a survey)—some give up and others are still trying. Several studies report empirical findings on the proportions of these sub-groups and on variables that differentiate between them. This literature is surveyed in this section. We summarize the core findings country by country, starting with North America (United States and Canada) and then turning to Europe (Austria, Germany, Italy, the Netherlands, Sweden and Norway) and look at differences and similarities across space afterward.

United States: In a pioneering-study, Katz (1990) used data from the Panel Study of Income Dynamics for 1968 to 1972. Of the 2251 wage-or-salaried employees who participated in the survey in 1968, 33 aspired to self-employment. Of these, 27 (or 1.2% of all paid employees) made some effort to prepare themselves for self-employment; these come close to what we call

nascent entrepreneurs today. Of these 27, only six (or 22%) eventually became self-employed between 1968 and 1972. Note that no details are reported in what respect these 6 starters differ from the 19 nonstarters.

Using data for 71 nascent entrepreneurs (taken from two representative samples of 683 adult residents in Wisconsin and of 1016 adult residents of the United States conducted between 1992 and 1993) which were re-interviewed six to eighteen months after their initial interview, Carter et al. (1996) report that between the first and the second interview, 48% of the nascent entrepreneurs had set up a business in operation. 22% had given up and were no longer actively trying to establish a new venture, while 30% report that they were still trying to establish a firm. The authors present what they term "activity profiles" of these three types of nascent entrepreneurs. They suggest that nascent entrepreneurs who were able to start a business were more aggressive in making their business real, acting with a greater level of intensity and undertaking more activities than those people who did not start. Those who gave up performed a pattern of activities that seems to indicate that they discovered that their initial idea for business would not lead to success. Those who are still trying are characterized as not putting enough effort into the start-up process in order to find out whether they should start the business or give up.

Reynolds and White (1997, Chap. 4) use data from the same surveys as Carter et al. (1996), but distinguish four different outcomes (proportions given in brackets): New firm established (45%); actively working on the start-up (28%); temporarily inactive (11%); given up on new business (16%). The authors ask what factors known about the start-up teams and their efforts might differentiate these outcomes and they look at characteristics of the respondent, selected features of the business effort and the activities pursued in starting the business. Important findings include: Men are twice as likely as women to report the business is operating; the proportion of start-ups decreases systematically as educational attainment increases; the proportion of business births is highest for those with intermediate levels of income; most individual attributes, as well as measures of judgment or attitudes, however, have no relationship with the start-up outcome; there are some small effects associated with the economic sector in which the firm operates; and the actual level of effort and investments in the start-up was substantially greater for start-ups that resulted in a firm birth.

Evidently, the samples of U.S. nascent entrepreneurs traced over time in the studies reviewed here are extremely small and the results reported are, therefore, not very reliable. The Panel Study of Entrepreneurial Dynamics (PSED) that involves detailed information on a longitudinal sample of 830 nascent entrepreneurs provides a much better data base for empirical investigations on the topics dealt with in this section. According to Reynolds et al. (2004a, p. 282), however, studies using the PSED longitudinal sample are, to date, primarily at the working paper and conference presentation stages.

Canada: Diochon et al. (2003) track the start-up efforts of 151 Canadian nascent entrepreneurs over a two-year period (2000–2002). After 12 (24) months, 29.8% (25.2%) had established an operating business, 33.8% (5.3%) were still trying, 11.2% (5.3%) were inactive, 12.6% (25.2%) had given up entirely and 12.6% (21.1%) could not be reached. Exploring the role individual-level factors play in sustaining efforts to start a business, the authors find no significant differences in personal background factors (socio-demographic, work and career backgrounds), but certain aspects of personal context and personal pre-dispositions are shown to differentiate those who disengaged from the start-up process from those who persevered. It turns out that problem-solving style and goal orientation are especially significant.

Austria: Kessler and Frank (2004) analyze data from a longitudinal study in which 290 nascent Austrian entrepreneurs were monitored over a period of three years from 1998 to 2001. At the end, 54.9% of these 1998-nascents had started a business. Those who did not included 7.2% who were still trying and 37.9% who gave up. From a binary logistic regression with "sustained start-up success" as the dependent variable the authors conclude that experience with entrepreneurial thinking, start-ups in the area of crafts and trades and services, full-time business activity, a higher indicated start-up probability at the time of the initial survey and being male are positively related to the probability that a new venture emerges, while those who planned their endeavors jointly with others (team start-ups) were only half as likely to realize their start-ups.

Germany: Bahß et al. (2003) use data from the KfW-Gründungsmonitor project to investigate how many of those persons who stated in April–July 2002 that they intend to step into self-employment during the next six month did so until February 2003. From the 300 participants in this follow-up survey, 29% were indeed self-employed, 21% were still trying, 32% delayed their project and 18% gave up. The authors mention that the unemployed more often abandon the process of new venture creation compared with paid employees; and that "starters" and "stoppers" do not differ in important personal characteristics like risk aversion and aspiration for independence (details, however, are not reported). Given that those who state in a survey that they intend to become self-employed in the next half year can not be considered to be nascent entrepreneurs according to the definition given in Section 1, these findings are not strictly comparable with the results reported in other studies reviewed here. However, they provide the only information available for Germany that at least comes close, given that no longitudinal study on German nascent entrepreneurs has yet been performed.

Italy: Vivarelli (2004) explores a database including 365 Italian "potential entrepreneurs" who were interviewed in the first quarter of 1999. He considers these individuals to be "potential entrepreneurs" because they

attended—during the ‘1090s—special training courses for people intending to found a new firm. Note that this concept of a potential entrepreneur differs widely from that of a nascent entrepreneur. At the time of the interview, 59% had actually started a new economic venture, while 41% had definitely given up. In a probit equation, the probability of starting is positively and statistically significantly related to the start-up decision being the best choice (opposed to more defensive motives), a high level of information, no free admittance to the training course and writing a business plan.

Netherlands: van Gelderen et al. (2001) followed 330 nascent entrepreneurs identified in the fall of 1998 over a one year period and asked for the current status of the start-up effort. 47% started their business, 27% were still organizing and 26% had abandoned the effort. They report that in comparison to people who gave up, starters are entrepreneurs already, have more industry experience, start out with less start-up capital, use fewer third-party loans and start out in manufacturing. Compared to those who are still organizing, starters are relatively often male, entrepreneur and want to start full-time. In a follow-up study, van Gelderen et al. (2003) report that after three years, a minimum of 36% of the sample started and a minimum of 20% abandoned the start-up effort, while there is no information about the eventual start-up status of the remaining 44%. A comparison of those who succeed in starting a business and those who abandon the start-up effort reveals that significant variables include start-up capital (nascents who intend to use more start-up capital have lower probabilities to get their business running) and perceived risk of the market, starting a manufacturing firm and starting full time. None of the included individual characteristics seem to distinguish successful nascent entrepreneurs from the unsuccessful ones.

Sweden: Davidsson and Honig (2003) followed 380 Swedish nascent entrepreneurs first interviewed between May and September 1998 for 18 months. They use the occurrence of a first sale during these 18 months as an indication of a nascent firm’s eventual emergence. Sixty two percent of the nascent entrepreneurs reported first sales during this period. In a logistic regression, the probability of having a first sale turns out to be unrelated to several measures of human capital (years of education, business class taken, years experience as manager, years work experience and previous start-up experience) and to age and gender. Among the social capital variables, only being member of a business network and having close friends or neighbors in business have a statistically significant positive impact on the probability of a first sale.

Norway: Alsos and Ljunggren (1998) report that from 149 Norwegian nascent entrepreneurs interviewed first in a survey conducted early in 1996, 46% started a business when re-interviewed 12 months later, 25% were still trying and 29% gave up. These proportions were identical for men and women.

Some but not all of the studies reviewed in this section follow, explicitly or implicitly, but sometimes only partly, the research design of the Panel Study of Entrepreneurial Dynamics (PSED) discussed in Reynolds (2000). Comparability across space, therefore, is limited. Furthermore, the rather small and sometimes tiny samples, different time frames for follow-up studies and different specifications of the empirical models used make it impossible to draw any definite conclusions. However, at least two tentative conclusions emerge: First, a significant fraction of nascent entrepreneurs—between one in two and one in three—step into the next phase, becoming infant entrepreneurs in the year following the first survey. Second, observed individual characteristics tend to play a minor role only in differentiating between who starts and who gives up.

7. CONCLUDING REMARKS

While we knew next to nothing about nascent entrepreneurs ten years ago, thanks to the joint effort of a group of researchers, most of whom are affiliated with the Global Entrepreneurship Monitor (GEM) project, we now have reliable information on the share of nascent entrepreneurs in the population of a large number of countries; the reason for differences in this share across space and time, however, is less well understood. Furthermore, we have a sound knowledge about the prevalence of nascent entrepreneurs in certain sub-groups (like males and females, or people with various educational backgrounds). Less is known about precisely what nascent entrepreneurs are doing and about the timing of the activities. The same conclusion holds with respect to factors that are important for becoming a nascent entrepreneur and for crossing the threshold between nascent and infant entrepreneurship: But a lack of comparability among the numerous empirical studies for different countries makes it impossible to draw any definite conclusions.

Stylized facts that could be most valuable for entrepreneurship researchers, policy makers and, last but not least, nascent entrepreneurs, need to be based on results from a number of studies using large, comprehensive longitudinal data bases that are comparable across countries and that can be accessed by researchers for replication and extension of former studies. The Global Entrepreneurship Monitor (GEM) and the Panel Study of Entrepreneurial Dynamics (PSED) projects and the data collected within these projects, are important steps toward this aim. The importance of new firms for economic dynamics and of nascent entrepreneurs for new firms, points to the need for further steps in the future.

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